HANDLE VIA BYEMAN CONTROL SYSTEM

ITN 0503
121217 PP VUU RUXSBAA2099 0842140 00047-X[redacted]
ZNY XXXXX VUU ZNM
P 251800Z
BT
XXXXX
~~DAMP~~ 842, [redacted] 184
DAMP ~~PASS~~ [redacted]

DISTRIBUTION	A	I
SAFOS		
SAFAL		
SAFUSS		✓
SAFSS		✓
EXEC		
L&A		
P&B	✓	
S&T		✓
SAF/SPE		
TC		
REGISTRY		
COMM DIRNSA	AT	
RF		✓

AA-2114
AMM

~~S E C R E T~~ 251800Z MAR 81 CITE BISON 2308
PRIORITY [redacted] INFO PRIORITY [redacted]
HANDLE VIA BYEMAN CHANNELS ONLY
[redacted]
FOR DR. HERMANN. INFO MR. HILL AT [redacted]
FROM: GENERAL KULPA
SUBJECT: FARRAH I BATTERY LIFE
REFERENCES: A. [redacted] 0202, 12 FEB 81
B. KWBISON 2423, 4 MAR 81
C. [redacted] 1854, 12 MAR 81
D. [redacted] 0374, 19 MAR 81

1. AT THE JANUARY 81 P989 QUARTERLY REVIEW, THE PRIME CONTRACTOR BRIEFED THE PRELIMINARY RESULTS OF A FARRAH-I BATTERY LIFE STUDY. THIS STUDY INDICATED THAT THE TASKING CAPABILITY REQUIRED BY THE FARRAH-I GENERAL SYSTEM SPECIFICATION, TOGETHER WITH THE INCREASE IN PAYLOAD POWER REQUIREMENTS BEYOND THE ORIGINAL PREDICTION, RESULTED IN A SUBSTANTIAL REDUCTION IN EXPECTED BATTERY LIFE, WHICH, IN TURN, REDUCED THE OVERALL SYSTEM MMD BELOW THE SPECIFIED 36 MONTHS. THIS PROBLEM IS BEING RESOLVED BY SIGNIFICANTLY LOWERING THE BATTERY OPERATING TEMPERATURES THROUGH THE ADDITION OF OPTICAL SOLAR REFLECTORS AND WHITE PAINT TO VARIOUS VEHICLE SURFACES. WITH THESE MODIFICATIONS THE TAPE RECORDERS WILL REMAIN THE CONTROLLING FACTOR IN THE FARRAH-I MMD. THE FARRAH-I MMD WILL MEET OR EXCEED ITS SPECIFICATION OF 36 MONTHS.
2. FARRAH WILL EXCEED ITS SPECIFICATION FOR BOTH MMD AND TASKING CAPABILITY, I.E., THE 208 MINUTE PER DAY SPECIFICATION TASKING MODEL. HOWEVER, THE EXISTING FARRAH POWER SYSTEM WILL NOT PERMIT FULL EXPLOITATION OF THE VEHICLE'S CAPABILITIES AGAINST CURRENT AND ANTICIPATED FUTURE REQUIREMENTS. DURING PERIODS WHEN THE SPACECRAFT OPERATES IN LESS THAN 100 PERCENT SUN, (ABOUT TWO THIRDS OF THE YEAR), THE POWER AVAILABLE ON CERTAIN PASSES IS INSUFFICIENT TO ACCOMPLISH THE DESIRED TASKING. THIS SITUATION OCCURS PRIMARILY IN PASSES OVER THE CENTRAL SOVIET UNION AND EASTERN EUROPE WHERE TECHNICAL INTELLIGENCE IS A PRIMARY TASKING OBJECTIVE.
3. BASED ON THESE CONSIDERATIONS WE SHOULD ADD A THIRD BATTERY TO THE FARRAH SPACECRAFT. THIS ADDITION WOULD RELIEVE THE EXISTING POWER CONSTRAINTS AND PROVIDE IMPROVED FLEXIBILITY TO MEET CURRENT AND PREDICTED FUTURE REQUIREMENTS SUCH AS INCREASED TI, CURRENT INTELLIGENCE, OCEAN SURVEILLANCE AND SUPPORT OF MULTIPLE VAN OPERATIONS. TODAYS

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HANDLE VIA BYEMAN

ROGRAM 989 SYSTEM PROVIDES A COMBINATION OF ONE RAQUEL AND TWO URSALA VEHICLES TO SATISFY THESE REQUIREMENTS. AFTER 1982 WE MTGHT BE TOTALLY DEPENDENT ON FARRAH-I.

4. THE COST OF ADDING A THIRD BATTERY TO BOTH FARRAH-I AND FARRAH-II IS $4.2M. ADDITION OF A THIRD BATTERY TO FARRAH-I, ALONG WITH CURRENT PAYLOAD PROBLEMS, WILL SLIP ITS AVAILABILITY TO DECEMBER 1984. CONFLICTS WITH TEST EQUIPMENT AND OTHER RESOURCES WILL RESULT IN A FARRAH-II AVAILABILITY IN AUGUST 1983. I DESCRIBED THE FINANCIAL IMPACT OF THESE SLIPS IN REFERENCE B. IF FARRAH-II AVAILABILITY IS SLIPPED TO DECEMBER 1983, WE CAN CREATE A FUND REQUIREMENTS PROFILE WHICH COVERS BOTH FARRAH-I AND II SLIPS AND THE BATTERY ADDITIONS AS FOLLOWS:

FY 82	FY 83	FY 84
2.0	8.3	2.0

FURTHER DELAY OF FARRAH-II WOULD NOT RESULT IN ANY FURTHER SIGNIFICANT SAVINGS AND WOULD BE COUNTERPRODUCTIVE TO OUR GOAL OF INCREASING OPERATIONAL CAPABILITY.

5. I NEED TO KNOW IF THE FUND REQUIREMENT CAN BE SATISFIED IN ORDER TO DIRECT THE CONTRACTOR TO PROCEED WITH THE BATTERY ADDITION BY 15 APRIL. A BRIEFING ON THE OPERATIONAL IMPACT OF NOT MAKING THE MODIFICATION IS AVAILABLE.

REVW: 25 MAR 2001

~~S E C R E T~~

BT

#2099

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HANDLE VIA BYEMAN

ITN 0380
121247 PR UUU RUXPDAA0640 0431855 00000-XXXX--RUXSBAA,RUXEDAA
ZNY XXXXX UUU ZNM
P R 1218547
BT
XXXXX
ALLOT 177, [redacted] 656
ALLOT PASS BISON

AA-1012

DISTRIBUTION CONTROL SYSTEM	A	I
SAFOS		
SAFAL		
SAFIRS		✓
SAFSS		✓
EXEC		
L&A		
P&B		✓
S&T	✓	
SAF/SPE		
TC		
REGISTRY		
COMM		
RF		✓

~~S E C R E T~~ 1218547 FEB 81 CITE [redacted] 0202
PRIORITY BISON INFO [redacted]
HANDLE VIA BYEMAN CONTROL CHANNELS ONLY
[redacted]

KUBISON FOR GEN KULPA/COL FOLEY: FROM HILL
SUBJECT: FARRAH I
REFERENCE: A. KUBISON 1259, 092236Z FEB 81
B. PROGRAM REVIEW BRIEFINGS ON F-I POWER SUBSYSTEM
STATUS
1. REQUEST YOU DEVELOP A RECOVERY OPTION TO CORRECT THE MAIN BEAM OMNI-P SENSITIVITY ANOMALY DESCRIBED IN REFERENCE A. FOR PLANNING PURPOSES, YOU CAN ASSUME A FARRAH I LAUNCH DATE OF MARCH 1982. SCHEDULE AND COST IMPACTS SHOULD BE IDENTIFIED AS WELL AS A MORE DETAILED ASSESSMENT OF THE TECHNICAL, MANUFACTURING AND MISSION IMPLICATIONS OF CORRECTING OR NOT CORRECTING THIS ANOMALY. IN ADDITION TO PROVIDING OPTIONS AND RATIONALE, A BRIEFING ON THE SUBJECT SHOULD BE PREPARED TO ASSIST LATER IN EXPLAINING THE ISSUE AND THE RECOMMENDED SOLUTION TO NSA AND THE DCI'S SIGINT COMMITTEE.
2. AT THE RECENT P-989 PROGRAM REVIEW (REFERENCE B), THE PRIME CONTRACTOR DESCRIBED A POTENTIALLY SERIOUS FARRAH I BATTERY/POWER SUBSYSTEM PROBLEM. REQUEST YOUR ASSESSMENT OF THIS PROBLEM AND IF IT IS IN FACT SERIOUS, REQUEST RECOVERY OPTIONS BE DEVELOPED AS FOR THE OMNI-P SENSITIVITY ANOMALY.
3. A COST OPTION, FOR THE ABOVE, SHOULD BE DEVELOPED TO DESCRIBE THE IMPACT OF FARRAH II IF THE ADDITIONAL WORK IS DONE WITHIN THE CURRENT APPROVED PROGRAM.
RVW: 11 FEB 2001
~~S E C R E T~~
BT
#0640

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HANDLE VIA BYEMAN
CONTROL SYSTEM

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HANDLE VIA BYEMAN

DISTRIBUTION		
	A	I
SAFOS		
SAFAL		✓
SAFUSS		✓
SAFSS		✓
EXEC		
L&A		
P&B		✓
S&T	✓	
SAF/SPE		
TC		
REGISTRY		
COMM		
RF		✓

AA-1755

25X1

ITN 0617
121217 RR VVV RUXEDAA1760 0710218 00826-XXXX--RUXPDAA.
ZNY XXXXX VVV ZNM
R 120218Z
BT
XXXXX
DAMP 996, ALLOT 443, JACKAL 336
DAMP PASS [redacted]
ALLOT PASS BISON
JACKAL PASS FALCON

~~S E C R E T~~ 120218Z MAR 81 CITE [redacted] 1854
[redacted] BISON INFO FALCON.
HANDLE VIA BYEMAN CHANNELS ONLY
[redacted] OPS
[redacted] FOR HERMANN/HILL, BISON FOR KULPA/FOLEY, FALCON FOR GOVERNMENT
EYES ONLY: [redacted] FROM INMAN
SUBJECT: FARRAH-I PERFORMANCE
REF [redacted] 0202, 121854Z FEB 81

1. ~~(S/B)~~ THERE CONTINUES TO BE GREAT RELIANCE ON P-989 FOR MAJOR AND UNIQUE CONTRIBUTIONS TO OUR SIGINT MISSION. IN PARTICULAR WE HAVE COME TO COUNT ON MULTIPLE P-989 VEHICLE OUTPUTS IN SATISFACTION OF WORLDWIDE SEARCH, OPERATIONAL SIGINT, TI AND COMINT MAPPING FUNCTIONS. WE ARE PARTICULARLY CONCERNED THAT THE GROWING VEHICLE POWER DEMANDS OF THE FARRAH-I PAYLOAD WILL TAX THE PRESENT BATTERY CAPACITY SUCH THAT SEVERELY REDUCED END-OF-LIFE TIMELINES AND IMPAIRED OPERATIONAL FLEXIBILITY WILL RESULT. WE STRONGLY SUPPORT A RECOVERY OPTION AS SUGGESTED IN REF WHICH WOULD INCORPORATE SUCH ADDITIONAL BATTERY CAPACITY AND POWER SUBSYSTEM REWORK AS WOULD ALLEVIATE THE PROBLEM AND SUGGEST WORK BEGIN AS SOON AS POSSIBLE. IT IS OUR UNDERSTANDING THAT SUCH A MODIFICATION CAN BE ACCOMMODATED IN THE LIKELY LAUNCH SCHEDULES, AND WILL BE NEEDED IN ANY EVENT FOR FARRAH-II.

2. ~~(S/B)~~ I ALSO BELIEVE THAT THE UNIQUE MAINBEAM TI CAPABILITIES OF THE MISSION 7300 PROGRAM IN THE 12-18 GHZ RANGE ARE SIGNIFICANTLY HAMPERED BY THE FARRAH-I 1Y OMNI DOWNCONVERTER LOSS IN SENSITIVITY. ALTHOUGH WE RECOGNIZE THERE IS RISK ASSOCIATED WITH REPAIR ATTEMPTS OF THE PROBABLE CAUSE (INTERMEDIATE FREQUENCY SOLID STATE SWITCH). WE NEVERTHELESS WANT TO EMPHASIZE THE IMPORTANCE OF THIS MAINBEAM TI MISSION TO OUR SIGINT NEEDS. IF ANY FIX IS POSSIBLE WITHIN A DEFERRED LAUNCH SCHEDULE (FALL 81/SPRING 82) WE ENCOURAGE THIS DEFICIENCY BE RECTIFIED.

REVW 12 MAR 11
~~S E C R E T~~
BT
#1765

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HANDLE VIA [redacted]
CONTROL SYSTEM

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HANDLE VIA BYEMAN
CONTROL SYSTEM

AA-1585
RAM

ITN 0573
121247 RR VUU RUXSBAA1235 0642336 00032-XXXX--RUXPDAA.
ZNY XXXXX VUU ZNM
R 051500Z
BT
XXXXX
~~DAMP~~ 735. [redacted] 149
DAMP ~~PASS~~ [redacted]

~~S E C R E~~ T 051500Z MAR 81 CITE BISON 2302
[redacted]
HANDLE VIA BYEMAN CHANNELS ONLY
[redacted]
FOR DR. HERMANN. INFO MR. HILL AT [redacted] INFO FOR DIRNSA.
INFO MR. STARK/MR. GENTILE AT [redacted] FROM: GENERAL KULPA.
SUBJECT: FARRAH-I CAPABILITY LOSS
1. DURING REVIEW OF FINAL FARRAH-I PAYLOAD ACCEPTANCE TEST DATA, AN 8 DB REDUCTION IN GAIN IN ONE OF THE TWO OMNI RECEIVERS WAS DISCOVERED. THE PRIMARY FUNCTION OF THESE RECEIVERS IS MAINBEAM TECHNICAL INTELLIGENCE. WE HAVE DETERMINED THE FAILURE TO BE IN AN IF SWITCH MODULE AND HAVE TO ASSUME THAT COMPLETE LOSS OF THIS CIRCUIT WILL EVENTUALLY RESULT.
2. THE CONTRACTOR HAS DEVELOPED A REPAIR PLAN WHICH, ON-PAPER, SUPPORTS A DECEMBER OF 1981 LAUNCH. HE DOES NOT RECOMMEND REPAIR HOWEVER. I HAVE ASSESSED THE PROPOSED REPAIR PLAN AND BELIEVE THAT THE TIME ESTIMATED TO REPAIR THE PROBLEM IS OPTIMISTIC. THERE IS A MAJOR RISK TO OTHER SUBSYSTEMS AND PAYLOAD WIRING DURING DISASSEMBLY REPAIR REASSEMBLY, AND ENVIRONMENTAL TESTING. THE MOST CRITICAL COMPONENT OF CONCERN IS THE 20-LAYER MOTHERBOARD USED IN THE DATA HANDLER SUBSYSTEM. IT IS A COMPLEX BOARD CONSISTING OF HARD AND FLEXIBLE LAYERS INTERTWINED TO ENABLE A PORTION OF THE BOARD TO BE MOUNTED 90 DEGREES TO THE REMAINDER. THE SUPPLIER HAS BEEN UNABLE TO PRODUCE A SECOND BOARD IN MANY ATTEMPTS. A REDESIGNED BOARD WILL BE USED FOR FARRAH II, UTILIZING A HARD BOARD WITH POINT-TO-POINT WIRING. THERE IS A HIGH PROBABILITY THAT THE FARRAH I BOARD WOULD BE DAMAGED DURING REWORK AND SUBSEQUENT PAYLOAD VIBRATION. I WOULD THEN BE FORCED TO INCORPORATE THE FARRAH II DESIGN INTO FARRAH I REQUIRING FOUR TO SIX MONTHS ADDED EFFORT. THIS WOULD DELAY THE LAUNCH OF FARRAH I WELL BEYOND MARCH 1982. THE MINIMUM COST TO REPAIR IS $5.1M AND THE RISKS I HAVE DESCRIBED WOULD REQUIRE ANOTHER $6-7 MILLION TO COVER.
3. WE HAVE ASSESSED THE COLLECTION IMPACT CAUSED BY LOSS OF THIS CIRCUITRY AND BELIEVE THAT THE REDUCTION IN CAPABILITY DOES NOT JUSTIFY THE RISK OF REPAIR. THE REMAINING RECEIVER/ANTENNA CAPABILITIES OVERLAP THE FAILED UNIT CONSIDERABLY. A MESSAGE DESCRIBING DETAILS OF THIS IMPACT HAS BEEN TRANSMITTED TO INTERESTED ELEMENTS OF THE COMMUNITY. A BRIEFING ON THE SUBJECT IS AVAILABLE TO ASSIST

DISTRIBUTION	A	I
SAFOS		
SAFAL		✓
SAFUSS		✓
SAFSS		✓
EXEC		
L&A		✓
P&B		✓
S&T	✓	
SAF/SPE		
TC		✓
REGISTRY		
COMM		
RF		✓

~~SECRET~~
HANDLE VIA BYEMAN
CONTROL SYSTEM

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HANDLE VIA BYEMAN
CONTROL SYSTEM

YOU IN MAKING A FINAL DETERMINATION ON THIS ISSUE.
REVW 05 MAR 01
~~S E C R E T~~
BT
#1235

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HANDLE VIA BYEMAN
CONTROL SYSTEM

SECRET
HANDLE VIA BYEMAN
CONTROL SYSTEM

AA 1670

DISTRIBUTION		
	A	I
SAFOS	03	4/9
SAFAL		
SAFUSS		✓
SAFSS/B		✓
EXEC		
L&A		
P&B		✓
S&T	✓	
SAF/SPE		
TC		
REGISTRY		
COMM		
RF		✓

ITN 0151
121217 RR YKK RUXSBAA1354 0682302 00023-XXXX--RUXPDAA.
ZNY XXXXX YKK ZNM
R 041930Z
BT
XXXXX
DAMP 753
DAMP PASS [redacted] LAGOON

~~S E C R E T~~ 041930Z MAR 81 CITE BISON 2423
[redacted] INFO LAGOON.
HANDLE VIA BYEMAN CHANNELS ONLY
[redacted] HEXAGON/BUDGET
FOR: J. HILL INFO: R. PAULSON FM: GEN KULPA
SUBJECT: P989 TEST PROBLEMS AND LAUNCH DELAY IMPACTS
1. THE P989 PROGRAM IS UNDER A FINANCIAL STRAIN DUE TO DIFFICULTIES ENCOUNTERED IN THE PAYLOAD AND SYSTEM TEST PHASES, AND THE ANTICIPATED LAUNCH SLIP OF THE H-47 HOST VEHICLE TO FEB/MAR 82.
2. DIFFICULTIES IN PAYLOAD TESTING, AS BRIEFED TO MR HILL ON 17 SEP 80, CAUSED THE FARRAH 1 PAYLOAD DELIVERY TO SHIFT FROM OCT TO LATE DEC 80. FURTHER PROBLEMS IN PAYLOAD COMPATIBILITY TESTS HAVE REQUIRED REWORK OF SELECTED COMPONENTS AND DELAY OF READY FOR MATE STATUS TO JUN 81. THESE DELAYS AND REWORK OPERATIONS HAVE COMBINED TO SEVERELY TAX THE P989 FY 81 PROGRAM. FOR THIS REASON, REQUEST YOUR CONCURRENCE IN P989'S REQUIREMENT FOR $1.99M IN FY 81 REPROGRAMMING FOR FARRAH 1 AT THE EARLIEST OPPORTUNITY. I AM WORKING TO IDENTIFY A SOURCE FOR THIS REPROGRAMMING.
3. AN F-1 LAUNCH DELAY TO EARLY 82 IS IN ALL PROBABILITY THE NEW P989 BASELINE. P989 COSTS ASSOCIATED WITH THIS WERE DETAILED IN ALT 3 OF THE SEP 80 HEXAGON BUDGET REVISION. DUE TO STORAGE AND RETEST OF F-1, AND F1/F2 SYSTEM TEST CONFLICTS, THESE COSTS WERE ESTIMATED AT .4M IN FY 81 AND 7.3M IN FY 82. THESE COST IMPACTS ARE STILL VALID, WITH THE EXCEPTION THAT 3.0M IS NOW FORECAST TO BE NEEDED IN FY 83, THEREBY REDUCING THE FY 82 IMPACT TO 4.3M. REQUEST YOU TAKE APPROPRIATE ACTION TO INCLUDE THE ADDITIONAL $4.3M IN FY 82 AND $3.0M IN FY 83 AS THE NEW P989 BASELING PROGRAM.
REVW 04 MAR 01
~~S E C R E T~~
BT
#1354

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[redacted]
HANDLE VIA [redacted] BYEMAN
CONTROL SYSTEM

ITN 0182
121247 RR UUU RUXSBAA1416 0411720 00052-XXXX--RUXPDAA.
ZNY XXXXX UUU ZNM
R 032230Z
DT
XXXX)
[redacted]079, [redacted] 477, DAMP 604, JACKAL 562 18
[redacted]PASS DEMURE
DAMP PASS [redacted] 18
JACKAL PASS FALCON

AA/0950/18
SAT/1631/18

~~S E C R E T~~ 032230Z FEB 84 CITE BISON 1259
[redacted] DEMURE, [redacted], FALCON, [redacted] 18
HANDLE VIA BYEMAN CHANNELS ONLY 18
[redacted]
FOR
[redacted] FROM BISON/FOLEY/
[redacted]

SUBJECT: PARTIAL LOSS OF MAINBEAM OMNI-P SENSITIVITY ON FARRAH I IN BANDS 6-8 (12-18 GHZ).

1. SUBSEQUENT TO FINAL PAYLOAD TESTING AT MOTOROLA, AN 8DB REDUCTION IN OMNI-P SENSITIVITY WAS DISCOVERED DURING A PRE-SHIPMENT TEST SIGNAL GENERATOR (TSG) VERIFICATION. INVESTIGATION REVEALED THE CAUSE TO BE A FAULTY DOWN-CONVERTER IF SWITCH MODULE. I HAVE REVIEWED THE TECHNICAL RISK OF REPAIRING THE FAILED UNIT VS ACCEPTING AS IS. THE REPAIR REQUIRES REMOVAL OF THE DOWNCONVERTER FROM THE "B" BOX, DISASSEMBLY OF THE DOWNCONVERTER, REPAIR AND TEST OF THE IF SWITCH MODULE, REASSEMBLY OF THE DOWN-CONVERTER, FULL SUBSYSTEM TEST, REINSTALLATION INTO THE "B" BOX, FULL ENVIRONMENTAL AND FUNCTIONAL TEST OF THE "B" BOX AND REPEAT OF PAYLOAD CALIBRATION.

2. THE FAULTY OUTPUT IS CONNECTED TO THE OMNI-P (PLUS) CW, PULSE, AND TI RECEIVERS. THE LATTER TWO ARE UN-AFFECTED SINCE EACH HAS AN AGC WITH AN 8 DB DYNAMIC RANGE CAPABLE OF CORRECTING FOR THE LOST SENSITIVITY. HOWEVER, THERE IS A POTENTIAL FOR COMPLETE IF SWITCH MODULE FAILURE IN WHICH CASE ALL THREE SUBSYSTEMS WILL BE AFFECTED WHEN CONNECTED TO THE OMNI-P OUTPUT. THERE IS AN OMNI-M (MINUS) SUBSYSTEM WHICH IS OPERATING CORRECTLY. IN MOST CASES, IT WILL RECEIVE SIGNALS FROM THE AREAS NORMALLY COVERED BY THE OMNI-P BUT WITH SLIGHTLY LESS SENSITIVITY. THE OPERATIONAL IMPACT OF THE CURRENT 8 DB SENSITIVITY LOSS AND FULL SENSITIVITY LOSS FOLLOWS.

3. IF THE FAULURE REMAINS LIMITED TO THE 8 DB SENSITIVITY LOSS IN THE OMNI-P CW RECEIVER CHANNELS, THE IMPACT ON MISSION SUCCESS WILL BE SMALL EXCEPT IN THE AREA OF WEAK NON-SCANNING CW SIGNAL SEARCH AND TI.

FOR LOW POWER FIXED BEAM EMITTERS LOCATED IN THE NORTHERN HEMISPHERE THAT ARE ORIENTED GENERALLY IN AN EASTERLY OR WESTERLY DIRECTION, THE OMNI-M CHANNELS ALONE PROVIDES SUFFICIENT COVERAGE. HOWEVER, THE COVERAGE OF SOUTHERLY POINTING BEAMS IS RESTRICTED BY THE DEGRADATION

OR LOSS OF SENSITIVITY IN THE OMNI-P CHANNELS WHEN THE COLLECTOR IS BELOW APPROXIMATELY 65 DEGREE N AND 25 DEGREE N. BELOW 25 DEGREE N. THE COVERAGE IS RESTRICTED FROM FIXED BEAMS POINTING IN A ESE OR WSW DIRECTIONS. IN CONTRAST. FOR EMITTERS EMPLOYING A LARGE SCAN VOLUME OR CIRCULAR SCAN THE DECREASED FIELD-OF-VIEW AND RESTRICTED COLLECTION GEOMETRY IS EXPECTED TO ONLY CAUSE A REDUCTION IN THE AVERAGE INTERCEPT DURATION BUT NOT IN THE PROBABILITY OF INTERCEPT. UNLESS THE EMITTER HAS A RELATIVELY SHORT ON-TIME.

FOR SIGNALS THAT NORMALLY EXCEED THE SYSTEM THRESHOLD BY MORE THAN 10 DB. THERE WILL BE ESSENTIALLY NO LOSS IN NUMBERS OF SIGNALS DETECTED. BUT LESS DATA WILL BE GATHERED DURING THE AVERAGE INTERCEPT.

IF COMPLETE FAILURE OCCURS. ALL THREE RECEIVERS CONNECTED TO THE OMNI-P CHANNELS WILL BE AFFECTED. HOWEVER. THE OMNI-M ANTENNA GAIN IN THE REGION NORMALLY COVERED BY THE OMNI-P CHANNEL ANTENNA IS NOMINALLY ONLY ABOUT 12 DB DOWN FROM THE PEAK GAIN OVER MOST OF THE POTENTIAL ANGLES OF ARRIVAL (THOUGH THIS VALLUE AT A SPECIFIC ANGLE OF ARRIVAL IS QUITE DEPENDENT ON POLARIZATION). THIS ALLOWS THE OMNI-M ANTENNA TO PROVIDE FAIRLY GOOD SYSTEM SENSITIVITY AT NEARLY ALL RECEIVE ANGLES OF ARRIVAL. AND PROVIDE FAIR TO GOOD SYSTEM SENSITIVITY OVER MOST OF THE RECEIVE ANGLES OF ARRIVAL TYPICALLY EXPECTED FOR THE EMITTERS OF INTEREST.

4. CONSIDERING THE MISSION IMPACT AS STATED ABOVE AND THE RISK TO UNRELATED CRITICAL SYSTEMS (SUCH AS THE DATA HANDLER) DURING REPAIR AND RETEST. IT IS MY INTENT TO ACCEPT THE SYSTEM OPERATION AS IS. I WILL DISCUSS THE ISSUE IN DEPTH. IF DESIRED. AT YOUR COVENIENCE.

REVW 03 FEB 04

S E C R E T

BT

#1446

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