

FAILURE MODES AND EFFECTS ANALYSIS PAGE 2 OF 6

REFERENCE DESIGNATOR:
 NAME/QUANTITY: LBNP Controller 1
 DRAWING REFERENCE: SED46105894-301

PROJECT: Orbiter
 LRU NAME/QUANTITY: LBNPDS (1)
 LRU PART NUMBER: SED46105885

SUBSYSTEM: LBNP
 EFFECTIVITY: All Orbiters
 (As Manifested)

FAILURE MODE NUMBER LBNP-6		CRITICALITY 3/1R	FAILURE EFFECT	FAILURE DETECTION METHOD
FUNCTION Regulates the amount of vacuum applied to the crewmember's lower body.			END ITEM Controller will continue to expose the LBNP chamber to vacuum after desired test termination.	FLIGHT 1. Digital (Electronic) Pressure Meter 2. Analog (Mechanical) Pressure Meter 3. Blood Pressure Measurement (via ABPM, SED46104770-307) 4. Contains ECG Monitoring
FAILURE MODE AND CAUSE Vacuum Solenoid Valve (normally closed) Fails Closed Cause: 1. Binding/Mechanical Failure			MISSION Inability to terminate LBNP session.	GROUND Yes, ECG Measurement 1. ECG Monitoring 2. Blood Pressure Monitoring or Chamber Pressure Monitoring
REDUNDANCY SCREENS A - Pass B - Pass C - pass	REMAINING PATHS 1. Automatic Relief Valve (opens at 65 mmHg) 2. Manual Relief Valve		CREW/VEHICLE Possible crewmember injury if continued exposure to vacuum results in reduction of blood pressure and/or heart rate beyond acceptable limits.	CORRECTIVE ACTION 1. Automatic Relief Valve Opens (at 65mmHg) 2. Open Manual Relief Valve 3. Manually Separate Waist Seal 4. Disconnect any of two (2) Qui Disconnectors
MISSION PHASE	TIME TO EFFECT	TIME TO CORRECT	INTERFACE None	REMARKS
ORBIT	MINUTES	SECONDS		