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Page 47 of 5Critical Item: TransformerFind Number: T-1System/Area: EPSP, Payload Canister
Transporter Set 2Failure Category: 15SAA No: 09FT06-029, Rev. ANASA
Part No: NoneManufacture: Square "D"PMN No: S70-1309
Name: Transporter EPSDrawing/
Sheet No: VEN 829
Sheet 459Function: Reduces 480-VAC, 225A, 3-phase, 60 Hz power to 120/208 VAC 100A, 3-phase for panel #2.Critical Failure Mode: Fails Open (FMN 09FT06-029.003)
Fails Closed (FMN 09FT06-029.004)Cause: Thermal overload, Defective wire insulation.Failure Effect: Loss of 60 Hz power to Panel 2 and the I&CS. Eventual loss of capability to detect smoke, fire, hypergols and to vent/smother a payload hypergol leak. Unable to combat a hazardous condition which could result in loss of life and/or payload.Acceptance RationaleDesign:

- o Type EPT, epoxy encapsulated, totally enclosed dry type transformer suitable for hazardous atmospheres where safety and uninterrupted performance is essential.
- o Transformer is rated at 30 KVA and loaded at 8.3 KVA. Input voltage 480+/-1.0% VAC, 3-phase; output voltage 120/208 VAC.
- o Loss of power due to the transformer failure is detectable by I&CS subsystem. Fifteen (15) minute backup battery power.
- o Transformer is a standard commercial item.
- o This component is qualified through regular usage in this application and by analysis of loads and voltages.

Test:

- o Qualification and acceptance testing and manufacturing/assembly (source) inspection is in accordance with requirements of NASA 79K14547, section 16190.
- o File VI OMRSD requirements, implemented by TPS S70-1309-0016 requires:
 - Annual insulation resistance test.
 - Function verification prior to each mission use.

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Inspection:

- o OMI E6412 is being prepared to incorporate the File VI OMRSD requirements.

Failure History:

- o There has been no failure history in the critical mode since turnover in October 1983.

Operational Use:

- o Under hazardous conditions refer to OMI E6412, Appendix Z.