USA Ground Operations CIL Sheet

Critical Item: Disk Module
Criticality Category: 1
NASA Part No: None
Total Quantity: 2
Mfg/Part No: ACT/Technico Inc. / TDM2-0GH1-4GH2-S-2
System: Checkout and Launch Control System

Find No.	Qty	Area	PMN	Baseline	Drawing / Sheet
52473A23A1A16	1	HMF	L72-4900	090.10	84K09908-002 / 8
52473A23A1A19	1	HMF	L72-4900	090.10	84K09908-002 / 8

Function:

Provides a mass storage location for all systems and application software that run on the Gateway and records locally all data to be sent to the SDC.

Failure Mode No. Failure Mode	Failure Cause Failure Effect	Detection Method Time to Effect	Crit Cat
01IT03-002.006 Corruption of Data	Internal Component or Software Failure Application programs on the Gateway would have errors occur. Invalid data would be recorded to the SDC during a data dump. Making a critical decision based on invalid data could result in loss of life and/or vehicle.	None Seconds	1

ACCEPTANCE RATIONALE

Design:

- Worldwide Standards Compliance
  - International
    - American National Standards Institute/VMEbus International Trade Association ANSI/VITA 1-1994, VME64 Standard
    - Institute of Electrical and Electronics Engineers (IEEE) Std 1014-1987, Standard for a versatile backplane bus: VMEbus
  - United States
    - Federal Communications Commission (FCC) Part 15, Class A, Electromagnetic Compatibility (EMC)
    - Underwriters Laboratory (UL) Listed UL-1950, Low Voltage Safety
  - Canada
    - Industry Canada ICES-003, Class A, EMC
  - Europe
    - European Norm EN50081-1 and EN50082-1, EMC Emissions and Immunity respectively (CE Mark)
    - European Norm EN60950, Low Voltage Safety (CE Mark)

- Designed to industry standards.

- All input power is delivered to the hardware through CLCS Power Distribution Chassis (PDCs) which emplo Electromagnetic Interference (EMI)/Radio Frequency Interference (RFI) filtering and Transient Voltage Surge Suppression (TVSS).

Test:

- Under the provisions set forth in 84K00071 "CLCS Hardware Development Plan" the following tests were performed:

  - 84K06538-003-02 "Test Specification, Receiving Inspection Test (RIT) Procedure for VME Disk Module" - a unit test.

- 84K02906 "Hardware Specification and Design Verification Test (DVT), VME SCSI Hard Drive" - a unit design test.

- 84K07210-010-02 "Hypergolic Maintenance Facility (HMF) Hardware Installation Test (HIT)" - an integrated connectivity test.

- 84K07211 "Hypergolic Maintenance Facility (HMF) Hardware Validation Test (HVT)" - an integrated functionality test.

• CLCS HMF Level 5 User Acceptance Testing as outlined in 84K00190, "CLCS Certification Plan".

Inspection:

• No inspections or preventative maintenance is accomplished on this item.

Failure History:

• Current data on test failures, unexplained anomalies, and other failures experienced during ground processi activities can be found in the PRACA database. The PRACA database was researched and the following dat was found on this component in the critical failure mode.

- P-V6-349516, initiated on 04/29/99, states that Gateway 2R28A had a disk drive failure that was found during a visual inspection. It was found that the drive was corrupted and upon replacement of the drive tl Gateway was returned to proper operation with no reoccurances of the problem.

- P-V6-361249, initiated on 05/15/00, states that a DRP in the Integrated Development Environment (IDE) had a corrupted disk format that caused errors in setting queue pointers during validation procedures. After a reformatting of the drive the problem did not occur again.

Operational Use:

Correcting Action	Timeframe
There is no action which can be taken to mitigate the failure effect.	Since no correcting action is available, timeframe does not apply.