DATA ITEM DESCRIPTION

Title: System/Segment Interface Control Specification

Number: DI-SESS-81314A
Approval Date: 30 OCT 2006
AMSC Number: G6992
Limitation: N/A
DTIC Applicable: N/A
GIDEP Applicable: None
Office of Primary Responsibility: NS/DA02
Applicable Forms: N/A
Use/relationship:

The interface control specification defines the physical and functional interface, parameter requirements between interconnecting, interacting, or co-functioning systems, system segments, and assemblies. It is used as a top level control document governing the design of the interfacing elements of the system/segment.

This Data Item Description (DID) contains format and content preparation instructions for the data product generated by the specific and discrete task requirement as delineated in the contract.

This DID is applicable to systems and equipment development contracts involving hardware-to-hardware and hardware-to-external factors (facilities, mission elements, . etc), interface conditions. For hardware-to-software or software-to-software cases, DI-CMAN-81248A, Interface Control Document, DI-IPSC-81434A, Interface Requirement Specification, or DI-IPSC-81436A, Interface Design Description shall be used.

When the complete interface requirements shall be reflected on an interface control Drawing and installation drawing as described in DOD-STD-100C, use DI-SESS-81000C, Product Drawings and associated lists.

This DID supersede DI-CMAN-81314.

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 cited in the current issue of the DODISS at the time of the solicitation; for non DODISS-listed documents, as stated herein.

2. Format: The interface specification shall be prepared on 8 ½ x 11” paper (metric size A4). It may be prepared as a multi-part, book form document as appropriate to the complexity of the interface(s) to be defined. It shall contain the following (see figure 1 for an outline of the specification structure and paragraphing):

2.1 Front cover/title page. The cover and title page shall contain the following:

2.1.1 Specification number. The expression "SPECIFICATION NUMBER" (all capital letters) followed by the assigned specification number shall appear in the upper right corner.

2.1.2 Date. The expression 'DATE" (all capital letters) followed by the issue date of the specification (day, month, year) shall appear directly under the specification number in the upper right corner.

2.1.3 Title. The title shall be a multi-line entry centered in the middle of the cover on title page as follows:

a. The first two lines shall read (all capital letters):
INTERFACE CONTROL SPECIFICATION
FOR

b. The third and subsequent lines shall include:

(1) The nomenclature of only the primary system, segment or configuration item (including name and type designation and Configuration item number) when more than one interfacing Item is involved , or

(2) The nomenclature of each interfacing system, segment, or Configuration item (including name, and type designation and Configuration item number) where only two items are interfacing.

2.1.4 Approval certification. Approval certifications shall be entered on the title Page only (not cover sheets) under the title. Provisions for office title, person's Name, signature and approval date shall be included as identified by the government.

2.2 Section 1.0. Scope. The scope shall include:

2.2.1 System/segment interface identification. This section shall briefly describe the overall system, segment, or equipment to be addressed by the interface specification. It shall include a matrix diagram identifying each interfacing item, and show the Origin and destination of each interface.

2.2.2 Documentation organization. This section shall describe the manner in which The specification is structured, and provides guidance on its use.

2.2.3 Limitations and restrictions. This section shall describe any limitations or

Restrictions to the use of the specification.

2.3 Section 2.0 Applicable documents. All documents having a bearing on the system and segment interfaces shall be identified in sub-sections by the title Number, and applicable data. This shall include:

a. Military and Federal specifications, standards, and handbooks.
b. Interface control documentation. This includes all related of referenced Interface control drawings and interface control specifications.
c. Other documentation. This includes any applicable industry or other Documentation.

2.4 Section 3.0, Interface requirements. This section provides the detailed description of the interface requirements. Each interface shall be separately Covered in its own subsection (see figure 1), and include:

a. Interface identification and description
b. Functional interface specification details by parameter.
c. Physical interface specification details by parameter.
d. Environmental parameter details by parameter.

2.5 Section 4.0, Quality assurance. This section shall identify and define the Inspection and test requirements necessary to verify the designed end Product complies with the interface requirements of section 3.0.

2.6 Section 5.0, Notes. This section shall include non-binding administration Information such as supersession data or other clarifying information. Each Independent subject area shall be in a separate sub-section.

1.0 SCOPE

- 1.1 System/segment interface identification
- 1.2 Document organization
- 1.3 Limitations and restrictions
- 1.4 Definitions

2.0 APPLICABLE DOCUMENTS

- 2.1 Military and Federal specifications, standards, and handbooks
- 2.2 Interface documentation
- 2.3 Other documentation

3.0 INTERFACE REQUIREMENTS

- 3.1 System/segment 1 interface specification
  - 3.1.1 Interface 1
    - 3.1.1.1 Interface identification
    - 3.1.1.2 Interface description
    - 3.1.1.3 Functional interface specification
      - 3.1.1.3.1 Interface parameter 1
      - 3.1.1.3.N Interface parameter N
    - 3.1.1.4 Physical interface specification
      - 3.1.1.4.1 Interface parameter 1
      - 3.1.1.4.N Interface parameter N
    - 3.1.1.5 Environmental interface specification
      - 3.1.1.5.1 Interface parameter 1
      - 3.1.1.5.N Interface parameter N
  - 3.1.2 Interface 2
    - o
    - o
    - o
  - 3.1.M Interface M
    - o
    - o
    - o
- 3.2 System/segment 2 interface specification
  - o
  - o
  - o

4.0 QUATLITY ASSURANCE

5.0 NOTES

FIGURE 1. Interface specification organization and structure

3. Content:

3.1 Functional interface parameters. These input/output requirements shall include:

3.1.1 Electronic. The elements with related tolerances shall include:

a. Signal characteristics.
b. Wave forms
c. Voltage.
d. Frequencies.
e. Shielding requirements.
f. Circuit impedance.
g. Current limits/requirements.

3.1.2 Electrical. The elements with related tolerances shall include:

a. Type of power (AC or DC).
b. Frequency characteristics.
c. Voltage levels.
d. Power ratings (amperes, watts, volt-ampere).
e. Wave forms.
f. Grounding.

3.1.3 Hydraulic and pneumatic. The elements with related allowable fluctuations Shall include:

a. Flow rates.
b. Fluid temperatures.
c. Pressure requirements.
d. Power requirements/source.

3.1.4 Optical/electro-optical requirements.
3.1.5 Human factors/engineering.

3.2 Physical interface parameters. These shall relate to the physical mating of systems, segments, and assemblies at a common boundary. Applicable interface Control drawings (ICD) an installation drawings shall referenced or reproduced as appropriate. Physical interface parameters elements shall include:

a. Dimensions and tolerances of mating surface (flanges, boltholes, mounting

Plates, etc., with applicable sizes, shapes, and spacing).

b. Weight, balance, and center of gravity.
c. Materials specifications (including dissimilar material requirements).
d. Cabling requirements (connectors, routing, etc).
e. Applied loads.
f. Accessibility (installation and removal clearance).
g. Sealing requirements, leakage prevention and detection.

3.3 Environmental and safety parameters. These elements shall include:

a. Electromagnetic interfaces, compatibility requirements.
b. Vibration envelopes.
c. Shock limits.
d. Acceleration limits.
e. Temperature limits
f. Noise factors.

4. END OF DI-SESS-81314A