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CORONA [REDACTED] GAMBIT/TALENT KEYHOLE

FOR OR FLAX FROM GEN MARTIN

1. THE PURPOSES OF THIS MESSAGE ARE TO SUMMARIZE VERBAL DIRECTION RECEIVED BY SAFSP ON THE SUBJECT OF FLYING "BIT BOXES" ON SAFSP VEHICLES, AND TO REQUEST BOTH WRITTEN CONFIRMATION OF THAT DIRECTION AND ADDITIONAL FUNDING.
2. THE TERM "BIT BOX" REFERS TO A SMALL ELECTRONIC PAYLOAD FLOWN ON AN ORBITING VEHICLE FOR THE PURPOSE OF DETERMINING WHETHER THAT VEHICLE IS TRACKED DURING OVERFLIGHT OF DENIED TERRITORY. ALL SUCH PAYLOADS ARE GIVEN SIGINT MISSION NUMBERS IN THE 7001-7099 SERIES.
3. THE FIRST PAYLOAD OF THIS TYPE DEVELOPED BY SYLVANIA-EDC ON AN SAFSP CONTRACT WAS CALLED STOPPER. THIS WAS A RELATIVELY LARGE MODULE, WHICH IN ADDITION TO DETECTING SKIN TRACKING ALSO DETECTED SPOOFING OF THE S BAND COMMAND SYSTEM. PER VERBAL DIRECTION OF PREVIOUS DMR'S, 17 STOPPERS WERE PROCURED, OF WHICH SIX WERE FLOWN ON SAMOS E-6, CORONA AND SIGINT MISSIONS IN THE 1962-64 TIME PERIOD. THE TWO FLOWN ON SIGINT WERE MODIFIED TO PROVIDE CAPABILITY TO DETECT CW TYPE RADARS. SUBSEQUENT DEVELOPMENT OF IMPROVED LIGHTER WEIGHT PAYLOADS CALLED "BIT BOXES" RENDERED THE STOPPERS INEFFECTIVE. WE HAVE NO PLANS TO FLY THE ELEVEN STOPPERS NOW ON THE SHELF AND RECOMMEND THEY BE SCRAPPED.
4. AS THE BIT BOXES BECAME AVAILABLE, WE WERE GIVEN VERBAL DIRECTION BY DR McMILLAN TO FLY THEM ON EACH CORONA MISSION IF POSSIBLE. IN SOME INSTANCES WEIGHT PROBLEMS PRECLUDED ADDING THE BIT BOX, BUT IN GENERAL WE PLAN TO FLY ON ON EACH MISSION. WE PROCURED AND FLEW 12 OF THE FIRST GENERATION BIT I PAYLOADS, AND PROCURED 12 OF THE NEXT GENERATION BIT II'S, OF WHICH 10 HAVE BEEN FLOWN AND 2 ARE AVAILABLE FOR THE NEXT TWO CORONA MISSIONS. WE ARE CURRENTLY ON CONTRACT FOR NINE PAYLOADS OF A FURTHER IMPROVED CAPABILITY, CALLED BIT IV. THESE ARE SCHEDULED FOR DELIVERY BEGINNING THIS MONTH AND WE PLAN TO FLY THEM ON CORONA. THE BIT IV PAYLOAD WEIGHS 9.6 POUNDS AND ITS POWER REQUIREMENTS ARE 500 WATTS PROGRAMMED AND .3 WATTS CONTINUOUS.
5. THESE BIT BOXES ARE PURCHASED ON A BLACK SYLVANIA CONTRACT WITH APPROVED [REDACTED] FUNDS, AND INSTALLATION COSTS ARE COVERED WITHIN THE CORONA SUPPORT FUNDS.
6. ON CORONA THE BIT BOX IS INSTALLED ON THE AGENS AFT RACK. THE PAYLOAD'S OUTPUT IS RECORDED ON THE NORMAL CORONA TAPE RECORDER, WHICH HAS EXCESS CAPABILITY OVER AND ABOVE ITS NORMAL HOUSEKEEPING FUNCTIONS. THE OUTPUT IS LATER TRANSMITTED TO GROUND STATIONS OVER THE NORMAL CORONA TELEMETRY.
7. THE CURRENT BIT BOXES ARE DESIGNED PARTICULARLY TO DETECT TRACKER

BY THE NEW HOUSE RADAR. PRIOR TO OCTOBER 1966, THERE WERE NO RECORDED INSTANCES OF TRACKING. ON 2 OCTOBER, CORONA WAS TRACKED FOR 4 SECS AND ON 14 NOVEMBER THE NEXT CORONA WAS TRACKED FOR 36 SECS. WE HAVE NO WAY OF KNOWING WHETHER GAMBITS ARE BEING TRACKED. THESE TRACKING INCIDENTS WERE FROM SARY SHAGAN. THE DATA OBTAINED BY BIT IS EXTREMELY VALUABLE IN DETERMINING THE OPERATIONAL STATUS OF NEW HOUSE, THE ACQUISITION AND TRACKING RADARS OF THE SOVIET ABMAES SYSTEM. WE ARE EXAMINING POSSIBLE MODIFICATIONS TO BIT WHICH WILL FURTHER AID THE ABMAES PROBLEM OR, IF THERE IS THE ADDITION OF A 15 MHZ CHANNEL, TO AGOSTOR THE OVER-THE-HORIZON RADAR. THESE WILL BE DISCUSSED WITH YOU SEPARATELY. IN INITIAL PLANNING FOR G-3, NO PROVISION WAS MADE FOR FLYING BIT BOX PAYLOADS. DURING A PSAC RECONNAISSANCE PANEL MEETING YOU ATTENDED IN JUNE 1966, PSAC MEMBERS WERE CRITICAL OF THIS OMISSION. IT IS MY UNDERSTANDING THAT YOU THEN GAVE VERBAL DIRECTIONS TO COLONEL LEW ALLEN TO TAKE THE NECESSARY ACTION TO FLY A BIT BOX ON EVERY G-3 MISSION. WE HAVE STUDIED THIS MATTER AND ARE NOW PREPARED TO PROCEED CONTRACTUALLY AFTER RECEIPT OF PROGRAM DIRECTION AND FUND APPROVAL. WITH GO AHEAD THIS MONTH WAS CAN BEGIN FLYING BIT BOXES ON EACH G-3 MISSION BEGINNING WITH FLIGHT TWELVE, WHICH IS FTV #4762, CURRENTLY SCHEDULED FOR OCTOBER 1967.

8. THE BIT BOX WILL BE INSTALLED ON THE G-3 SCS. IN ADDITION TO THE BIT BOXES THEMSELVES, WE WILL REQUIRE THE LMSC G-3 OFFICE TO MAKE VEHICLE-PECULIAR MODIFICATIONS, INCLUDING A BIT BOX INTERFACE MODULE, AND THE LMSC RESEARCH PAYLOAD OFFICE TO PROVIDE SEPARATE RECORDERS AND TELEMETRY MODULES. THE RECORDERS AND TELEMETRY MODULES ARE REQUIRED BECAUSE G-3, UNLIKE CORONA, HAS NO EXCESS CAPACITY IN ITS RECORDING OR TELEMETRY EQUIPMENT.

9. WE ESTIMATE THE NON-RECURRING LMSC DEVELOPMENT COST FOR G-3 SCS AT \$750,000 AND THE RECURRING COST PER FLIGHT AS:

BIT TV PAYLOAD	\$ 35,000
VEHICLE PECULIAR MODIFICATIONS	96,000
RECORDER AND TM MODULES	70,000

TOTAL PER FLIGHT \$201,000

10. THE CURRENTLY APPROVED [REDACTED] BUDGET IS ADEQUATE TO COVER BIT BOXES FOR CORONA, AND THE CURRENTLY APPROVED BUDGET FOR CORONA IS ADEQUATE TO COVER INSTALLATION AND FLIGHT OF THE BIT BOXES. WE DO NOT HAVE SUFFICIENT FUNDS IN EITHER THE [REDACTED] OR G-3 BUDGETS TO FLY BIT BOXES ON G-3. THE REQUIRED INCREASE IN FUNDS FOR G-3 IS ESTIMATED AS FOLLOWS (IN MILLION), BASED ON FLYING BIT BOXES ON NINE OF THE TWELVE FY 68 FLIGHTS, ALL OF THE TEN FY 69 FLIGHTS AND ALL OF THE NINE FLIGHTS PER YEAR THEREAFTER:

	FY 67	FY 68 AND ON
BIT BOX PAYLOAD	.210	.315
LMSC DEVELOPMENT	.750	-
VEHICLE SPECIAL MODIFICATIONS	.500	.800
RECORDER & TM MODULES	.700	.800
TOTAL	2.260	2.800

11. REQUEST CONFIRMATION OF VERBAL DIRECTION TO FLY BIT BOXES ON ALL G-3 AND GO DIRECTIONS AND APPROVAL OF FUNDS INDICATED ABOVE.