Downloaded from http://www.everyspec.com

DATA ITEM DESCRIPTION

Title: List of Faults Inserted for Training Purposes

Number: DI-SESS-80502A
AMSC Number: 9993
DTIC Applicable: N/A
Preparing Activity: CR
Applicable Forms: N/A

Approval Date: 20181109
Limitation: N/A
GIDEP Applicable: N/A
Project Number: SESS- 2018-047

Use/relationship: The List of Faults Inserted for Training Purposes identifies faults which can be inserted into equipment to simulate equipment failures for training purposes. The List of Faults Inserted for Training Purposes is used to develop training course Material.

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

2. The contract shall specify the number and location of the faults and the simulated equipment failures or shall require the contractor to make these determinations. When the contractor is required to make the determinations, the contract shall specify the criteria to be used by the contractor in making the determinations.

Requirements:

1. General. The List of Faults inserted for training purposes shall identify those faults which can be inserted by a training instructor to simulate equipment failures. Faults are defined as hardware items and software employed to simulate (artificially Induce) equipment failure. Equipment failure is defined as any equipment hardware or software malfunction.

2. Format. The format shall be contractor selected and present the data in a clear and logically organized arrangement. The contractor format shall be consistent for initial and subsequent submissions.

3. Content. The content shall list faults by declining failure rate estimates (see 3.b) and shall be as follows:

3.1. Identification Number. Shall be contractor assigned sequential identification numbers.

3.2. Failure Rate Estimate. Estimation of the failure rate (number of projected failures per equipment usage factor) for the failure being simulated. The failure rate estimate shall be based on an equipment usage factor that is scaled to a constant value for all failure rate estimates. The purpose of the failure rate estimate is to prioritize the simulated failures: not to develop, or establish accurate failure rates. Therefore, the failure rate estimates shall be of

Downloaded from http://www.everyspec.com

sufficient accuracy and precision to prioritize the list, but need not be accurate or precise beyond this requirement.

3.3. Failure Criticalness. Identification and discussion of the criticalness of an actual equipment failure identical to the one being simulated.

3.4. Fault Description. Comprehensive description of the fault used to simulate the equipment failure. The fault description shall include the following:

3.4.1. Sufficient detail to permit manufacture of the fault hardware and duplication of the software used to simulate the equipment failure.

3.4.2. Whether the fault can be simulated/inserted into a real item or if it will need to be inserted by swapping a good item for one that is damaged to present the fault.

3.4.3. Whether or not there is a Built-In Test (BIT) to detect the fault, or if the operator visually sees the fault.

3.5. Fault Location. Identification and location of the fault within the equipment (e.g., assembly, subassembly, module, circuit card, wiring harness, component). Additionally, the part number of the item that the fault is inserted in shall be included.

3.6. Fault Procedures. Comprehensive description of the specific procedures required to simulate the equipment failure using the fault. The description shall be in sufficient detail to permit the precise application of the procedures and state whether or not there is a risk of permanent damage to the equipment and what is the percentage of occurrence. A statement of risk mitigation shall be included, if appropriate, to address possible straightforward ways to reduce the risk of damage to the equipment if a fault is simulated/inserted.

3.7. Fault Hazards. Identification and description of any safety hazards associated with using the fault.

3.8. Fault Cost. The estimated cost to manufacture an exact copy of the fault hardware and duplicate an exact copy of the fault software required to simulate the equipment failure.

3.9. Simulate Failed Item Identification. Identification and description of the specific item (e.g., part, device, software segment, component, switch, wire) which is being simulated as having failed within the equipment.

3.10. Simulated Failed Symptoms. Identification and description of the symptoms associated with the simulated equipment failure.

3.11. Test, Measurement, and Diagnostic Equipment. Identification and description of the test, measurement, and diagnostic equipment required to detect, locate, isolate, and identify the item which is being simulated as having failed.

Downloaded from http://www.everyspec.com

3.12. Simulated Failure Detection Isolation Procedures. Comprehensive description of the specific procedures required to detect, locate, isolate, and identify the item which is being simulated as having failed. The description shall be of sufficient detail to permit precise application of the procedures using the identified test, measurement, and diagnostic equipment.

3.13. Equipment Failure Corrective Actions. Description of the actions which would be required to correct the equipment failure, assuming the simulated equipment failure was a real equipment failure not being simulated by the fault.

3.14. Equipment status. Description of the actions required to return the equipment to the equipment status existing prior to the use of the fault.

Distribution statement A: Approved for public release. Distribution is unlimited.

End of DI-SESS-80502A