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6 December 1960

PROJECT CRAB (U)

PROCESSING SUGGESTIONS BY [redacted]

1. At this stage, there are really two conflicting problems. The first is to get a usable intelligence product from all the missions in a quick time period, certainly in time to help ADM LOWRANCE and ONI support further such effort. The other is to see how a few techniques can work and what the real intercept capability of the system is practically. I am skipping the automation side of processing which, for my view, is too far off to produce any results by the time we need them.

a. Get an accurate illumination count per minute for each completed mission. Give collection co-ordinate at the beginning of each minute used, and height along with this data. DeCOURT has started a few girls on this and indicates that accuracy of about ten percent is possible readily for each time element. Please do the Sunday mission at any early date comparing it with week-day one, and day contrasted with night.

b. Eliminate all signals with prf's from [redacted] and go through each mission processing all other signals. This would permit improvement of processing time by a factor of at least 4:1 even with present people according to my best qualified advice. This will still leave all the important low prf signals which could be of Soviet origin--the [redacted] prf's, potential naval types with [redacted] if they appear and any high prf candidates which might possibly appear for a few illuminations or a hit, such as [redacted] families and others.

c. Process any odd ball that appears in this process if there is a fair chance it might be Soviet, very carefully. Emphasize those most probably Soviet over those highly ambiguous.

d. Complete all signals from a single mission as now being done.

e. Determine the longest time period a single signal was noted in the process as indicated above plus what has already been done -- continuous time without drop out, signal type and mission.

f. Note the longest continuous time period a single [redacted] signal is heard as contrasted to others. Note this on each signal type other than the [redacted] on which fair samples are already on hand.

g. Attempt to locate individual signals by the following techniques to see if it can be done on a selective basis:

(1) back geometry on a V-beam
(2) back geometry on [redacted]
(3) utilization of the rotation rate

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What is the potential accuracy of each of these techniques in position determination?

h. Continue with NRL assistance and on own to develop any more rapid read out techniques. Please make full use of the NRL talent. I have a tremendous respect for Howard LORENZEN, Reed MAYO, Bob MISNER and many others. They are down there to help. Use them.

i. Please carefully note all prf's above [redacted] indicate time of illumination and log them -- measure as accurately as possible -- even within 100 cps. Tabulate them.

j. Above all, we want to know what the system can do and cannot do.

2. My sincere regrets that I have no brilliant ideas. But, I think a few of these simple thoughts may help the COSA-5 problem with which we are duly sympathetic.

/s/ [redacted]

Copy to:
Mr. H. DeCOURT (NSA-COSA-5)

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