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 PRIORITY INFO PRIORITY PROBE, WARGO, WARGO
 EARPO

SUBJECT: MISSION 7107 CONCEPT PLANNING
 TO REID MAYO FROM W.R. JOENNING
 FOLLOWING IS GUIDANCE FOR YOUR USE IN PROPOSING MISSION 7107
 PAYLOAD CONCEPT:

1. CURRENT REQUIREMENTS ENVISIONED FOR MID CY 1971 TIME FRAME FOR
 LAUNCH OF 7107 ARE BASED ON DRAFT SORS RECOMMENDATION FOR
 NEW ELINT REQUIREMENT IN WHICH COLLECTION AND
 PROCESSING NEEDS ARE RELATED TO PRIORITIZED SPECIFIC OR TYPE
 EMITTERS ASSOCIATED WITH WEAPONS SYSTEMS. NEEDS ARE RELATED
 TO EARLY DISCOVERY OF PREVIOUSLY UNKNOWN EMITTERS, TECHNICAL
 ASSESSMENT OF EMITTER CHARACTERISTICS TO VARIOUS DEGREES OF
 MEASUREMENT ACCURACY, AND PERIODIC MONITORING OF KNOWN EMITTER
 TYPES OR EOB. LOCATION NEEDS VARY FROM FOR INITIAL
 LOCATION AND LESS THAN SPECIFIC GEOPositioning REQUIRE-
 MENTS.

2. IN THE EXPECTED LIFETIME OF MISSION 7107 IT IS EXPECTED THAT

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3. IN CONFORMANCE WITH PREVIOUS POPPY MISSIONS MAJOR EMPHASIS
 FOR 7107 SHOULD BE THE EARLY DISCOVERY AND INITIAL ASSESSMENT OF
 PREVIOUSLY UNHEARD RADAR EMISSIONS. ADDITIONALLY, TECHNICAL
 MEASUREMENT CAPABILITIES SHOULD BE PROVIDED WHICH TAKE ADVANTAGE
 OF THE MAIN BEAM CHARACTER OF THE INTERCEPTS WITHIN THE
 CONSTRAINTS OF THE OVERALL COLLECTION SYSTEM.

4. RF BAND COVERAGE FOR PARAGRAPH 3 SHOULD BE CONCENTRATED
 PRIMARILY IN THE BANDS WHICH ARE NOT ADEQUATELY COVERED BY
 OTHER SATELLITE COLLECTORS FOR IDENTIFICATION AND TECHNICAL
 ASSESSMENT PURPOSES. COVERAGE IN THE FOLLOWING PRIORITY ORDER
 IS RECOMMENDED:

PRIORITY	RF
A	(4 TO 12 GHz
B	12 TO 18 GHz
C	50 TO 150 MHz
D	18 TO 40 GHz

INITIAL PRIORITY WITHIN EACH OF THESE BANDS FOR THOSE
 SEGMENTS SUSPECTED TO BE IN MILITARY USE FROM KNOWN TECHNOLOGY

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ACHIEVEMENTS; OTHER COVERAGE TO "FILL THE GAPS" OF SECONDARY PRIORITY.

5. SECONDARY EMPHASIS FOR 7107 SHOULD BE FOR EOB AND SURVEILLANCE TO PROVIDE BACK-UP COVERAGE OVER BROAD FREQUENCY BANDS FOR LOWER PRIORITY TASKING TO RECHECK THE EXISTENCE OF KNOWN RADARS, TO LOCATE NEW RADARS OF A KNOWN TYPE, AND TO DETERMINE VARIATIONS IN PREVIOUSLY OBSERVED RADARS.

6. BAND COVERAGE FOR PARAGRAPH 5 IN THE FOLLOWING PRIORITY ORDER IS RECOMMENDED:

PRIORITY	RF		
A	1920 - 3300 MHz	✓ Bands	
	6200 - 6700	1	
B	150 - 180	2	
	700 - 1500	4 Bands	} 17 Bands
	4900 - 5100	1	
	9100 - 9500	2 bands	
C	70 - 112	1	
	380 - 430	1	
	565 - 575	1	

7. TECHNICAL ASSESSMENT NEEDS OF IMPORTANCE AS APPLIED TO PARA-

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GRAPHS 3 AND 5 ARE:

MAIN BEAM POWER CHARACTERISTICS

BEAM SCAN CHARACTERISTICS

SIMULTANEOUS BAND COVERAGE

FREQUENCY AGILITY DETECTION

SELECTIVE LOCATION ON RAPID RESPONSE BASIS

REQUEST YOUR RESPONSE IN DEFINING MISSION 7107 CONCEPTS PROVIDED BY 15 MAY 1969, AND THAT THE CONCEPT BE FORMULATED TO ACCOMPLISH THOSE NEEDS WHICH CAN BE BEST ACHIEVED WITHIN THE CONSTRAINTS OF EXISTING GROUND STATION CAPABILITIES.

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New Filter Detectors	55 K	
S-Band Multicouplers	45 K	
Video Amps	15 K	
Tunnel Diode Systems	500 K	
Antenna Work	10 K	
	<u>615 K</u>	ITT Total

TRF

VHF Filter Detectors (low Band)	10 K	
Filter Detector Work	15 K	
Diplexers	10 K	
Amor Elect Lab	15 K	
Wash Tech Assoc (Thick Film Video Amps)	15 K	
Omni Spectra, Microdot (Cables, etc)	10 K	
Jasik Labs (Antennas)	20 K	
Tenney Co. Vacuum Chamber	10 K	
	<u>105 K</u>	Misc Total
		720 K

HRB Singer Inc.
(C-Band Development (3900-4900))
(Hi-S-Band (3600-4100))

100 K
30 K
130 K

OVERALL TOTAL

130 K
850 K

ADDITIONAL REQUIREMENTS

ITT Equipment Modification	200 K
HEL TRF LOW BANDS	100 K
	80 K
ITT - STD BANDS	
Video Amps (In Production Quantity)	100 K
RF Amps	80 K
Antennas	20 K
Misc CABLES, ADAPTERS, COMPONENTS	20 K

600 K600 K1,450 K

200K/system

ADD 600 K FOR COVERAGE BETWEEN 15 GHz AND 35 GHz

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