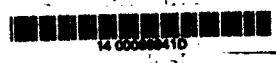


DISC

DEFERRED MESSAGE

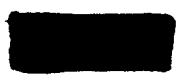
2152Z 13 MAY 55

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DIRECTOR



PRIORITY

TO: 2225Z 13 MAY 55

03A-1-15



PRIORITY

INFO

CITE



HANDLE VIA YWX FACILITIES ONLY

REF MSN 1019-2

ATTN: JOHN MC MAHON

1. THE FOLLOWING IS THE EVENT SEQUENCE FOR THE "B" BUCKET RECOVERY ATTEMPT ON MISSION 1019. A SECURE COMMAND WAS SENT TO ENABLE RECOVERY BRUSHES. BRUSHES LATCHED RELAY WHICH RESET AND INITIATED RECOVERY TIMER START. RECOVERY TIMER SENT "PITCH DOWN" AND "HORIZON SENSOR OFF" COMMANDS TO THE ASENA AND "ARM" COMMAND TO PAYLOAD. ASENA PITCHED DOWN 60 DEGS AND PAYLOAD RESPONDED CORRECTLY TO COMMAND. APPROXIMATELY 40 SECONDS AFTER FIRST SET OF RECOVERY BRUSHES, RECOVERY TIMER INITIATED A RESET SIGNAL TO ABOVE LATCHING RELAY. THIS SIGNAL REMAINED ON THE RESET COIL. UP TO THIS POINT ALL COMMANDS AND RESPONSES WERE NORMAL. APPROX 74 SECONDS AFTER THE FIRST SET OF RECOVERY BRUSHES, A REDUNDANT SET OF RECOVERY BRUSHES WERE PROGRAMMED (THESE REDUNDANT BRUSHES ARE PROGRAMMED TO ALLOW FOR RESET OF R-TIMER). THE BRUSHES PUT A SIGNAL ON THE SET SIDE OF THE ABOVE RELAY (THEREFORE BOTH COILS OF RELAY WERE ENERGIZED). THE RELAY FLIPPED TO THE SET

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GROUP 1
EXCLUDED FROM AUTOMATIC
DOWNGRADING AND
DECLASSIFICATION

Declassified and Released by the N.F.C.

In Accordance with E.O. 12958

on NOV 26 1997

POSITION (WITH BOTH COILS ENERGIZED, RELAY RESPONSE IS RANDOM) AND SENT A NEW SIGNAL TO THE RECOVERY TIMER WHICH RESET THE COUNTING STAGES, STARTED THE TIMER OVER AND SWITCHED ON THE HORIZON SENSORS. INASMUCH AS THE HORIZON SENSORS COULD NOT SEE THE EARTH WHILE PITCHED DOWN 60 DEGS, THE VEHICLE HUNTED UNTIL THE NEXT ARM SIGNAL WAS SENT BY THE RECOVERY TIMER (ABOUT 6 SECONDS AFTER TIMER START). WITH THE RECEIPT OF THIS SECOND ARM SIGNAL, THE VEHICLE PITCHED DOWN AN ADDITIONAL 60 DEGS (TOTAL 120 DEGS) SUCH THAT THE VEHICLE WAS THEN FLYING WITH THE SRV IN THE DOWN AND FORWARD ATTITUDE. FROM THIS POINT ON THE RECOVERY SEQUENCE WAS AGAIN NORMAL EXCEPT THAT WHEN THE RETRO ROCKET FIRED, THE RETRO VECTOR WAS ADDITIVE RATHER THAN SUBSTRACTIVE THEREBY INCREASING THE SRV'S VELOCITY WHICH IN TURN ABORTED THE RECOVERY.

2. THE PROBLEM WAS CAUSED BY AN INCOMPATIBILITY BETWEEN THE AGENA PROGRAMMING AND AGENA CIRCUIT DESIGN. THE SRV ITSELF PERFORMED NORMALLY.

3. CIRCUIT WAS REDESIGNED STARTING WITH VEHICLE 1609 (APPROX ONE YEAR AGO) AS A PART OF GENERAL CIRCUITRY SIMPLIFICATION EFFORT.

4. SAME SEQUENCE AND FAILURE MODE WAS PRESENT ON ONE OTHER MISSION (1017-2) BUT THE RELAY APPARENTLY DID NOT FLIP.

5. THIS PROBLEM DID NOT OCCUR ON 1019-1 AS REDUNDANT BRUSH WAS PROGRAMMED 30 SECONDS AFTER THE PRIMARY BRUSHES (PRIOR TO THE RELAY BEING RESET THEREFORE THE RECOVERY TIMER SAW ONLY ONE SIGNAL).

6. CORRECTIVE ACTION: NO REDUNDANT BRUSHES WILL BE PROGRAMMED ON NEXT TWO VEHICLES AND CIRCUIT WILL BE REDESIGNED ON SUBSEQUENT

~~TOP SECRET~~

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VEHICLES.

7. FOUR OBJECTS (BELIEVED TO BE THE THRUST CONE, PARACHUTE COVER, CAPSULE AND ABLATIVE SHELL) ARE BEING TRACKED BY SPACE TRACK.

8. ORBITAL LIFE OF CAPSULE ESTIMATED BY THE STC TO BE ROUGHLY 22 DAYS.

9. SRV SUB-ASSEMBLY LOCATIONS: LEAD OBJECT IS SMALL; 3 MINUTES BEHIND LEAD OBJECT IS SECOND OBJECT; 1 MINUTE BEHIND SECOND OBJECT IS THIRD OBJECT; FORTH OBJECT IS 27 MINUTES BEHIND THIRD OBJECT. GROUP OF FOUR SUB-ASSEMBLIES HAVE ESTABLISHED ORBIT INDEPENDENT OF AGENA.

10. PRELIMINARY ORBITAL PARAMETERS OF CAPSULE: APOGEE-680 NM; PERIGEE-84 NM; PERIOD-96.48 MIN; INCL ANGLE-84.85 DEGS.

END OF MESSAGE

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