

~~TOP SECRET~~HANDLE VIA  
**BYEMAN**  
CONTROL SYSTEM~~(S)~~ NATIONAL RECONNAISSANCE OFFICE

WASHINGTON, D.C.



THE NRO STAFF

March 6, 1975

MEMORANDUM FOR LT COLONEL HUTCHISON, SS-7

SUBJECT: SS-6 Comments on Planning for Block IV HEXAGON Message

SP should be given the opportunity to optimally design a system within cost constraints as identified using the latest definition of the search problem. The Chairman/ICRS says community is moving towards community adoption of the 3 x 3 cell and 8-periodicities some time next year. ICRS recognizes that current system software is based on 12 x 18 WAG cells and that for use by HEXAGON and KENNEN, a 3 x 3 transform will have to be made.

It is highly probable that the software will have to be changed. Further, with the advent of the multi-purpose simulator in 1976, the mission planning and operational software for a 1980 HEXAGON does not appear to be an East Coast or OD&E function.

See the attached recommended changes:

★ "C. Requirements. For some time COMIREX has been accounting at the 3NM x 3NM cell level. COMIREX is in the process of grouping these cells into 8 periodicities. Preliminary data is available and will be provided for your study."

"D. Software. Hardware changes which affect mission planning and operational software should be identified. Necessary changes to the software should be identified and costed."

*James R. Blankenship*  
JAMES R. BLANKENSHIP  
Colonel, USAF

KENNEN/HEXAGON

HANDLE VIA  
**BYEMAN**  
CONTROL SYSTEMCLASSIFIED BY BYEMAN - 1 EXEMPT FROM  
GENERAL DECLASSIFICATION SCHEDULE OF  
EXECUTIVE ORDER 11652 EXEMPTION CATE-  
GORY 582 DECLASSIFY ON IMP DET.~~TOP SECRET~~WORKING PAPERS  
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SOCOMM MESSAGEFORM			
SECURITY CLASSIFICATION <del>SECRET</del>			
TYPE MSG	BOOK	MULTI	SINGLE
PRECEDENCE <del>ROUTINE</del> <b>PRIORITY</b>			
ACTION INFO			
FROM: WHIG			
TO: CHARGE <i>catr 195</i>			
<p><del>SECRET</del> CITE <u>0331</u></p> <p>HANDLE VIA BYEMAN CONTROL SYSTEM</p> <p>HEXAGON</p> <p><i>FOR</i> FOR MAJ/GEN BRADBURN FROM COL <i>ROSENBERG</i> <del>WHEELER</del> / <span style="border: 1px solid black; display: inline-block; width: 100px; height: 1.2em; vertical-align: middle;"></span></p> <p>SUBJECT: PLANNING FOR <span style="border: 1px solid black; padding: 2px;">HEXAGON BLOCK IV</span></p> <p>1. IN ACCORDANCE WITH DISCUSSIONS BETWEEN MR. PLUMMER AND YOURSELF ON 24 FEB, REQUEST YOU INITIATE A PLANNING STUDY FOR THE HEXAGON BLOCK IV. ALTHOUGH AN EXCOM DECISION FOR GO-AHEAD OF BLOCK IV IS NOT EXPECTED BEFORE JULY 1977, THE PLANNING AND PREPARATION FOR THAT DECISION SHOULD PROCEED NOW TO INSURE THAT EARLY PRELIMINARY DECISIONS ARE MADE ON TIME AND THAT NECESSARY DATA IS AVAILABLE WHEN NEEDED.</p> <p>2. TECHNICAL CAPABILITIES, SCHEDULE VARIATIONS AND ASSOCIATED COSTS SHOULD BE ESTIMATED SEPARATELY FROM THE FISCAL GUIDANCE TO MAINTAIN LOW VISIBILITY ON THE ACTIVITY. ITEMS FOR BLOCK IV CONSIDERATION SHOULD</p>			
TYPED NAME AND TITLE LT COL HUTCHISON <i>Mr. Murphy</i> <i>Donalson</i>		PHONE <span style="border: 1px solid black; display: inline-block; width: 100px; height: 1.2em; vertical-align: middle;"></span>	SIGNATURE <i>Rosenberg</i>
SECURITY CLASSIFICATION <del>SECRET</del>		DEGRADING INSTRUCTIONS	

GBA

RECD. SAFSS

1975 FEB 28 PM 4:03 *368*

Hx B I

*KKK*

DYS

SPECIAL INSTRUCTIONS

HANDLE VIA  
**BYEMAN**  
CONTROL SYSTEM

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DNRO	
RD-2	
SS-1	X
SS-2 EXEC	
SS-2 ADMIN	X
SS-3	
SS-4	
SS-5	
SS-6	
SS-7	X
SS-8	
COMP	X
COMM	
RD-2 RF	
RF	X
FILE	7

DATE	TIME
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FEB	75
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SOCOMM Form 173

1 Aug 71

Approved for Release: 2025/07/25 C05127379

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INCLUDE DESIRABILITY AND IMPACT OF CONTRACT COMPETITION ☐  
 FOR SEGMENTS OF THE HEXAGON SYSTEM WHERE SIGNIFICANT  
COST REDUCTION IS POSSIBLE THROUGH SIMPLIFICATION.  
 CHANGES TO CURRENT CAPABILITY, INCLUDED REDUCED COMPLEXITY,  
 SHOULD BE INCLUDED, RECOGNIZING THAT THE GOAL OF THIS  
 EXERCISE IS TO DETERMINE THE FEASIBILITY OF SIGNIFICANT  
 REDUCTIONS IN PROJECTED PROGRAM COSTS. THE WHIG STAFF  
 WILL PROVIDE A LIST OF REVISIONS TO THE CURRENT <sup>CAPABILITY</sup> REQUIREMENTS  
 BY 6 MARCH 1975. YOUR SUGGESTIONS IN THIS AREA ARE  
 SOLICITED; THE WHIG/WAHOO STAFF WILL BE RESPONSIVE TO YOUR  
 SUGGESTIONS FOR REQUIREMENTS REVISIONS THROUGHOUT THE  
 STUDY. IN ORDER TO ASSESS THE LONG TERM COST TRADE-OFF  
 IMPLEMENTATIONS, COST ESTIMATES SHOULD COVER A TEN-YEAR  
 PERIOD COVERING ANY POSSIBLE DEVELOPMENT, PRODUCTION AND  
 OPERATION OF BLOCK IV.

3. REQUEST YOU PROVIDE A PRELIMINARY PLAN BY EARLY APRIL  
 TO PERMIT CONSIDERATION OF DECISION MILESTONE CHANGES AND  
 POTENTIAL BUDGET ADJUSTMENTS BEGINNING IN FY-76 OR FY-77.  
 A COMPLETED PROGRAM PLAN AND RECOMMENDATIONS SHOULD BE  
 SUBMITTED BY LATE MAY OR EARLY JUNE. AT THE PRESENT  
 TIME THIS PLANNING DATA IS BEING DEVELOPED FOR THE DNRO'S

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INCLUDE DESIRABILITY AND IMPACT OF CONTRACT COMPETITION  
 FOR ALL OR MAJOR SEGMENTS OF THE HEXAGON SYSTEM <sup>7</sup> CHANGES  
 TO CURRENT CAPABILITY, INCLUDING REDUCED COMPLEXITY, ~~MAY~~  
~~INCLUDE A METRIC M&C CAPABILITY, ABILITY TO OPERATE IN~~  
~~MONO OR STEREO, INCREASED LIFE TIME UP TO ONE YEAR ON-~~  
~~ORBIT (EXAMINE LIFE VS COST TRADES), AND OTHER DESIGN~~  
~~IMPROVEMENTS AS APPROPRIATE RECOGNIZING THAT THE GOAL OF~~  
 THIS EXERCISE IS TO DETERMINE THE FEASIBILITY OF SIGNI-  
 FICANT REDUCTIONS IN PROJECTED PROGRAM COSTS. IN ORDER  
 TO ASSESS THE LONG TERM COST TRADE-OFF IMPLEMENTATIONS, COST  
 ESTIMATES SHOULD COVER A TEN-YEAR PERIOD (L.E. <sup>covering any possible development</sup> FY 76-85). <sup>production & operation of Block IV</sup>  
 3. REQUEST YOU PROVIDE A PRELIMINARY PLAN BY EARLY APRIL  
 TO PERMIT CONSIDERATION OF DECISION MILESTONE CHANGES  
 AND POTENTIAL BUDGET ADJUSTMENTS BEGINNING IN FY 76 OR  
 FY 77. A COMPLETED PROGRAM PLAN AND RECOMMENDATIONS  
 SHOULD BE SUBMITTED BY LATE MAY OR EARLY JUNE. AT THE  
 PRESENT TIME THIS PLANNING DATA IS BEING DEVELOPED FOR  
 THE DNRO'S CONSIDERATION. THEREFORE, ACTIVITIES AND  
 CONFIGURATIONS RELATED TO THIS EFFORT SHOULD NOT BE  
 PRESENTED OR DISCUSSED IN ANY OF THE CURRENT INTEL-  
 LIGENCE COMMUNITY STUDIES. E-2 IMPDET

*WHERE SIGNIFICANT  
 COST REDUCTIONS  
 IS POSSIBLE THROUGH  
 SIMPLIFICATION.*  
*I think we have  
 done a study of the  
 requirements and have  
 an approach to Block IV  
 simplification*  
*INSIDE*

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CONSIDERATION <sup>only</sup> THEREFORE, ACTIVITIES AND CONFIGURATIONS  
RELATED TO THIS EFFORT SHOULD NOT BE PRESENTED OR DISCUSSED  
IN ANY OF THE CURRENT INTELLIGENCE COMMUNITY STUDIES.  
E-2 IMPDET

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APPROXIMATELY 0.7. SCAN WIDTHS GREATER THAN 90 DEGREES  $\neg$   
ARE NOT REQUIRED. THERE IS A WEAK REQUIREMENT FOR A SCAN  
CENTER CAPABILITY WHICH WILL ALLOW PHOTOGRAPHY AT MAXIMUM  
SCAN ANGLES OF PLUS OR MINUS 60 DEGREES TO MAXIMIZE  
ACCESSES IN CERTAIN CASES.

B. OPERATIONAL FLEXIBILITY.

(1) THE ABILITY TO VARY SCAN CENTER AND SCAN  
WIDTH DURING AN OPERATION SHOULD BE COSTED AS AN OPTION.

(2) THE ABILITY TO CHANGE MODE (STEREO OR MONO)  
DURING AN OPERATION SHOULD BE COSTED AS AN OPTION.

(3) THE ABILITY TO CHANGE MODE (STEREO OR MONO)  
BETWEEN NESTED OPERATIONS SHOULD BE INCLUDED UNLESS THERE  
IS A SIGNIFICANT COST IMPACT, REQUIRING IT TO BE COSTED  
AS AN OPTION.

*add. new C & D*

C. SOFTWARE. SOFTWARE CHANGES TO THE MISSION  
PLANNING (EAST COAST) SOFTWARE SHOULD BE IDENTIFIED.  
CHANGES TO THE OPERATIONAL (WEST COAST) SOFTWARE SHOULD  
BE COSTED.

E. FILM SUPPLY AND FILM MANAGEMENT - CHANGES IN  
LINE WITH CURRENT EVOLUTIONARY EFFORTS TO MAXIMIZE  
FILM AVAILABLE FOR EXPOSURE AGAINST REQUIREMENTS SHOULD  
BE INCLUDED.  $\neg$

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E. ORBIT LIFE - ORBIT LIFE SHOULD BE A MINIMUM OF 180 DAYS, AT ORBIT ALTITUDES COMMENSURATE WITH IMAGE QUALITY REQUIREMENTS.

F. MAPPING - THE MAPPING CAMERA SYSTEM SHOULD BE OMITTED. A METRIC PAN SYSTEM AS DEFINED BY THE METRIC PAN STUDY SHOULD BE INCLUDED AS A SEPARATE OPTION.

E-2 IMPDET.

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