

## DATA ITEM DESCRIPTION

**Title:** HIGH-ALTITUDE EMP (HEMP) HARDNESS MAINTENANCE AND  
HARDNESS SURVEILLANCE (HM/HS) PLAN

**Number:** DI-EMCS-81855

**Approval Date:** 20111128

**AMSC Number:** 9235

**Limitation:** N/A

**DTIC Applicable:** Yes

**GIDEP Applicable:** N/A

Defense Technical Information Center

Attn: DTIC-OMI

8725 John J. Kingman Road, Ste 0944

Fort Belvoir VA 22060-6218

**Office of Primary Responsibility:** DS

**Applicable Forms:** None

**Use/Relationship:**

The High-Altitude EMP (HEMP) Hardness Maintenance and Hardness Surveillance (HM/HS) Plan describes HM and inspection procedures, HS test procedures, re-verification test procedures, supply support and training requirements, and technical data requirements for implementing the HM/HS Program described in MIL-STD-3023, section 5.8. The purpose of the HM/HS program is to ensure that the hardening is preserved throughout the service life of the aircraft.

A HEMP HM/HS Program is required to mitigate degradation in the aircraft's HEMP Protection Subsystem (HPS) that occurs over the life-cycle. The Plan provides the means for the government to ensure that government prescribed methods and procedures are used by aircraft maintainers and that fielded aircraft undergoing planned modifications and subject to normal wear and tear remain HEMP-survivable over their life-cycle.

1. This DID contains the format and content preparation instructions for data resulting from the work tasks described in section 5.8 of MIL-STD-3023 and is intended for aircraft systems. It is normally applied immediately after aircraft are delivered to a user command.

2. This DID is related to DI-EMCS-81847, DI-EMCS-81849, DI-EMCS-81850, DI-EMCS-81852 and DI-EMCS-81854.

### Requirements:

1. Reference documents. The applicable issue of the documents cited herein, including their approval dates and any applicable amendments, notices, or revisions shall be as cited in ASSIST Online (<https://assist.daps.dla.mil/online/start/>) at the time of the solicitation or, for non-ASSIST-listed documents, as stated herein. The High-Altitude EMP Hardness Maintenance and Hardness Surveillance Plan classification shall be determined using DNA-EMP-1, Electromagnetic Pulse (EMP) Security Classification Guide (U) available by mail request to ATTN: RD-NTSA/Rooney M., Defense Threat Reduction Agency, 8725 John J. Kingman Road, MSC 6201 Fort Belvoir, Virginia 22060-6201, and any relevant system specific classification guides.

2. Format. The Plan shall be in contractor format.

DI-EMCS-81855

3. Content. The Plan shall describe the plans and procedures used in the HEMP Hardness Maintenance and Hardness Surveillance Program for each requirement specified in the contract for the aircraft being developed. The test methods are written to be applicable at varying levels of maintenance including depot level, intermediate level, and operational level maintenance.

3.1 Summary information. The Plan shall summarize the following:

3.1.1 Introduction.

a. System description, including any pertinent information regarding HEMP Protection Subsystem performance issues and sources for baseline test data derived from HEMP Protection Subsystem testing, HEMP system-level Verification Test, and Production Hardness Assurance testing.

b. Statement of any assumptions and limitations associated with HEMP Protection Subsystem performance testing.

c. General objectives of the HM/HS Program.

3.1.2 Scope. General description of overall HM/HS test requirements matrix being used to demonstrate compliance with requirements, including the relative role of analyses, tests and inspections. Description of logistics support analysis of the HPS performed during the aircraft acquisition phase. The logistics support analysis shall define the HPS HM/HS requirements, supply support requirements, training requirements, and technical data requirements. Results of the logistics support analysis shall be documented in the HM/HS plan.

3.1.3 Methods of verification. Abstracts of the procedures used for verifying each HPS performance requirement listed in 3.2 below.

3.1.4 Engineering factors. Any important engineering factors affecting the verification procedures, such as facilities, resources, safety, reports, and security.

3.2 Detailed information. The Plan shall contain the following information: a comprehensive, system-specific HM/HS Program Plan with test plans and detailed test procedures for maintaining and surveillance testing the protection status of each element in the aircraft's HPS. These may be combined in a single document, or separate documents may be used. The documents shall contain the following information:

3.2.1 HM and inspection procedures. Detailed procedures for preventive maintenance and inspection and for repair and replacement of HEMP hardness critical assemblies or items shall be provided. Candidate maintenance test procedures are described in MIL-STD-3023 Appendix E. Where applicable, pass/fail criteria should be relatable to production hardness assurance pass/fail criteria derived from the allocation procedure (MIL-STD-3023, 5.2 and Appendix A).

## DI-EMCS-81855

3.2.2 HS test procedures. Detailed HS test procedures for the HPS shall be developed and used. The procedures shall be designed to identify electromagnetic barrier degradations that may have occurred during deployment, and to provide assurance that any flaws are rectified during programmed depot maintenance, thereby assuring HEMP-hardened aircraft are returned to service after programmed depot maintenance.

3.2.3 Re-verification test procedures. The re-verification test procedures shall utilize the baseline verification test data of the first aircraft in each fleet. Subsequent re-verification test sample sizes shall be dependent on mission category or aircraft type. The re-verification test procedures shall be the same as the system verification test procedures (see MIL-STD-3023, 5.7.3 and Appendix D).

3.2.4 Supply support requirements. A parts list of the installed HEMP hardness critical assemblies or items and lists of recommended organizational HPS spare parts, repair parts, supplies, special tools, and special test equipment shall be provided.

3.2.5 Training requirements. Training requirements for personnel performing aircraft maintenance are the responsibility of the procuring agency.

3.2.6 Technical data. A HPS technical manual shall be provided. As a minimum, the technical manual shall include the following:

- a. HPS description and principles of operation.
- b. Maintenance and inspection procedures repair and replacement procedures and HS test procedures.
- c. Supply support requirements.
- d. Training requirements.

3.3 Other information sources. When other information sources contain data required by this DID, these sources shall be referenced rather than being duplicated within this plan.

4. End of DI-EMCS-81855.