



SHUTTLE CRITICAL ITEMS LIST - ORBITER

SUBSYSTEM : COMMUNICATION & TRACKING FMEA NO 05-2R -5108 -3 REV:06/27/88

EFFECTS ON PROVIDING DATA TO NSP FOR STATE VECTOR UPDATE - 1R/3

(A,B,C,D) LOSS OF ONE OF THREE REDUNDANT PATHS TO SUPPLY DATA TO NSP FOR STATE VECTOR UPDATE. UHF PROVIDES AN INDEPENDENT PATH FOR STATE VECTOR UPDATE. AFTER FOUR FAILURES POSSIBLE LOSS OF CREW/VEHICLE DUE TO LOSS OF STATE VECTOR UPDATE. NOTE- A SINGLE FAILURE OF A KU-BAND SPA DASH NUMBER -4001 CAN CAUSE THE LOSS OF POWER TO BOTH NSP'S, RESULTING IN ONLY ONE REMAINING PATH (UHF) TO UPDATE THE STATE VECTOR. THIS FAILURE CAN OCCUR DURING ANY MISSION PHASE. (KU-BAND POWERED ON OR OFF.)

DISPOSITION & RATIONALE:

(A) DESIGN (B) TEST (C) INSPECTION (D) FAILURE HISTORY (E) OPERATIONAL USE

(A,B,C,D) REFER TO APPENDIX A, ITEM # 1, TOGGLE SWITCH

(B) TEST

GROUND TURNAROUND TEST- ALL SWITCH POSITIONS ARE SELECTED AND CORRECT TELEMETRY RESPONSE VERIFIED - PERFORMED EVERY FLIGHT.

(E) OPERATIONAL USE

WORKAROUND TO REGAIN ABILITY TO CONTROL POSITION, OR LOCK ANTENNA GIMBALS

LOCK GIMBALS AND STOW THE DEPLOYED ASSEMBLY WITH THE NORMAL STOW PROCEDURE WHICH IS PERFORMED IN THE RADAR-PANEL MODE.

WORKAROUND TO REGAIN SUPPORT OF MISSION OBJECTIVES-

COMM: NONE. RADAR: ATTEMPT RENDEZVOUS WITH ALTERNATE SENSORS. USE BACK-UP RENDEZVOUS PROCEDURES.

WORKAROUND TO PROVIDE STATE VECTOR UPDATE

THE STATE VECTOR CAN BE UPDATED VIA THE NORMAL S-BAND COMMUNICATIONS LINK OR VIA UHF/AUDIO.