

## DATA ITEM DESCRIPTION

**Title:** BUILT-IN-TEST FAULT TREE

**Number:** DI-SESS-82322

**AMSC Number:** N10187

**DTIC Applicable:** No

**Preparing Activity:** SH

**Applicable Forms:** N/A

**Approved Date:** 20200615

**Limitation:** N/A

**GIDEP Applicable:** No

**Project Number:** SESS-2020-023

**Use/relationship:** The Built-In-Test (BIT) Fault Tree (BFT) is a graphical or tabular representation of the chain of faults that will provide the Government with the reporting of a system failure on a platform.

This DID contains the format, content, and intended use information for the data deliverable and is applicable to the acquisition of all military systems, subsystems, and equipment.

### 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 Built-In-Test Fault Tree shall be in Contractor format.
3. Content. This Built-In-Test Fault Tree identifies the tests performed in order for Built-In-Test to detect and then isolate a failure to an individual system, subsystem, Weapon Replaceable Assembly (WRA), or Line Replaceable Unit (LRU). The BFT also identifies the Maintenance Code that is associated with the isolated assembly. The BFT shall include:
  - 3.1 All BIT tests that are performed in order to detect failures are identified.
  - 3.2 All combinations of BIT test results, both failures and passes, which are used to isolate to an individual Operational Equipment assembly (system, subsystem, WRA, or LRU) are identified.
  - 3.3 All BIT isolated Operational Equipment assembly failures are linked to their corresponding platform maintenance code.
  - 3.4 Administrative information. Classified information shall not be listed in the BFT.
  - 3.5 The BFT shall be structured as follows:
    - 3.5.1 Cover page. The cover page shall include descriptive information such as system or program name, contract number, contractor's company name, current revision, date of submittal, Contract Data Requirements List (CDRL) number.
    - 3.5.2 Introduction. This section contains general information, remarks or other information about the system that the preparer feels would be beneficial.

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3.5.3 BIT Fault Tree. This section is a graphical or tabular representation of the BIT tests performed to detect and isolate failures. The BIT Fault Tree also links the isolated failed assembly to the corresponding platform maintenance code. The BIT Fault Tree is prepared as follows:

3.5.3.1 BIT Fault Tree Header. This precedes the graphical/tabular representation and lists the following:

3.5.3.1.1 Program Name.

3.5.3.1.2 System Model/Type Designation.

3.5.3.1.3 Date.

3.5.3.1.4 Version.

3.5.3.2 Platform. These columns identify the platform, maintenance code, and maintenance code name associated with the BIT Isolated Operational Equipment.

3.5.3.3 BIT Isolated Operational Equipment Model Name. This column lists the model name of the BIT isolated assembly.

3.5.3.4 Operational Equipment BIT Test Fail/Pass. These columns identify the nomenclature, model name, and reference designation (REF DES) of the system/subsystem/WRA/LRU that is tested along with the test results, fail or pass, of an individual BIT test identified in the BIT Algorithm columns.

3.5.3.5 BIT Algorithm. These columns identify the BIT test number and test name of the performed test.

3.5.4 Sample BFT Template follows.

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### Sample BFT Template 1

Document Number \_\_\_\_\_  
Revision \_\_\_\_\_  
Revision Date \_\_\_\_\_

## BUILT-IN-TEST FAULT TREE FOR SAMPLE SYSTEM/SUBSYSTEM/EQUIPMENT

Contract Number \_\_\_\_\_  
Date \_\_\_\_\_

Prepared by: \_\_\_\_\_  
\_\_\_\_\_

Approved by: \_\_\_\_\_  
\_\_\_\_\_

Company Name  
and  
Address

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## Sample BFT Template

Document Number \_\_\_\_\_  
Revision \_\_\_\_\_  
Revision Date \_\_\_\_\_

### INTRODUCTION

**FOR**

**SAMPLE  
SYSTEM,  
SUBSYSTEM,  
EQUIPMENT**

### **BUILT-IN-TEST FAULT TREE**

[Company Name] submits a Built-In-Test Fault Tree (BFT) in accordance with the [Sample System Name] contract Statement of Work and Contract Data Requirements List (CDRL) Item number [number] for Data Item Description (DID) for BFT.

This BFT identifies the tests performed in order for BIT to detect and then isolate a failure to an individual system, subsystem, Weapon Replaceable Assembly (WRA), or Line Replaceable Unit (LRU). This BFT also identifies the Maintenance Code that is associated with the isolated assembly.

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**Sample BFT Template**

Document Number \_\_\_\_\_

Revision \_\_\_\_\_

Revision Date \_\_\_\_\_

**BIT Fault Tree**

Program:

System Model/Type Designation: AN/XXX-XXX

Date:

Version:

Platform: XXXXX		Operational Equipment BIT Test Fail/Pass					BIT Algorithm	
MAINT Code	MAINT Code Name	BIT Isolated Operational Equipment Model Name	Nomenclature	Model Name	REF DES	Fail/Pass	Test Number	Test Name
0XC22	VRC FAIL	CN-XXXX/ALQ-XXX	CONTROL, VOLTAGE REGULATOR	CN-XXXX/ALQ-XXX	A4A1	Fail	200	CV_VOLT
			CONTROL, VOLTAGE REGULATOR	CN-XXXX/ALQ-XXX	A4A1	Fail	201	CV_CURR
0XA16	PU FAIL	PMU-XX/ALQ-XXX	PUMP UNIT, CENTRIFUGAL	PMU-XX/ALQ-XXX	A7	Fail	99	FLOW_LO
			CONTROL, VOLTAGE REGULATOR	CN-XXXX/ALQ-XXX	A4A1	Fail	222	TEMP_HI
0XD45	ELCON FAIL	MO-XX/ALQ-XXX	CONTROLLER, ELECTRICAL	MO-XX/ALQ-XXX	A5A3	Fail	345	CE_COMM
			COMPUTER, DIGITAL	CP-XXXX/ALQ-XXX	A1	Pass	22	CP_COMM

End of DI-SESS-82322