Target of Opportunity [redacted] king (TOOT)

1. It is very gratifying to see the community now embrace an opportunity that we have been advocating for a period of about three years. Particularily it vindicates the faith which we have had in the high capability and dedication of the only persons who see our data [redacted] the site Operators. These men have the best opportunity and the widest experience level, generally speaking to recognize Signals of Interest. It is truly a milestone in this program to capitalize on the ability of these operators to sort the trivial from the profound and to use this knowledge of recognition to advantage...it is just a small step away from Real-Time Control of the collection platform.

2. How might one best utilize this fragile capability and build the confidence in both camps...the site and Tasking community???

A- First, start off slowly and deliberately with a recognition chore which can be guaranteed to succeed, and at the same time one which will not levy extremely heavy demand on the site to paralyze their already heavy work load.

B- Share the burden and not levy it entirely on (1) NRL for hardware modification which is not underway, or (2) the site where the Computer can edit (in many ways) the tapes or at (3) NSA which can by software edit the tapes and make special use of the TOOT data.

C- Encourage the site to endeavor to analyze the TOOT take against other targets as well as the special ones on the Priotity List.

D- When a bird [redacted] has a signal which is recognized as one of the TOOT variety then where the capability exists in the other [redacted] and brief signals can still be located; (2) continuity of the signal originally observed, so that even though recording may stop (digital) the signal opportunity remains unbroken by retasking the other birds.

E- In parts of the spectrum where four-ball commonality is not available: Tasing the birds where the signal was recognized will be necessary and this must be done very carefully, and at the same time with rapidity so the signal will not have dissapeared before the re-tasking is finished. Keep in mind that only one bird need be retasked (after adequate PWX observations have been made on a signal-type where one or two observations at the beginning of this TOOT effort should suffice)

F-In the latter case where only two birds are equipped for coverage,

TALENT-KEYHOLE-COMINT
CONTROL SYSTEMS JOINTLY

Retasking only one bird is essential thus preserving the continuity of observation in the remaining bird.during re-tasing.

G- Observation of SIX. de multiple elevation angles to adequately allow description of the multiple beams of an emitter. With sufficient observations Absolute peak effective radiation power can be determined. It is essential that the emitter must be located before the elevation angle and range information will be available for this analysis of beam widths and power.

3. Upon recognition of a TOOT signal the Watch Supervisor must retask according to specific doctrine depending upon the variety and extent of the opportunity which this particular signal and collection Mission provides. The TOOT list must specify just what is to be done and when.

4. Ultimately this TOOT List can be expanded as the methodology for handling the recording, book-keeping and analysis develops. Keep in mind that as the list changes there is a certain maximum number of signals which the operators can be expected to recognize, especially if the signals are extremely rare and the experience level is low. It is suggested as the list provides sufficient opportunity for the study of one emitter to have been completed (where little if any further information can be gained on this emitter), reduce its priority and add another signal in its place on the TOOT list. Keep in mind that the best way to paralyze the site is to levy too may jobs too fast on a team that already is extremely busy.

TARGET OF OPPORTUNITY TA [redacted] (T.O.O)

MODE #I, Upon recognition of a signal of the highest half dozen priorities, the operators of the BLUE interrogation system at [redacted] would take immediate action to re-task the vehicles of either Mission 7105 or 7106 to use the parametric measurement options to fullest advantage of the existence of a Target of opportunity for collection. Certain of operational aspects of POPPY must be enhanced considerably to make this work:

(1) Recognition must be made in near Real-Time

This demands an intimate knowledge of the signal environment such as was attained for Mission 7105 by the site operators. Experience will help but the job is considerably harder because of the 4 pulse-width data format for 7106 as opposed to the 2 pulse-width format for 7105.

(2) Re-Interrogation must be made in rapid order so that all the resources of the particular mission can be brought to bear on the signal. There are several mechanisms which might be used to maximize the capability ....

A- On the vehicle which intercepted the signal and where it was subsequentl recoggized, the tasking should not be changed but instead the other vehicles must as they are capable, be tasked with either SLX [redacted] as the needs dictate. By this move the signal can continue tobe monitored during and following the re-interrogation efforts.

As one views the uncertainties of the first several weeks of Mission 7106 there were many things which will not represent the operational scene in the future....interrogation of some 35 Engineering tasking groups gave problems in interrogation, operator signal-recognition, Off-Line signal back-log, were all exaggerated by their unfamiliarity.

As one considers the relative merits of Mode I or Mode II one must determine when these signals stay up from one Rev to the next. It is not a good way to start because the community will insist that the productivity is inadequate to justify the effort.

A better start would be to develop the site capability along with that at NSA to utilize [redacted] SLX data. The site can easily use these data in a relative comparison manner but to develope the Absolute measurement capability demands experience and calibration.....and significantly more information than the sites now have available.

[redacted]

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CONTROL SYSTEMS JOINTLY

Notes relative to the community inquiry among the POPPY sites as to how the sites could best respo[redacted] being turned on when a high Priority signal was recognized.

MODE #1: Single Orbit re-interrogation of vehicles in order to collect A [redacted] SLX data against specified targets....

CONSIDERATIONS OF MODE #1:

(1). # of SOI's in a given group limited by operator's ability to spot in real time more than two(or three at most).

(2). Length of signal intercept will become a prime factor immediately upon recognition of sig. less than 2 minutes would preclude re-interrogatio or analysis.

(3)Tracking requirements may degrade the recognition ability of operators.

(4) Increased channel data-density caused by doubling the # of DLs/Chan hampers recognition.

(5) Of the 22 SOIs spotted at [redacted] in 4 days only 4 were noted by collection operators. 5 false reports were made by operators.

(6) Digital System (AZDDS) must be switched from 4-bin to LE/TE mode End Of File written during re-interrogation.

B. MODE # II: PROPOSAL;;; NEXT ORBIT SLX [redacted] TASKING.

OFF-LINE SCANNING to recognize signals, considerations::::

(1). OFF-LINE scanning lags collection by 18 to 24 hours

(2). If only a few selected Sois are to be considered then Next Rev tasking is possible.

C. MODE # III PROPOSAL GEOGRAPHICAL CONSIDERATION FOR USE OF SLX [redacted]::

2. CONCLUSION:

A). MODE # I = most effective use of options and productivity potential.

B). Tasking flexibility would stimulate field operations and enhance collectio Might include New/Unusual systems or new operating modes of old ones.

C). Need to alert down-stream sites to changes in tasking, or take the consequence

3. RECOMMENDATIONS:: While ModeI and II offer best opportunity for flexible use of SLX [redacted] options, need more experience for QRC interrogation. Therefore recommend use of III with limited I and II controlled basis.

[redacted] VIA DYEMAN TALENT-KEYHOLE-COMINT CONTROL SYSTEMS JOINTLY.

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SECRET - NOFORN

Jan. 27, 1970

OUTLINE STAFF STUDY

COORDINATION OF PROGRAM C AND OCEAN SURVEILLANCE

I - PROBLEM: To examine the requirements, problems, and any important implications of extending Program C to include ocean surveillance functions.

II - FACTS BEARING ON THE PROBLEM:

1. Program C is an Special program under national sponsorship and control, of long standing, and considerable value to national security.

2. As such it operates under strict policy, security, management, and operational constraints -- far beyond Naval jurisdiction.

3. To date Program C has been completely national-intelligence oriented except for a few brief experiments.

4. Ocean surveillance, while employing some intelligence processes, among others, is probably more likely to be developed and employed as a command support function, under CNO and the JCS.

5. As such it would operate in a context quite different from that described above for Program C.

6. Were Program C to be used for ocean surveillance more probably a number of arrangements would be required.

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III. DISCUSSION: The following paragraphs attempt to describe the organizations and responsibilities of participants associated with the intelligence and command programs under consideration.

Program C. This is one of several national intelligence projects under the NRO, which in turn is responsive to the DCI and Sec Def (for the President). Policy direction is provided, at least indirectly, by the NSC, DCI and JCS. Requirements emanate from USIB via the SORS Subcommittee of the SIGINT Committee. The attached chart gives an unofficial approximation of NRO and the Program C organization in NAVINTCOM (NIC). Commander NAVINTCOM, as Director Program C under NRO, has a staff in NIC 3 (shown on the chart) which provides a Navy project team and an interface between Navy and NRO and other agencies concerned.

Within the Navy, NIC implements higher policy guidance, coordinates requirements for the Navy, supervises security, provides liaison with NRO, coordinates planning and management, and endeavors to ensure the responsiveness of the program to Navy and other USIB needs. The Naval Security Groups (NSG) maintain and operate the overseas sites used by the program, collects and performs limited processing on the data, transmits raw and processed data, and otherwise supports NRO NIC NSA, and NRL

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NRL provides the vehicle, ground station equipment, and technical support of operations -- all the way from original concept and design to the technical adequacy of the total final system and its end-products. ¶ The interfaces and jurisdictions which govern NSA, NSG, NIC, and NRL collaboration are complicated but important to the success of the program. They are spelled out informally in more detail in Attachment (1) hereto. Some clarification and understanding and improvement in these working relationships would be necessary for ocean surveillance support, and might be desirable even for future Program C purposes.

Ocean Surveillance (OS). This subject is treated here only in terms of relating the Program C potential to the Navy's OS task. (The mission of OS and its relationships to other Navy planning and programming can be found elsewhere.) In the first place, the technical feasibility of employing Program C for OS has been demonstrated in 1968-69. What remains to be done is to (1) develop a full system operating concept, with provisions for interface with other intelligence and Command and control data systems, (2) obtain authority and the means to test such an operational concept in real-world missions, and (3), assuming success, develop and integrate the Fallon-type Program C system into the broader OS information system, under proper policy and budget controls.

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A considerable amount of documentary groundwork has already been laid for adding .05 to the Navy's role and mission; while the case is far from airtight or fully developed, as a problem it is beyond the province of this paper. Much more to the point are the internal preparations and readiness for the steps of adapting a "going" intelligence project (Program C) to an extremely broad, complicated, but only partially developed command support concept (05). This type of planning and preparation do not appear to be very far advanced to date; hence it is quite likely that interim or partial arrangements will have to suffice for the next year or two.

Another basic problem area which must be resolved in the recommendations between so-called "national" and "military" requirements and control. As stated above, Program C is an extremely logical national intelligence resource. Could it also be used effectively for operational and surveillance support of shore-based and seagoing commanders? (On the surface, the command-control and information and support of the two functions may requirements, would appear to be incompatible for sustained operations.)

Because of its promotion as a fundamental naval task and command function, 05 is being coordinated, certain ODNAs, by Op-32 (ASW and Ocean Surveillance Division) and supported by many other divisions, including Op-35, Op-71, Op-72, Op-76, Op-92 (NIC), and Op-94 (including NSG). In terms of both naval warfare areas and program management

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competition. OS is obviously a highly complicated and competitive area for Navy resources and authority.

The Ocean Surveillance Coordinating Committee, chaired by RADM L. J. O'Brien, Op-32, has accomplished much in the way of exploration and education on OS. They have sponsored a new requirements study and made recommendations concerning concepts and hardware to implement parts of the "Ocean Surveillance System." They are also engaged in other study and planning tasks. As a matter of common sense, any serious planning or action undertaken to relate Program C to OS should involve at least discrete consultation with the Coordinating Committee. In the meantime liaison between Program C and that group probably should be strengthened.

The remaining paragraphs of the "Discussion" consider requirements, problems, and implications associated with extending Program C to include OS.

Requirements. Requirements here are of two kinds: (1) the substantive information type and (2) the prerequisite conditions for achieving OS by means of Program C technology. Requirements of the former type are reasonably well understood and are reportedly in reasonably good shape. The second kind are yet to be defined and are therefore are a potential obstacle. Special, short-term requirements for purposes of testing Program C for OS in support of Sixth Fleet are in process of being formulated -- and this knowledge will doubtless be of value later as well -- but the task of determining exactly what is required to integrate a Program C-type subsystem into OS has not been done.

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The present political climate for consolidating the Navy's ocean surveillance mission, developing interfaces, activating at least limited surveillance and reporting functions in the name of OS, etc. would appear to be excellent. While the fiscal climate for any early new major investments is distinctly unfavorable, there would seem to be good reason to lay the [arrangements] groundwork for a long-range and very gradual buildup of the overall OS program.

Problems. Most of the problems associated with the adaptation of Program C to ocean surveillance have already been mentioned.

1. Review and adjustment, as necessary, of the participating agencies and their functions.

2. Development of an overall OS concept, with carefully planned phasing and growth, making optimum use of available resources during growth and postponing, as possible, large new or major investment. Same care to policy and command/management arrangements.

   a. Reconciliation of national vs military factors.

   b. Reconciliation of intelligence vs command support factors.

   c. Reconciliation of internal Navy differences.

3. Follow-on development of a specific plan for adapting Program C to the foregoing broader concept, geared to fit the time phases, budget, and other OS arrangements.

   a. Definition of substantive and technical missions

4. Provisions for planning and implementing machinery to perform the above tasks.

There are other lesser problems which will be encountered in any work on the above list or which lie beyond them; however, for the narrow purpose of this outline, these will suffice.

Implications. Within the scope of the stated Problem probably the most important concrete progress in the past year or two has been the continuing technical feasibility demonstrations of Program C to contribute to OS and the present planning to conduct a sustained operational feasibility test in support of Sixth Fleet. Considering the Navy's rate of advance in OS over the past five years, one could conclude that we would do well to accelerate this pace before the threat overtakes us or we lose our present opportunity.

To this end the single most important need is for early CNO action on specific machinery for starting the planning and early implementing steps called for under this Discussion. Such work could be done with the cognizance of the OS Coordinating Committee, but it should not be subordinated to such a group. Rather what seems to be called for is an early gradual adaptation of a going project into the best CNO and Fleet organizational fit that can be devised in the broader, longer range OS context.

IV - CONCLUSIONS:

1. Ocean Surveillance, as a Navy mission and a combination of programs, which is in part, will have to develop in an evolutionary manner over a number of years.

2. It is now technically feasible and timely -- perhaps urgent as well -- to put available resources to work and produce useful tangible results in the name of Ocean Surveillance as soon as this can be achieved without massive cost or effort.

3. Program C appears to be one of a number of potentially near-term compatible resources for such a program.

4. Activity in OPNAV at present is not engaged in pursuing the early adaptation of Program C to ocean surveillance.

V - RECOMMENDATIONS:

1. Using the Program C Technical Operating Group (TOG) as a point of departure, OP-32 and OP-52 establish a Navy-only task force to collaborate with Program C and develop an outline plan for integrating Program C with Ocean Surveillance -- in policy, command aspects, requirements and tasking, processing and dissemination, integration with other products and systems, etc. This task force should

2. Concurrently, review and recommend any changes and formations in Navy organization which would be required to implement such a plan. Consider both Shore Establishment and Fleet, particularly the focal points in Washington, LANTFLT, and PACFLT.

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