DATA ITEM DESCRIPTION

Title: Thermal Survey Report

Number: DI-MISC-81592A
AMSC Number: 7647
DTIC Applicable: No
Office of Primary Responsibility: NS/I5223
Applicable Forms: N/A

Approval Date: 21 NOV 2006
Limitation: N/A
GIDEP Applicable: No

Use/relationship:

This report covers the results of specified thermal surveys performed on equipment and test chambers to determine "hot spots" and temperature time to thermal stabilization. The report will be used by the procuring activity to determine equipment and test chamber readiness.

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

This DID supercedes DI-MISC-81592.

Requirements:

1. Reference documents. None.

2. Format:

The report shall be in contractor's format.

3. Content:

The Thermal Survey Report shall contain the test data obtained during specified thermal survey tests and shall include:

a. A description of thermal survey test conditions, including the following:

(1) Number and type of probes and measuring devices used.
(2) Locations of the probes and instrumentation used to measure temperatures of part and ambient chamber air.
(3) Temperatures and related time duration's to which equipment was subjected.

b. Temperature measurements on the parts identified as high power dissipating parts and components, and those representatives of part populations. A temperature versus time plot will be included that shows the temperature profile for each

measurement point. The plot will also indicate the temperature being commanded by the chamber controller and the actual chamber.

c. Temperature time to reach thermal stabilization for parts or components exhibiting high thermal inertia (In addition to high temperature measurements, this data shall also include low temperature measurements wherever temperature cycling is required in Environmental Stress Screening (ESS) or reliability testing. Provide plots of part temperature as related to the chamber air temperature and time in chamber.)

d. A comparison between the thermal data taken during thermal tests and the thermal data arrived at analytically and the thermal limits recommended by the manufacturer of the part and actual manufacturer thermal ratings and temperatures used for determining failure rates reliability predictions for all “hot spots” items.

e. Description/identification of equipment under test, equipment serial number, date of test and location of test facility.

f. Methods and test equipment/instrumentation used to perform the survey including manufacturer, model numbers and accuracies. A diagram of test set-up shall be provided.

g. Discussion of thermal measurements accuracy.

h. Identification of any “hot spot: item, i.e., items exhibiting, during the Thermal survey, temperatures in excess of those permitted by the item specification or in excess of the derating limit for the item as applicable to the equipment under procurement.

i. The flow rate (s) of coolant (s) used in equipment (s) and their inlet and outlet temperatures.

4. END OF DI-MISC-81592A