DATA ITEM DESCRIPTION

Form Approved
OMB No. 0704-0188

1. TITLE

Electromagnetic Environmental Effects (E3) Verification Report (E3VR)

2. IDENTIFICATION NUMBER

DI-EMCS-81542

3. DESCRIPTION/PURPOSE

3.1 The E3VR describes the tests, analyses, and inspections used by the contractor and documents the results verifying compliance with the E3 interface and performance requirements of a system.

3.2 The E3VR provides the means for the government to evaluate E3 verification results.

4. APPROVAL DATE *(YYMMDD)*	5. OFFICE OF PRIMARY RESPONSIBILITY (OPR)	6a. DTIC APPLICABLE	6b. GIDEP APPLICABLE
970318	F-11	X	

7. APPLICATION/INTERRELATIONSHIP

7.1 This Data Item Description (DID) contains the format and content preparation instructions for data resulting from the work task described by 4.1 of MIL-STD-464.

7.2 This DID is intended for airborne, sea, space, and ground systems, including associated ordnance.

7.3 This DID is normally applied to the engineering and manufacturing development phase of a program, but it can be used in any phase.

7.5 This DID is related to DI-EMCS-81540 and DI-EMCS-81541.

8. APPROVAL LIMITATION	9a. APPLICABLE FORMS	9b. AMSC NUMBER
		A7255

10. PREPARATION INSTRUCTIONS

10.1 Format. Contractor format is acceptable.

10.2 Content. The E3VR shall describe the overall verification results (test, analysis, and inspection, as applicable) for each E3 requirement specified in the contract for the system being developed.

10.2.1 Summary information. The procedures shall summarize the following:

10.2.1.1 Introduction,background.

(Continued on page 2)

11. DISTRIBUTION STATEMENT

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

Block 10, Preparation Instructions (Continued)

a. System description, including any pertinent information regarding verification issues.
b. Statement of any assumptions and limitations associated with verification efforts.

10.2.1.2 Body. General description of the results for the verification of each E3 interface and performance requirement area listed in section 10.2.2.

a. Synopsis of verification procedure and reference to detailed procedures.
b. Successes and failures.
c. Impacts of failures on operational performance.
d. Recommendations to resolve failures.
e. Lessons learned.

10.2.2 Detailed information. The E3VR shall provide detailed technical information covering the results of the analyses, tests, and inspections used to verify compliance with each of the interface requirement areas listed below addressed in contractually imposed requirements. The E3VR shall include the types of information for each area listed in the following sections.

a. Margins.
b. Intrasystem electromagnetic compatibility (EMC), including where applicable: ship hull intermodulation interference, internal electromagnetic environments, powerline transients, and multipaction.
c. Intersystem EMC.
d. Lightning.
e. Electromagnetic pulse.
f. Subsystem and equipment Electromagnetic Interference (EMI), including where applicable: non-developmental items, commercial items, electromagnetic spectrum compatibility, and DC magnetics.
g. Electrostatic charge control, including where applicable: vertical lift and in-flight refueling, precipitation static, and explosive subsystems.
h. Electromagnetic radiation hazards, including where applicable: hazards of electromagnetic radiation to personnel, hazards of electromagnetic radiation to fuel, and hazards of electromagnetic radiation to ordnance.
i. Life cycle E3 hardness.
j. Electrical bonding, including where applicable: power current return path, antenna installations bonding, and EMI bonding.
k External grounds, including where applicable: aircraft grounding jacks.
l. TEMPEST.
m. Emissions control.
n. Electronic protection.

10.2.2.1 Scope.

a. Objective of verification for the particular area.
c. References, including source of detailed verification procedures.

10.2.2.2 Verification article.

a. Identification of the physical configuration, such as structural features, mechanical and electrical equipment installed, and software status.
b. Description of system functions (or subsystem or equipment functions) that were exercised.
c. Description of provisioned equipment (items that are part of the resultant system operation but are not necessarily developed under the contract), such as weapons, pods, and payloads that were used.

10.2.2.3 Results.

a. When verification was conducted.

b. Where verification was conducted.
c. Who conducted the verification.
d. Documentation of setup, including the verification article, facility, test equipment, and calibration.
e. Verification observations, such as plots, measurements, photos, drawings, logs, checklists, data sheets, ratings, and comments.
f. Demonstration of margins.
g. Description of any deviations from the verification procedures.
h. Status and disposition of verification article.

10.2.2.4 Conclusions.

a. Status of compliance with requirements (pass or fail).
b. Impact of the results on system operational performance.

10.2.2.5 Recommendations.

a. Any required corrective actions, modifications, or changes to operational procedures, manual, or processes.
b. Any additional verification actions, investigations, resolutions, or studies.

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