



Guidance for the Tailoring of R&M Engineering Data

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Outline



- **DoD 5000.02 R&M Engineering Policy**
- **R&M Engineering Design and Test Activities**
- **R&M Engineering Data**
- **Why the Need for Tailoring**
- **RFP Relationships**
- **Tailoring Guidance**
- **Example**



Policy: DoDI 5000.02

- **Engineering activities (The Acquisition Strategy (AS) describes tasks and processes to be stated in the RFP)**
 - R&M Allocations, block diagrams and predictions
 - Failure definitions and scoring criteria
 - Failure Mode, Effects and Criticality Analysis (FMECA)
 - Built-in Test (BIT) and maintainability demonstrations
 - Reliability Growth testing at system/subsystem level
 - Failure Reporting, Analysis and Corrective Action System (FRACAS)
- **Preliminary RAM-C Report in support of Milestone (MS) A and updated for RFP Decision Point, MS B & C**
 - Provides early (Pre-MS A) reliability, availability, maintainability and ownership cost feasibility assessments of alternative concepts
 - Includes early formulation of maintenance & support concepts
 - Provides an audit trail that documents and supports JCIDS thresholds
 - Ensures correct balance between the sustainment metrics (Availability-KPP, Materiel Reliability-KSA, and Ownership Cost-KSA)
 - Provides early risk reduction by ensuring requirements are valid and feasible
- **AS and SEP to specify how the JCIDS sustainment thresholds have been translated into R&M design requirements for use in contract specifications**



R&M Engineering Design and Test Activities



Systems Engineering Plan Outline: Describe planning and timing to generate R&M artifacts.

R&M Engineering Activity	Planning and Timing
R&M Allocations	
R&M Block Diagrams	
R&M Predictions	
Failure Definitions and Scoring Criteria	
Failure Mode, Effects, and Criticality Analysis (FMECA)	
Maintainability and Built-in Test Demonstrations	
Reliability Growth Testing at the System and Subsystem Level	
Failure Reporting , Analysis, and Corrective Action System (FRACAS)	

Expectation: Programs should understand that the content of the R&M artifacts need to be consistent with the level of design knowledge that makes up each technical baseline.

- R&M Allocations – R&M requirements assigned to individual items to attain desired system level performance. Preliminary allocations are expected by SFR with final allocations completed by PDR.
- R&M Block Diagrams – The R&M block diagrams and math models prepared to reflect the equipment/system configuration. Preliminary block diagrams are expected by SFR with the final completed by PDR.
- R&M Predictions – The R&M predictions provide an evaluation of the proposed design or for comparison of alternative designs. Preliminary predictions are expected by PDR with the final by CDR.
- Failure Definition and Scoring Criteria – Failure definitions and scoring criteria to make assessments of R&M contract requirements.
- FMECA – Analyses performed to assess the severity of the effects of component/subsystem failures on system performance. Preliminary analyses are expected by PDR with the final by CDR.
- Maintainability and Built-In Test – Assessment of the quantitative and qualitative maintainability and Built-In test characteristics of the design.
- Reliability Growth Testing at the System and Subsystem Level – Reliability testing of development systems to identify failure modes, which if uncorrected could cause the equipment to exhibit unacceptable levels of reliability performance during operational usage.
- FRACAS – Engineering activity during development, production, and sustainment to provide management visibility and control for R&M improvement of hardware and associated software by timely and disciplined utilization of failure data to generate and implement effective corrective actions to prevent failure recurrence

Table 4.6-2 R&M Activity Planning and Timing (mandated) (sample)

R&M artifacts delivered through the use of (Tailored) Data Item Descriptions (DIDs). Tailoring is accomplished through the use of CDRL DD Form 1423:

- Used to order data required by the Statement of Work (SOW)
- Cites a Data Item Description (DID), and is appropriately tailored to meet contract objectives.



Overview of R&M Engineering Data Item Descriptions



Program & FRACAS Rqmts

R&M Program Plan - DI-SESS-81613A

- Reliability - DI-SESS-81613 - **UPDATED**
Navy Supply Systems Command
- Maintainability - DI-MNTY-81600 - **CANCEL**
National Security Agency
- Testability - DI-ATTS-81270 - **CANCEL**
Naval Sea Systems Command

Failure Summary and Analysis Report - DI-SESS-80255A

- DI-RELI-80255 - **UPDATED**
Navy Supply Systems Command
- DI-RELI-80254 & DI-SESS-81927 - **CANCEL**
Navy Supply Systems Command
- DI-QCIC-80131 - **CANCEL**
AFMC Standardization Office
- DI-RELI-80807, DI-SESS-80374A & DI-SESS-81315B - **CANCEL**
National Security Agency

Design Analyses

R&M Allocations - DI-SESS-81968

- DI-ATTS-81271 - **CANCEL**
Naval Sea Systems Command

R&M Block Diagrams & Math Models - DI-SESS-81496A

- DI-RELI-81496 - **UPDATED**
Naval Air Systems Command

R&M Predictions - DI-SESS-81497A

- Reliability - DI-RELI-81497 - **UPDATED**
Naval Air Systems Command
- Maintainability - DI-MNTY-81602 - **CANCEL**
National Security Agency
- BIT - DI-ATTS-81272 & DI-ATTS-81273 - **CANCEL**
Naval Sea Systems Command

FMECA - DI-SESS-81495A

- DI-ILSS-81495 - **UPDATED**
Naval Air Systems Command

Tests & Demos

R&M Test Plan - DI-SESS-81585B

- DI-NDTI-81585A - **UPDATED**
National Security Agency

Reliability Test Procedure - DI-SESS-81629A

- DI-SESS-81629 - **UPDATED**
Navy Supply Systems Command
- DI-ENVR-81014 - **CANCEL**
HQ US Army Materiel Command

Maintainability/BIT Demonstration Procedure - DI-SESS-81604A

- DI-MNTY-81604 - **UPDATED**
National Security Agency

Reliability Test Report - DI-SESS-81628A

- DI-SESS-81628 - **UPDATED**
Navy Supply Systems Command
- DI-ENVR-81663 - **CANCEL**
Navy Supply Systems Command
- DI-TMSS-81586A & DI-NDTI-81583A - **CANCEL**
National Security Agency

Maintainability/BIT Demonstration Report - DI-SESS-81603A

- DI-MNTY-81603 - **UPDATED**
National Security Agency

Combined

Combined

CANCEL– Working with Preparing Activities to cancel



R, M & BIT Engineering Activities and Associated DIDs



R&M Engineering Activity	DID Number	DID Title	R	M	BIT
Reliability and Maintainability (R&M) Program	DI-SESS-81613A	Reliability and Maintainability (R&M) Program Plan	x	x	x
Failure Reporting, Analysis, and Corrective Action System (FRACAS)	DI-SESS-80255A	Failure Summary and Analysis Report	x		x*
R&M Allocations	DI-SESS-81968	Reliability and Maintainability (R&M) Allocation Report	x	x	x
R&M Block Diagrams and Math Models	DI-SESS-81496A	Reliability and Maintainability (R&M) Block Diagrams and Mathematical Models Report	x	x	x
R&M Predictions	DI-SESS-81497A	Reliability and Maintainability Predictions Report	x	x	x
Failure Modes, Effects, and Criticality Analysis	DI-SESS-81495A	Failure Modes, Effects, and Criticality Analysis Report	x	x	x
R&M Test Planning	DI-SESS-81585B	R&M Test Plan	x	x	x
Reliability Growth Testing at the System and Subsystem Level	DI-SESS-81629A	Reliability Test Procedure	x		
Reliability Growth Testing at the System and Subsystem Level	DI-SESS-81628A	Reliability Test Report	x		
Maintainability/BIT Demonstrations/Tests	DI-SESS-81603A	Maintainability/BIT Demonstration Test Procedure		x	x
Maintainability/BIT Demonstrations/Tests	DI-SESS-81604A	Maintainability/BIT Demonstration Test Report		x	x

*Data element requires method of detection i.e., BIT



Timing Guidance for R&M Data Requirements



Data Item Description Name	Initial Submittal	Subsequent Submittal(s)
R&M Program Plan	Proposal	Updates as required
R&M Allocation Report	SRR (Prelim)	PDR (Final)
R&M Block Diagrams and Math Models Report	SRR (Prelim)	PDR (Final)
R&M Predictions Report	PDR (Prelim)	CDR (Final)
FMECA Report	PDR (Prelim)	CDR (Final)
Failure Summary and Analysis Report	Note 1	Note 1
R&M Test Plan	CDR	Update as required
Reliability Test Procedure	Note 2	N/A
Maintainability and BIT Demonstration Procedure	Note 2	N/A
Reliability Test Report	Note 3	N/A
Maintainability and BIT Demonstration Report	Note 3	N/A

Notes:

1. Typically due 30 days after failure. Frequency of subsequent submission (i.e. monthly, quarterly, etc) based on test activity and required control.
2. Submittal 30 days prior to first test readiness review or start of first reliability test or maintainability demonstration.
3. Submittal 30 days after completion of each reliability test or maintainability demonstration.

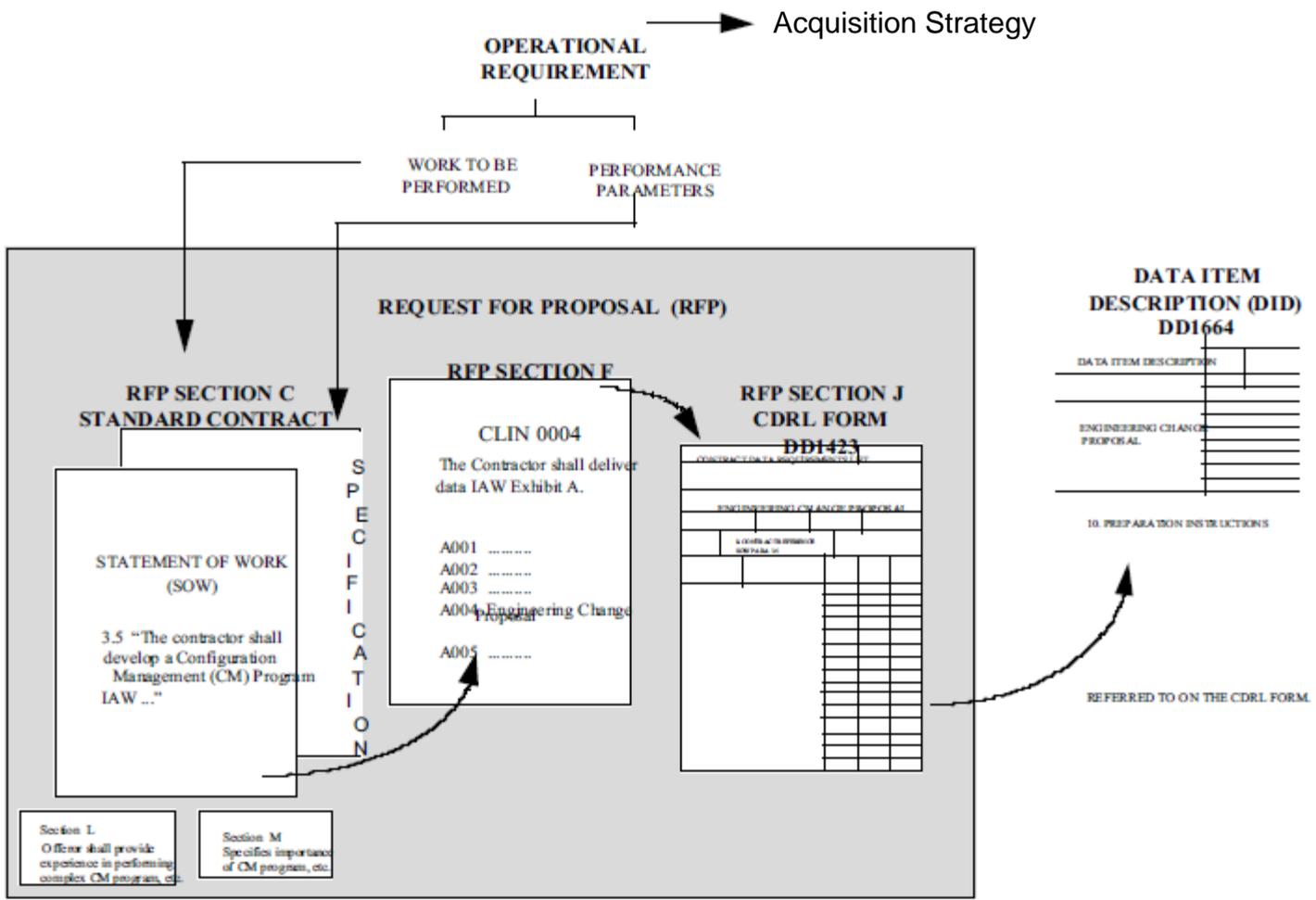


Why the Need for Tailoring?

- **Separate legacy DIDs for R&M Engineering have been combined to increase efficiencies.**
- **Observations from peer review of program RFPs indicate DIDs placed on contract could have benefitted from tailoring.**
- **MIL-STD-963 does not provide detailed guidance for how to tailor R&M Engineering DIDs.**
- **Tailoring of R&M Engineering DIDs based on program type and program phase is needed to support the development of RFPs.**



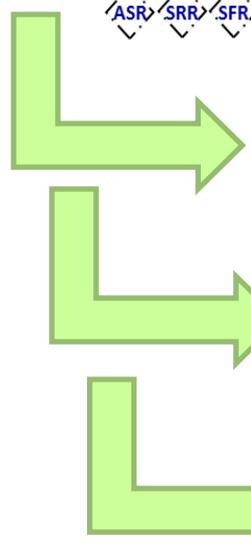
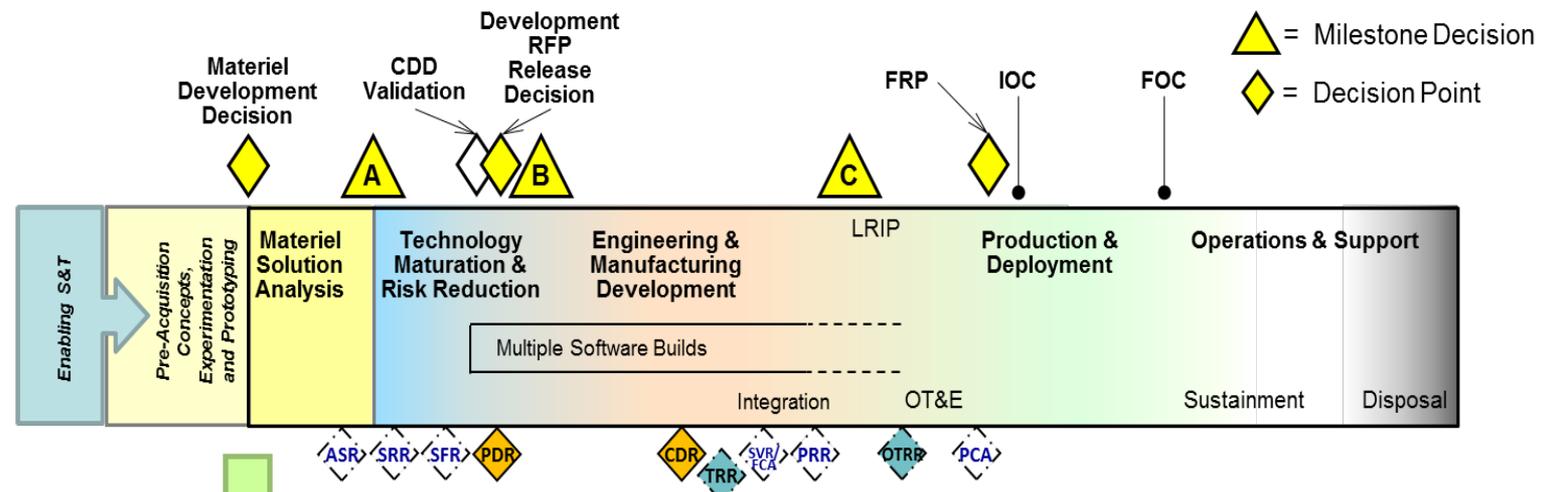
RFP Relationships



MIL-HDBK-245D Figure 5



Statement Of Work Development



Identify program phase and acquisition strategy
 (Requires newly designed equipment and major changes,
 GFE/COTS/NDI, or modified equipment and minor changes)

Tailor R&M engineering activities based on program
 phase and equipment type

Identify sample language from SOW guidance



Contract Data Requirements List (CDRL)



• CDRL DD Form 1423:

- Used to order data required by the Statement of Work (SOW)
- Cites a Data Item Description (DID), and tailors it appropriately to the contract
- Should specify that the contractor's format is acceptable, wherever possible, to avoid unnecessary cost to re-format data

CONTRACT DATA REQUIREMENTS LIST (1 Data Item)										Form Approved OMB No. 0704-0188			
<small>The public reporting burden for this collection of information is estimated to average 110 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503. Please DO NOT RETURN your form to either of these addresses. Send completed form into the Government using Contracting Officer for the Contract PR No. listed in Block E.</small>													
A. CONTRACT LINE ITEM NO.			B. EXHIBIT		C. CATEGORY TDP TM OTHER ____								
D. SYSTEM ITEM				E. CONTRACT/PR NO.			F. CONTRACTOR						
1. DATA ITEM NO.		2. TITLE OF DATA ITEM				3. SUBTITLE						17. PRICE GROUP	
4. AUTHORITY (Data Acquisition Document No.)					5. CONTRACT REFERENCE			6. REQUIRING OFFICE				18. ESTIMATED TOTAL PRICE	
7. DD 250 REQ		9. DIST STATEMENT REQUIRED		10. FREQUENCY		12. DATE OF FIRST SUBMISSION				14. DISTRIBUTION			
8. APP CODE				11. AS OF DATE		13. DATE OF SUBSEQUENT SUBMISSION				a. ADDRESS SEE		b. COPIES	
16. REMARKS										Final	Draft	Reg	Repro
											15. TOTAL →		
G. PREPARED BY					H. DATE		I. APPROVED BY			J. DATE			



Data Item Description (DID)



- The DID is used to describe the SOW-required data format and content
- DIDs are available on ASSIST, <http://quicksearch.dla.mil/>

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Basic Search **Text Search**

Document ID:	Document Number: 81613	Status: All
Find Term1, Term2,...	For All Terms	In Title or Keywords or Scope
FSC/Area: Select All	<input type="checkbox"/> Document Date: 26-Oct-2014	Through 26-Oct-2015

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WARNING: UNAUTHORIZED ACCESS TO THIS UNITED STATES GOVERNMENT COMPUTER SYSTEM AND SOFTWARE IS PROHIBITED BY PUBLIC LAW 99-474 (THE COMPUTER FRAUD AND ABUSE ACT OF 1986) AND CAN RESULT IN ADMINISTRATIVE, DISCIPLINARY OR CRIMINAL PROCEEDINGS.

- The SOW, and not the DID, must task the contractor to perform work
- If certain elements of data are not needed, the DID should be tailored downward noting deletions in CDRL Block 16



Tailoring Guidance



- **DIDs may be Tailored through deletion of content (data) only**
 - Review each DID to determine the content that are not needed or applicable to the acquisition
 - No task or activity may be added to a DID.
- **Applicable content are documented by reference in Block 16 of CDRL DD Form 1423**
- **Tailoring makes the DID relevant to the acquisition.**
- **When removing content, judgment must be exercised to achieve the desired balance among competing program objectives and cost, while ensuring that operational requirements are maintained.**



Tailoring Guidance Program Phase and Equipment Type



Title of R&M DID	DID Number	Program Phase					Equipment Type		
		MSA	TMRR	EMD	P&D	O&S	New Design "Major" Change	Modified "Minor" Change	NDI/ COTS
Reliability and Maintainability (R&M) Program Plan	DI-SESS-81613A	✓	✓	✓	✓	✓	✓	✓	✓
R&M Allocations Report	DI-SESS-81968	✓	✓	✓			✓	✓	✓ (1,2)
R&M Block Diagrams and Math Models Report	DI-SESS-81496A	✓	✓	✓			✓	✓	✓ (1,2)
Reliability and Maintainability Predictions Report	DI-SESS-81497A		✓	✓			✓	✓	✓ (1,2)
Failure Modes, Effects, and Criticality Analysis Report	DI-SESS-81495A		✓	✓			✓	✓ (4)	✓ (3)
Failure Summary and Analysis Report (5)	DI-SESS-80255A		✓	✓	✓	✓	✓	✓	✓
R&M Test Plan	DI-SESS-81585B		✓	✓	✓		✓		✓
Reliability Test Procedure	DI-SESS-81629A			✓	✓		✓		✓
Reliability Test Report	DI-SESS-81628A			✓	✓		✓		✓
Maintainability/BIT Demonstration Test Report	DI-SESS-81603A			✓	✓		✓		✓ (2)
Maintainability/BIT Demonstration Test Procedure	DI-SESS-81604A			✓	✓		✓		✓ (2)

Notes:

1. Analysis generally limited to equipment end-item.
2. Maintainability generally limited to equipment end-item.
3. Applicable to the interfaces of COTS/NDI equipment.
4. Applicable to the modified portions and interfaces.
5. Supports Failure Reporting, Analysis, and Corrective Action System (FRACAS)



Example



- **An RFP is being prepared for a program entering the Technology Maturation and Risk Reduction (TMRR) phase.**
- **The specification is for a mechanical device that has reliability and maintainability (R&M) requirements, but does not have Built-In-Test (BIT) requirements**
- **The SOW requires a comprehensive R&M program, and states that the contractor shall prepare and follow an R&M program plan that identifies and describes the planned contractor activities for implementation of the R&M program. (CDRL A001)**
 - The data required to describe the R&M program will be delivered using the R&M Program Plan DI-SESS-81613A
 - DI-SESS-81613A includes requirements for BIT



Example

- Tailoring out “BIT” from R&M Program Plan DID: DI-SESS-81613A
- Double Click images to view effect of tailoring out data requirements (See redlines in requirements section)

Original

DATA ITEM DESCRIPTION
 Title: RELIABILITY AND MAINTAINABILITY (R&M) PROGRAM PLAN

Number: DI-SESS-81613A	Approval Date: 20140715
AMSC Number: N0465	Limitation: N/A
DTIC Applicable: Yes	GIIEP Applicable: Yes
Defense Technical Information Center	GIIEP Operations Center
ATTN: DTIC-RIAC	Naval Warfare Assessment Center
8725 John J. Kingman Road, Suite 0944	P. O. Box 8000
Fort Belvoir VA 22060-6218	Corona, CA 91718-8000
Preparing Activity: SIEUWVC-NWPT	
Applicable Forum: N/A	

Use/relationship: This plan describes the Contractor's Reliability and Maintainability (R&M) program, how it will be conducted and the requirements, controls, monitoring and flow down provisions levied on Subcontractors and Vendors. It describes the R&M, including Built-in Test (BIT), procedures and tasks to be performed and their interrelationship with other system related tasks. The principal uses are to provide the contracting activity a basis for review and evaluation of the Contractor's R&M program and for determining contractual compliance to the specified R&M requirements.

This Data Item Description (DID) contains the format, intended use information, and content preparation instructions for the data product generated by the specific and discrete task described in the contract.

This DID should be tailored appropriately to each program.

This DID replace DI-SESS-81613.

Requirements:

1. Format. The Reliability and Maintainability (R&M) Program Plan shall be in the contractor's format.
2. Content. The R&M Program Plan shall identify and describe the activities planned by the Contractor for implementation of the R&M program, and shall include:
 - a. Organizational chart providing visibility into the resources, management and organizational structure of those responsible and accountable for the conduct of Reliability, Maintainability and BIT tasks.
 - b. Identification of the quantitative and qualitative R&M and BIT requirements and verification methods specified in the solicitation or contract.

1 of 2
 Source: https://assess.dti.mil/Download.aspx?DownloadID=2014-07-21191-142
 Check the source to verify that this is the current version before use.

Tailored

DATA ITEM DESCRIPTION
 Title: RELIABILITY AND MAINTAINABILITY (R&M) PROGRAM PLAN

Number: DI-SESS-81613A	Approval Date: 20140715
AMSC Number: N0465	Limitation: N/A
DTIC Applicable: Yes	GIIEP Applicable: Yes
Defense Technical Information Center	GIIEP Operations Center
ATTN: DTIC-RIAC	Naval Warfare Assessment Center
8725 John J. Kingman Road, Suite 0944	P. O. Box 8000
Fort Belvoir VA 22060-6218	Corona, CA 91718-8000
Preparing Activity: SIEUWVC-NWPT	
Applicable Forum: N/A	

Use/relationship: This plan describes the Contractor's Reliability and Maintainability (R&M) program, how it will be conducted and the requirements, controls, monitoring and flow down provisions levied on Subcontractors and Vendors. It describes the R&M, including Built-in Test (BIT), procedures and tasks to be performed and their interrelationship with other system related tasks. The principal uses are to provide the contracting activity a basis for review and evaluation of the Contractor's R&M program and for determining contractual compliance to the specified R&M requirements.

This Data Item Description (DID) contains the format, intended use information, and content preparation instructions for the data product generated by the specific and discrete task described in the contract.

This DID should be tailored appropriately to each program.

This DID replace DI-SESS-81613.

Requirements:

1. Format. The Reliability and Maintainability (R&M) Program Plan shall be in the contractor's format.
2. Content. The R&M Program Plan shall identify and describe the activities planned by the Contractor for implementation of the R&M program, and shall include:
 - a. Organizational chart providing visibility into the resources, management and organizational structure of those responsible and accountable for the conduct of Reliability, Maintainability and BIT tasks.
 - b. Identification of the quantitative and qualitative R&M and BIT requirements and verification methods specified in the solicitation or contract.

1 of 2
 Source: https://assess.dti.mil/Download.aspx?DownloadID=2014-07-21191-142
 Check the source to verify that this is the current version before use.



Tailoring CDRL DD Form 1423



- Block 16 – used to tailor the DID referenced in Block 4 (and clarify any of the other Blocks)

CONTRACT DATA REQUIREMENTS LIST (1 Data Item)					Form Approved OMB No. 0704-0188	
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A. CONTRACT LINE ITEM NO. 123		B. EXHIBIT A	C. CATEGORY: TDP TM OTHER <input checked="" type="checkbox"/>			
D. SYSTEM/ITEM Mechanical Device			E. CONTRACT/PR NO. 123-12-123-1234		F. CONTRACTOR Contractor A	
1. DATA ITEM NO. CLIN001	2. TITLE OF DATA ITEM Reliability & Maintainability (R&M) Program Plan				3. SUBTITLE N/A	
4. AUTHORITY (Data Acquisition Document No.) DI-SESS-81613 (See Blk 16)			5. CONTRACT REFERENCE SOW para 3.19.1		6. REQUIRING OFFICE PM-123	
7. DD 250 REQ LT	9. DIST STATEMENT REQUIRED See Blk 16	10. FREQUENCY ONE/R	12. DATE OF FIRST SUBMISSION ASREQ (see BLK 16)		14. DISTRIBUTION	
8. APP CODE A (See Blk 16)	11. AS OF DATE N/A	13. DATE OF SUBSEQUENT SUBMISSION ASREQ (see BLK 16)		a. ADDRESSEE	b. COPIES	
					DRAFT	FINAL
					Reg	Repr
16. REMARKS						
<p>Blk 4: Paragraphs 2.a, 2.b, 2.c, 2.d, 2.f, 2.g, 2.i, 2.k: Delete "...and BIT".</p> <p>Blk 8: Government comments or approval of technical comment and/or format will be provided within 30 days after receipt of initial submission.</p> <p>Blk 9: A distribution statement is required and will be provided by the government before delivery of the data.</p> <p>Blk 12: Submission is due 60D prior to SRR.</p> <p>Blk 13: The revised version of the report is due within 30 days after receipt of Government comments.</p>						

Tailoring for Blk 4 based on not having BIT as part of the program



Adobe Acrobat Document



DID Tailoring for Programs with Only R&M (i.e. no BIT) Requirements



- If a program does not have a requirement for BIT it is tailored out of the applicable DIDs through applying the guidance below

For Reliability and Maintainability Only Programs:		
DID Number	DID Name	Recommended Block 16 Wording to tailor DID for a program that only includes reliability and maintainability:
DI-SESS-81613A	R&M Program Plan	Blk 4: Change paragraph 2.a to read "Organizational chart providing visibility into the resources, management, and organizational structure of those responsible and accountable for the conduct of Reliability and Maintainability tasks."; Blk 4: Paragraphs 2.b, 2.c, and 2.f delete "and BIT"; Blk 4: Paragraph 2.d, 2.g, and 2.k delete "and BIT"; Blk 4: Paragraph 2.j delete "and BIT"
DI-SESS-81968	R&M Allocation Report	Blk 4: Change paragraph 2 to read "Content. The Reliability and Maintainability Allocation Report shall document the methods and results for allocating the reliability and maintainability requirements for each system/subsystem/unit, and shall include:"; Blk 4: Paragraph 2.b delete ", including Built-In-Test (BIT),"; Blk 4: Paragraph 2.e delete "(including BIT)"
DI-SESS-81496A	R&M Block Diagrams and Mathematical Models Report	N/A
DI-SESS-81497A	R&M Predictions Report	N/A
DI-SESS-81495A	FMECA Report	For a program that only requires a FMEA: "Blk 4: Change Paragraph 2 to read "This report shall document the results of the FMEA..."
DI-SESS-80255A	Failure Summary and Analysis Report	For a program where a reliability growth is not applicable, such as a Business system, or software intensive MAIS program: "Blk 4: Delete paragraph 2.25"
DI-SESS-81585B	R&M Test Plan	N/A
DI-SESS-81629A	Reliability Test Procedure	None
DI-SESS-81604A	Maintainability and Built In Test Demonstration Procedure	Blk 4: Para 2 delete "and BIT"; Blk 4: Delete paragraphs q and r
DI-SESS-81628A	Reliability Test Report	None
DI-SESS-81603A	Maintainability and Built In Test Demonstration Report	Blk 4: Paragraph 2 delete "and BIT"



Backup





Completing CDRL DD Form 1423

- Guidelines for completing DD Form 1423 are found in DoD 5010.12-M
- Blocks A – J, and Blocks 1, 6, 14, and 15 contain specifics based on the contract/program

CONTRACT DATA REQUIREMENTS LIST (1 Data Item)						Form Approved OMB No. 0704-0188			
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A. CONTRACT LINE ITEM NO. 123			B. EXHIBIT A		C. CATEGORY TDP _____ TM _____ OTHER <u>X</u>				
D. SYSTEM/ITEM Mechanical Device			E. CONTRACT/PR NO. 123-12-123-1234		F. CONTRACTOR Contractor A				
1. DATA ITEM NO. CLIN001		2. TITLE OF DATA ITEM			3. SUBTITLE				
4. AUTHORITY (Data Acquisition Document No.)			5. CONTRACT REFERENCE			6. REQUIRING OFFICE PM-123			
7. DD 250 REQ	9. DIST STATEMENT REQUIRED	10. FREQUENCY	12. DATE OF FIRST SUBMISSION		14. DISTRIBUTION				
8. APP CODE		11. A \$ OF DATE	13. DATE OF SUBSEQUENT SUBMISSION		a. ADDRESSSEE		b. COPIES		
16. REMARKS					PM-123		Draft	Final	
							1	1	Reg
					15. TOTAL →		1	1	
G. PREPARED BY Engineer A			H. DATE 1/1/2015	I. APPROVED BY Program Manager A		J. DATE 1/1/2015			

DD FORM 1423-1, FEB 2001

PREVIOUS EDITIONS ARE OBSOLETE

Page of Pages



Completing CDRL DD Form 1423



• Blocks 2 - 5

- Block 2 – lists the DID that maps to the R&M activity required by the SOW
- Block 3 – lists the DID subtitle, if applicable
- Block 4 – lists the DID number
 - If any DID tailoring is required, it will be notated in Block 16
- Block 5 – lists the contract paragraph number that calls out the required data item

CONTRACT DATA REQUIREMENTS LIST (1 Data Item)						Form Approved OMB No. 0704-0188			
<small>The public reporting burden for this collection of information is estimated to average 110 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503. Please DO NOT RETURN your form to either of these addresses. Send completed form to the Government Issuing Contracting Officer for the Contract/PR No. listed in Block E.</small>									
A. CONTRACT LINE ITEM NO. 123		B. EXHIBIT A		C. CATEGORY TDP _____ TM _____ OTHER <u>X</u>					
D. SYSTEM/ITEM Mechanical Device			E. CONTRACT/PR NO. 123-12-123-1234		F. CONTRACTOR Contractor A				
1. DATA ITEM NO. CLIN001	2. TITLE OF DATA ITEM Reliability & Maintainability (R&M) Program Plan				3. SUBTITLE N/A				
4. AUTHORITY (Data Acquisition Document No.) DI-SESS-81613 (see Blk 16)			5. CONTRACT REFERENCE SOW, para 3.19.1			6. REQUIRING OFFICE PM-123			
7. DD 250 REQ	3. DIST STATEMENT REQUIRED	10. FREQUENCY	12. DATE OF FIRST SUBMISSION		14. DISTRIBUTION				
8. APP CODE		11. AS OF DATE	13. DATE OF SUBSEQUENT SUBMISSION		a. ADDRESS SEE		b. COPIES		
16. REMARKS					PM-123		Draft	Reg.	Repro
							1	1	
15. TOTAL →					1	1			
G. PREPARED BY Engineer A			H. DATE 1/1/2015	I. APPROVED BY Program Manager A			J. DATE 1/1/2015		

DD FORM 1423-1, FEB 2001

PREVIOUS EDITIONS ARE OBSOLETE

Page __ of __ Pages



Completing CDRL DD Form 1423



- Blocks 7 – 13**

- Block 7 – lists the requirement for inspection/acceptance of the data item
- Block 8 – lists the requirement for approval of a draft before preparation of the final data item
- Block 9 – lists the distribution statement required for the data item
- Block 10 – lists the frequency of submission
- Block 11 – lists the as-of date of data item, when applicable
- Block 12 – lists date of the first submission
- Block 13 – lists date of subsequent submissions

CONTRACT DATA REQUIREMENTS LIST (1 Data Item)						Form Approved OMB No. 0704-0188			
<small>The public reporting burden for this collection of information is estimated to average 110 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503. Please DO NOT RETURN your form to either of these addresses. Send completed form to the Government Issuing Contracting Officer for the Contract/PR No. listed in Block E.</small>									
A. CONTRACT LINE ITEM NO. 123		B. EXHIBIT A		C. CATEGORY TDP _____ TM _____ OTHER <u>X</u>					
D. SYSTEM/ITEM Mechanical Device			E. CONTRACT/PR NO. 123-12-123-1234		F. CONTRACTOR Contractor A				
1. DATA ITEM NO. CLIN001	2. TITLE OF DATA ITEM Reliability & Maintainability (R&M) Program Plan			3. SUBTITLE N/A					
4. AUTHORITY (Data Acquisition Document No.) DI-SESS-81613 (see Blk 16)			5. CONTRACT REFERENCE SOW, para 3.19.1			6. REQUIRING OFFICE PM-123			
7. DD 250 REQ LT	9. DIST STATEMENT REQUIRED See Blk 16	10. FREQUENCY ONE/R	12. DATE OF FIRST SUBMISSION ASREQ (see Blk 16)		14. DISTRIBUTION				
8. APP CODE A (See Blk 16)		11. AS OF DATE N/A	13. DATE OF SUBSEQUENT SUBMISSION ASREQ (see Blk 16)		a. ADDRESS SEE		b. COPIES		
							Final		
					Draft		Reg	Repro	
16. REMARKS					PM-123		1	1	



SOW and DID to CDRL



3.19 (U) Reliability, Maintainability (R&M) and Built-In Test (BIT) Program requirements.

3.19.1 (U) General. The contractor shall have an active R&M engineering program during the (Program phase). This program shall be directed towards ensuring R&M is factored into the hardware and software design solution decisions to ensure the system R&M characteristics meet the specification requirements. The contractor shall prepare and follow an R&M program plan that identifies and describes the planned contractor activities for implementation of the R&M program.

(CDRL, R&M program plan).

SOW

DATA ITEM DESCRIPTION

Title: RELIABILITY AND MAINTAINABILITY (R&M) PROGRAM PLAN

Number: DI-SESS-81613A
AMSC Number: N9465
DTIC Applicable: Yes
Defense Technical Information Center
ATTN: DTIC-RIAC
8725 John J. Kingman Road, Suite 0944
Fort Belvoir VA 22060-6218
Preparing Activity: SH/NUWC-NWPT
Applicable Forms: N/A

Approval Date: 20100715
Limitation: N/A
GIDEP Applicable: Yes
GIDEP Operations Center
Naval Warfare Assessment Center
P. O. Box 8000
Corona, CA 91718-8000

DID

Data ordered by SOW

CDRL

Data content and format

CONTRACT DATA REQUIREMENTS LIST (1 Data Item)						Form Approved OMB No. 0704-0188	
The public reporting burden for this collection of information is estimated to average 110 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503. Please DO NOT RETURN your form to either of these addresses. Send completed forms to the Government Printing Contracting Office for this Contract/PRN, listed in Block E.							
A. CONTRACT LINE ITEM NO.	B. EXHIBIT	C. CATEGORY		OTHER _____			
123	A	TDP X	TM				
D. SYSTEM ITEM		E. CONTRACT/PRN NO.		F. CONTRACTOR			
Mechanical Device		123-12-123-1234		Contractor A			
1. DATA ITEM NO.	2. TITLE OF DATA ITEM			3. SUBTITLE			
001	Reliability & Maintainability (R&M) Program Plan			N/A			
4. AUTHORITY (Data Acquisition Document No.)			5. CONTRACT REFERENCE		6. REQUIRING OFFICE		
DI-SESS-81613 (see Blk 16)			SOW, para 3.2.1		PM-123		
7. DD 250 REQ	8. DIST STATEMENT REQUIRED	10. FREQUENCY	12. DATE OF FIRST SUBMISSION		14. DISTRIBUTION		
LT	ONE/R	ASREQ (see Blk 16)					
9. APP CODE	11. AS OF DATE	13. DATE OF SUBSEQUENT SUBMISSION		a. ADDRESS			
A	See Blk 16	ASREQ (See Blk 16)		Final			
(see Blk 16)				b. COPIES			
				Draft			
				Reg			
				Repro			
16. REMARKS				15. TOTAL →			
Blk 4: Paragraphs 2.a, 2.b, 2.c, 2.d, 2.f, 2.g, 2.j, 2.k: Delete "and BIT". Paragraph 2.j: Delete "BIT demonstrations"				PM-123			
Blk 8: Government comments or approval of technical content and/or format will be provided within 30 days after receipt of the initial submission.				1			
Blk 9: A distribution statement is required and will be provided by the Government before delivery of the data.				1			
Blk 12: Submission is due 60D prior to SRR.							
Blk 13: The revised version of the report is due within 30 days after receipt of Government comments.							
G. PREPARED BY		H. DATE	I. APPROVED BY		J. DATE		
Engineer A		1/1/2015	Program Manager A		1/1/2015		

Tailoring and Additional Information

DATA ITEM DESCRIPTION
Title: RELIABILITY AND MAINTAINABILITY (RAM) PROGRAM PLAN

Number: DI-SESS-81613A
AMSC Number: N9465
DTIC Applicable: Yes
Defense Technical Information Center
ATTN: DTIC-RIAC
8725 John J. Kingman Road, Suite 0944
Fort Belvoir VA 22060-6218
Preparing Activity: SH/NUWC-NWPT
Applicable Forms: N/A

Approval Date: 20100715
Limitation: N/A
GIDEP Applicable: Yes
GIDEP Operations Center
Naval Warfare Assessment Center
P. O. Box 8000
Corona, CA 91718-8000

Use/Relationship: This plan describes the Contractor's Reliability and Maintainability (RAM) program, how it will be conducted and the requirements, controls, monitoring and flow down provisions levied on Subcontractors and Vendors. It describes the R&M, including Built-In Test (BIT), procedures and tasks to be performed and their interrelationship with other system related tasks. The principal uses are to provide the contracting activity a basis for review and evaluation of the Contractor's R&M program and for determining contractual compliance to the specified R&M requirements.

This Data Item Description (DID) contains the format, intended use information, and content preparation instructions for the data product generated by the specific and discrete task described in the contract.

This DID should be tailored appropriately to each program.

This DID replaces DI-SESS-81613.

Requirements:

- Format. The Reliability and Maintainability (RAM) Program Plan shall be in the contractor's format.
- Content. The R&M Program Plan shall identify and describe the activities planned by the Contractor for implementation of the R&M program, and shall include:
 - Organizational chart providing visibility into the resources, management and organizational structure of those responsible and accountable for the conduct of Reliability, Maintainability and BIT tasks.
 - Identification of the quantitative and qualitative R&M and BIT requirements and verification methods specified in the solicitation or contract.

1 of 2
Source: https://www.dtic.mil/ - Prepared under: 2013-02-17731-242
Check the source to verify that this is the current version before use.