

# DATA ITEM DESCRIPTION

Form Approved  
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<b>1. TITLE</b> Failure Analysis and Corrective Action Report	<b>2. IDENTIFICATION NUMBER</b> DI-RELI- 81315
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**3. DESCRIPTION/PURPOSE**  
 3.1 Provides immediate reporting of failure and subsequent details failure analysis results and corrective action recommendation.

<b>4. APPROVAL DATE (YYMMDD)</b> 930125	<b>5. OFFICE OF PRIMARY RESPONSIBILITY (OPR)</b> G/Y224	<b>6a. DTIC APPLICABLE</b>	<b>6b. GIDEP APPLICABLE</b>
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**7. APPLICATION/INTERRELATIONSHIP**  
 7.1 This Data Item Description (DID) contains the format and content preparation instructions for the data resulting from the work task as described by MIL-STD-781D and MIL-STD-785B.  
 7.2 This DID supersedes DI-R-5299C.

<b>8. APPROVAL LIMITATION</b>	<b>9a. APPLICABLE FORMS</b>	<b>9b. AMSC NUMBER</b> G6891
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**10. PREPARATION INSTRUCTIONS**  
 10.1 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.  
 10.2 Content. The report shall contain the following:

- a. Failure Analysis Report Number. (See 10.5)
- b. Contract number.
- c. Equipment title.
- d. Equipment serial number.
- e. Date of failure.
- f. Test failed.
- g. Effect on equipment.

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**11. DISTRIBUTION STATEMENT**  
**DISTRIBUTION STATEMENT A:** Approved for public release; distribution is unlimited.

10. PREPARATION INSTRUCTIONS (Continued)

h. Total test time at failure.

10.3 Preliminary Report. Content and format shall be as follows:

10.3.1 Content.

- a. Originator of the report.
- b. Date of the failure.
- c. Date of the report.
- d. Contractor's name.
- e. Failure Analysis Report Number. (See 10.5)
- f. Contract number.
- g. Equipment, title, part number, and serial number.
- h. Assembly title, part number, and serial number.
- i. Subassembly title, element or module title, part number, and serial number.
- j. Part name, part number, serial number, date code, and manufacturer.
- k. Name and specification of test failed.
- l. Elapsed time and phase of test failed.
- m. Total operation time of unit at time of failure.
- n. Failure symptoms.
- o. Failure mode.
- p. Classification failure (independent or dependent).
- q. Type of failure from Failure Keyword List. (See 10.7)
- r. Disposition of failed item.
- s. Any supplemental information relating to the failure (i.e., any internal contractor assessments, records, reports, correspondence, etc.).

10.3.2 Format. The report may be handwritten and legible.

10. PREPARATION INSTRUCTIONS (Continued)

10.4 Final Report

10.4.1 Content. The final report shall contain the items required in the Preliminary Report and the following additional items shall be included:

- a. Reference-Failure Analysis Report Number (see 10.5)
- b. Failure Analysis methods.
- c. Failure Analysis results.
- d. Statement as to whether this is a pattern failure. If it is, the reports of the other failure(s) will be referenced.
- e. Corrective action:
  - (1) Action on individual equipment failure.
  - (2) Measures to prevent other failures.

10.4.2 Format. The same format may be used for both Preliminary report and Final report.

10.5 Failure Analysis Number

a. Format. In accordance with the format code: X - N - T - F1 -F2

- (1). X is the equipment type number.
- (2). N is the sequential failure number.
- (3). T is the test phase in which the failure occurred.

- (a) T=A for acceptance test.
- (b) T=B for subassembly test.
- (c) T=C for receiving inspection.
- (d) T=D for reliability test.
- (e) T=E for qualification test.
- (f) T=F for system/equipment burn-in.
- (g) T=G for system integration.

(4). F1 is the total number of failures of the same part number (i.e., resistor, capacitor, inductor, transistor, etc.) manufactured by the same vendor.

10. PREPARATION INSTRUCTIONS (Continued)

(5). F2 is the total number of occurrences of a specified failure mechanism of the same part number manufactured by the same vendor.

10.6 Nonrelevant and Unverified Failures. Nonrelevant and unverified failures shall not have the F1 and F2 numbers assigned because these types of failures do not relate to a part type failure. Instead, these failures shall be coded as "NR" for a nonrelevant failure and "UV" for an unverified failure.

10.7 Failure Keyword List.

10.7.1 Content. The content shall include:

- (1) Workmanship.
- (2) Handling.
- (3). Process.
- (4). Design.
- (5). Marking.
- (6). Test Equipment.
- (7). Contamination.
- (8). Open Bond Wire.
- (9). Electrical Short.
- (10). Electrical Open.
- (11). Software.
- (12). Mechanical.
- (13). Nonrelevant.
- (14). Under Investigation.
- (15). Unknown.
- (16). Unverified.
- (17). Glitch.
- (18). Testing Error.
- (19). Tolerance.

# DATA ITEM DESCRIPTION

**Title:** PRODUCT DRAWINGS AND ASSOCIATED LISTS

**Number:** DI-SESS-81000B

**Approval Date:** 20011214

**ASMC Number:** A7429

**Limitation:**

**DTIC Applicable:**

**GIDEP Applicable:**

**Office of Primary Responsibility:** AR

**Applicable Forms:**

**Use/relationship:** Product Drawings and Associated Lists provide engineering data to support competitive procurement and maintenance for items interchangeable with the original items. These drawings represent the highest level of design disclosure.

- a. This Data Item Description (DID) contains the format and content preparation instructions for Product Drawings and Associated Lists resulting from the work task described in 3.6.3 of MIL-DTL-31000B.
- b. This DID is applicable to acquisitions of military systems, equipment, and components. It is intended for acquiring drawings and Associated Lists at the end of the Engineering and Manufacturing Development Phase and during subsequent phases of the DoD materiel life cycle.
- c. It is not intended that all the requirements contained herein should be applied to every program. This DID should be tailored to the minimum data requirements of the applicable contract or purchase order.
- d. This DID supersedes DI-DRPR-81000A which superseded DI-DRPR-81000.
- e. This DID is related to DI-SESS-81001B, DI-SESS-81002B, and DI-SESS-81003B.
- f. A purchased item, as defined by ASME Y14.24, an item which is sold or traded in the course of conducting normal business operations, is used by commercial industry, or is a specialized version of a supplier's general product line which he routinely customizes. Purchased items as used herein have also been referred to as vendor items or vendor-developed items.

## **Requirements:**

1. Reference Documents, The applicable issue of documents cited herein, including their approval dates and the dates of applicable amendments, notices, and revisions, shall be as cited in the contract.
2. General. Product Drawings and Associated Lists shall meet the requirements of MIL-DTL-31000B. Product Drawings and Associated Lists shall provide the design disclosure information necessary to enable a manufacturer of similar products at the same or similar state of the art to produce and maintain quality control of item(s) so that the resulting physical and functional characteristics duplicate those of the specified item. These drawings shall:
  - a. Reflect the end product at its current level of design maturity.

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b. Provide the engineering data for Logistics Support products.

c. Provide the necessary data to permit competitive acquisition of the original item(s).

3. Format. Product Drawings and Associated Lists shall be in either the contractor's format or Government's format as specified on the TDP Option Selection Work Sheet incorporated into the contract or purchase order.

4. Content. Product Drawings and Associated Lists shall conform to the requirements of ASME Y14.100, or, if applicable, ASME Y14.100 and Appendices B through E, as required, and ASME Y14.34M. They shall document directly or by reference the following, as applicable:

- a. Details of unique processes, i.e., not published or generally available to industry, when essential to design and manufacture.
- b. Performance ratings.
- c. Dimensional and tolerance data.
- d. Critical manufacturing processes and assembly sequences.
- e. Toleranced input and output characteristics.
- f. Diagrams.
- g. Mechanical and electrical connections.
- h. Physical characteristics, including form, finishes, and protective coatings.
- i. Details of material identification, including material condition, and mandatory treatments and coatings.
- j. Inspection, test and evaluation criteria.
- k. Equipment calibration requirements.
- l. Quality assurance requirements.
- m. Hardware marking requirements.

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- n. Requirements for reliability, maintainability, environmental conditioning, shock and vibration testing and other operational or functional tests.
  - o. Vendor substantiation data when required by the contract or purchase order.
  - p. Requirements for programming software into devices or assemblies including a description of the input media and the procedures for validating that the software has been installed correctly.
  - q. Special consideration items and processes.
5. Item definition. All parameters required to define each unit, assembly, subassembly, part or material shall be presented on the applicable drawing. This includes data such as:
- a. All necessary mechanical dimensions to fully define fabrication, acceptance, interface or installation of the item depicted.
  - b. All necessary electrical parameters to fully define fabrication, acceptance, interface or installation of the item depicted.
  - c. All other necessary physical parameters to fully define fabrication, acceptance, interface or installation of the item depicted, i.e., weight, pressure, viscosity, etc.
  - d. All necessary environmental conditions which units, assemblies, subassemblies, parts and materials must meet to perform effectively in the end item, such that the end item will meet its specification requirements.
6. CAGE code and document numbers. Product Drawings and Associated Lists shall be identified with the contractor's CAGE code and contractor document numbers or with a Government CAGE code and document numbers as specified in the TDP Option Selection Work Sheet incorporated in the contract or purchase order.
7. Selection of drawings. The types of drawings required will vary according to the complexity of the contract end item. The TDP Option Selection Work Sheet incorporated in the contract or purchase order will specify whether the contractor or the Government is responsible for selecting the types of drawings and Associated Lists.
- 7.1. Vendor Item Control Drawings. Vendor Item Control Drawings shall be used to specify the requirements for purchased items (see f, under Use/Relationship) when such items have been approved for use in the design and are used without alteration, selection or source qualification (testing of an item prior to procurement action to ensure that it satisfies the specified requirements).

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7.2. Source Control Drawings. Source Control Drawings shall be used to specify the requirements for purchased items (see f, under Use/Relationship) only when such items have been approved for use in the design and:

- a. the item is for a critical application and
- b. the requirements can be met by an item from one or more sources and
- c. the application required source qualification (testing of an item prior to procurement action to ensure that it satisfies the specified requirements).

7.3. Standardized Microcircuit Drawings. Standardized Microcircuit Drawings (MIL-HDBK-780) shall be used to specify the requirements of microcircuits.

## DATA ITEM DESCRIPTION

**Title:** ENGINEERING CHANGE PROPOSAL (ECP)

**Number:** DI-CMAN-80639C                      **Approval Date:** 20000930  
**AMSC Number:** D7388                      **Limitation:** N/A  
**DTIC Applicable:** No                      **GIDEP Applicable:** No  
**Office of Primary Responsibility:** D/DUSD(AT&L)SE  
**Applicable Forms:** N/A

**Use, Relationships:** An Engineering Change Proposal (ECP) provides the documentation in which the engineering change is described. It includes change impacts to systems, configuration items and other associated configuration documentation affected by the proposed change. In addition, it typically describes how the proposed change will be implemented along with providing estimated schedules and associated costs.

This Data Item Description (DID) contains the format, content and preparation instructions for the data product resulting from the work task specified in the contract. This DID is used in conjunction with a Notice of Revision (NOR) (DI-CMAN-80642B). A requirement for NORs should be contractually imposed in conjunction with this DID.

Data Item submittal in Extensible Markup Language (XML) is acceptable. An XML Document Type Definition (DTD), associated XML document template, and other information is available from <http://www.geia.org/836/>

This DID supersedes DI-CMAN-80639B.

### Requirements:

1. Reference documents. The applicable issue of any 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 and content. The Engineering Change Proposal (ECP) shall be prepared in contractor format. . The ECP content shall include, where applicable, the following information:
  - a. the change priority, change classification, and change justification
  - b. a complete description of the change to be made and the need for that change
  - c. complete listing of other configuration items impacted by the proposed change and a description of the impact on those CIs.
  - d. proposed changes to documents controlled by the government.
  - e. proposed serial (or lot) number effectivities of units to be produced in, or retrofitted to, the proposed configuration.
  - f. recommendation about the way a retrofit should be accomplished.
  - g. impacts to any logistics support elements (such as software, manuals, spares, tools, and similar) being utilized by government personnel in support of the product.
  - h. impacts to the operational use of the product
  - i. complete estimated life-cycle cost impact of the proposed change
  - j. milestones relating to the processing and implementation of the engineering change

DI-CMAN-80639C

The following references may be useful in defining content: MIL-HDBK-61, Configuration Management Guidance (paragraph 4.2 and Table 4-6) and ANSI/EIA-649-1998, National Consensus Standard for Configuration Management (paragraph 5.3.1).

END OF DI-CMAN-80639C.

## DATA ITEM DESCRIPTION

**Title:** REQUEST FOR DEVIATION (RFD)

<b>Number:</b>	DI-CMAN-80640C	<b>Approval Date:</b>	20000930
<b>AMSC Number:</b>	D7389	<b>Limitation:</b>	N/A
<b>DTIC Applicable:</b>	No	<b>GIDEP Applicable:</b>	No
<b>Office of Primary Responsibility:</b>	D/DUSD(AT&L)SE		
<b>Applicable Forms:</b>	N/A		

**Use, Relationships:** A Request for Deviation describes a proposed departure from (a non-conformance with) the contractually-specified configuration documentation for a specific number of units or for a specified period of time.

A Request for Deviation enables the Government to determine the impact on performance, operational readiness, logistics support or other affected areas.

This Data Item Description (DID) contains the format, content and preparation instructions for the data product resulting from the work task specified in the contract.

Data Item Description submittal in Extensible Markup Language (XML) is acceptable. An XML Document Type Definition (DTD), associated XML document template, and other information is available from <http://www.geia.org/836/>

This DID supersedes DI-CMAN-80640B and DI-CMAN-80641B.

### Requirements:

1. Reference documents. The applicable issue of any 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 and content. The Request for Deviation (RFD) shall be prepared in contractor format. The RFD content shall include the consideration to be provided if the government accepts the deviation and, where applicable, the following information:
  - a. a complete description of the contract requirement affected and the nature of the deviation (non-conformance)
  - b. number of units (and serial/lot numbers) to be delivered in this configuration
  - c. any impacts to logistics support elements (such as software, manuals, spares, tools, and similar) being utilized by government personnel or to the operational use of the product
  - d. information about remedial actions being taken to prevent reoccurrence of the non-conformance

The following references may be useful in defining content: MIL-HDBK-61, Configuration Management Guidance (paragraph 4.3 and Table 4-9) and ANSI/EIA-649-1998, National Consensus Standard for Configuration Management (paragraph 5.3.4).

END OF DI-CMAN-80640C.

