

~~Adm 13-6~~

PPB 71-1190

22 July 1971

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MEMORANDUM FOR: Executive Director-Comptroller

SUBJECT: Big Systems Planning

1. The other day Bob Wattles presented to the Director the status of a study on the location of the EOI down link. He also discussed the relocation of NPIC in this context.

2. The placement of the EOI down link in juxtaposition one day with NPIC probably is correct. The fundamental question that keeps bothering me, however, goes beyond the content of Bob's briefing and reaches to the consequences of decisions made today concerning EOI processing. For instance, what are our expectations from EOI, HEXAGON, and our requirements, and how do these interrelate with GAMBIT, FROG, [redacted] etc? What bearing might these expectations and relationships have on the determination now of a location for an EOI down link or an NPIC A&E survey?

3. In the FY 1972 and 1973 budgets, funds are provided to NPIC for research and development on EOI processing and equipment. In FY 1973 we also included over [redacted] for support of special studies or task groups we felt are needed to prepare for the receipt and use of the products from the EOI system, and to look into the analytic implications of [redacted] information. Recently, during [redacted] visit to NPIC, questions were raised about the utilization of these monies in the context of all reconnaissance systems and customer needs. [Note: Jim Taylor observed to me later he had hoped, by raising this question, to hear more on the analytic rationale associated with the handling of the EOI data and other systems, including HEXAGON. He observed that before funds could be considered formally by OMB for exploring the processing issue or for new installations, a more careful statement of rationale and plans would be needed.]

4. The need for a special center and specialized people to handle the [redacted] imagery is not in question. The principal question which

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precedes the physical plant (the A&E for which we are proposing [redacted] in FY 1973) concerns the postulating of the analytic processes, their relationship to the hardware design and the production methods which would be employed in using the product, including considerations of manpower mix, communications equipments, and physical space determinations.

5. Planning to date on the analytic front has been diffused. Dick Kerr has been appointed by the DDI to explore and coordinate EOI-related considerations within his Directorate; as far as I know, he has begun that task well. COMIREX is probing a number of the issues related to targets, other systems, resolution and the like. OSP operational aspects are coordinated with NPIC, COMIREX, and others. General Taylor, NIPE, has a number of things going which touch on aspects of this problem; e.g., his photo reconnaissance group (PRG), strategic warning indications group (SWIG), and the USIB information handling committee (IHC). [At this writing it is unclear to me how the NIPE pieces tie together to provide the needed pattern of relationships of the many big systems to the Community's analytic needs now and in the later 70's.]

6. In his most recent Program Plan, the DDI emphasized the need for "a mechanism to investigate, initiate and oversee completion of the steps necessary to enable the Agency to utilize fully EOI capabilities." To do this, the DDI has proposed the establishment of a full-time Agency EOI study group consisting of representatives of the Intelligence Directorate and other affected components which would be administratively assigned to the Office of the Deputy Director for Intelligence, but as a Group with Agency-wide responsibility would report substantively to the Executive Director-Comptroller. PPB has long urged the establishment of some such focal point to concentrate on the impact of EOI in context with both the Agency's analytic and collection functions and on the phasing of manpower and support related thereto. [I have attached a copy of the DDI proposal and recommend that it be taken up at the earliest opportunity with the Deputy Directors and that the proposal be implemented.]

7. The need for coordination and preparation for EOI reaches also to the Community multi-source systems which already are collecting a wide variety of data. New systems are planned for the 70's and the adequacy of current systems pending EOI is a subject of serious review

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by ExCom. The analytic task of the 70's -- or perhaps it is the information processing task -- is to correlate data from all systems in such a fashion as to reduce uncertainty, provide us with a better warning system, improve our capabilities to monitor SALT agreements and crises, and support deeper analytic inquiry -- and in a real time mode. Community collection efforts and the processing and analytic tasks involved in correlating all-source information are highly inter-dependent; accordingly they should also be studied as a total system. The USIB represents the foremost institutional structure representing the total systems on the requirements end. Responsibilities for the variety of inputs range across the Community as do funding and budget authority, and USIB is not designed to meet these coordinative tasks at present. This point seems to be at the heart of the recent OMB report on the organization of the Community, which emphasized a Director of Central Intelligence as the manager of the Community, working from a controlled processing and analytic base.

8. How does this all tie into the decision options for an EOI down link or an NPIC building? Planning for the location of processing plants, communication links, ADP software, etc., for all systems including EOI is a vast job. It should start from the objective of reaching the most effective correlation of analytic intelligence output for the U.S. Government that is possible and at the lowest effective cost. The dimension of that objective is almost overwhelming but some aspects of the matter are directly related to decisions we want to make now -- decisions where tradeoffs of manpower and dollars will be required. For example, I have no great problem with [redacted] or anywhere else for an EOI down link and an NPIC building -- technical considerations assumed. However, Fort Meade must be given strong consideration as a possible site since it is the location where most SIGINT data resides and is processed, and where specialized computer capabilities exist which conceivably could serve an expanded national source correlation effort. There are good evidences that building too large a total system is counterproductive. [The military have had numerous failures at such attempts and NSA is a good example where the principle of "economies of scale" may not be working.] There are also political and possible security problems in locating too many intelligence entities at one point. Nevertheless, in this day of "decision options" prudent planning by CIA would seem to require that while A&E studies are being programmed for an NPIC/EOI down link location, we should also have going some institutional charge to make a Community assessment of the relationship of analytic processes and people to all-source material.

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transmission forms and methods, and location. Such examination might show that, however politically difficult, the NPIC processing capability should be housed nearer to the analysts in Langley rather than to perpetuate a separation. It might show that the proposed DIA new building should be nearer receipt points for real time source processing. There are no clear answers but it seems to me that if the Community is to get funds for whatever is to be done, analytic expectations and requirements will have to be spelled out more clearly so that they may have their proper influence on whatever forms and physical plans these multisystems are likely to generate for a cost-conscious economy.

9. DOD has made mistakes in planning some of its big systems. Mr. Mahon referred to these in our recent hearing, criticizing "...committing systems to production while major uncertainties of method and use remain unsolved, and authorizing engineering development and plant construction before the analytic requirements are understood or defined." We cannot afford to ignore these observations.

10. Leadership in this matter is likely to fall upon the Director. Without new authorities, I believe Mr. Helms can take the initiative to assure that the Community's planning for the absorption of all systems gets underway, and by so doing can give visibility to a far better degree to the needs, issues and costs. The place to start is not in building plants alone, but in defining the Agency and Community analytic requirements and methodologies in the light of:

- a. New systems (EOI, , space stations, etc.).
- b. Foreseeable technologies (improved computer programming, communications links, equipments).
- c. Relationships of geographic locations of processing elements (NSA, NPIC, ELINT centers, etc.) to the analytic forces who use the data (DIA, CIA). [In this context there is a whole range of behavioral overlays which, in our language, we call "political."]

11. As stated, this obviously is a big bite; we will have to do it in pieces. The DDI proposals should receive serious consideration now. The construction of EOI is underway. The marriage of the NPIC and EOI down link is a logical decision point. There are many more. Our time

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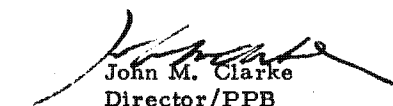
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at this point needs to be spent on more than just exploring geographic areas for likely sites. The institutionalizing of a plan targeted from a clear conception of analytic methodology should be the driving force to ultimate decision on physical plant design and location.

12. Lastly, if you will permit a little idealism, this opportunity for leadership will set the stage in coordination and management of intelligence information for the next 20 years.

13. I urge you take steps to have the different Agency inputs being made on this subject clearly presented and systematically laid out, and that you explore with the Deputies -- particularly the DDI and DD/S&T -- a proper institutional approach to a Community effort as well as within CIA.



John M. Clarke
Director/PPB

Attachment
DDI Proposal for EOI Study Group

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ATTACHMENT

DD/I Proposal
for an
Agency EOI Study Group*

1. Present planning calls for an Electro-Optical Imagery (EOI) system to become operational sometime in CY 1975.** Firm information on the parameters and the technical capabilities and limitations of the system should be available sometime in FY 1972. As presently envisioned, the EOI system will add a new dimension to present intelligence capabilities. Effective utilization of the potential represented by the EOI system, however, will almost certainly require far reaching changes in present procedures and organizational structure both for imagery exploitation and intelligence analysis and production.

2. Among the areas in which major alterations in existing institutionalized approaches and procedures will be required are the following:

a. Image Interpretation

Whereas we make the basic assumption that NPIC will have primary responsibility for exploiting EOI (including first phase exploitation) as a service of common concern for the community, it is clear that the present framework for imagery exploitation, stemming largely from the JIRG recommendations and geared to the "batch" handling of incoming film, will be ineffective with EOI. An entirely new framework will be necessary, one designed on the basis of the unique features and advantages of EOI. Questions such as the following must be answered before the optimum organizational and procedural structure for exploitation of EOI can be planned: What are the anticipated needs for time-dominated initial reporting? May interpretation and reporting be deferred on some subjects or in some circumstances? What are the alternative formats for initial reporting? What are the requirements for later or subsequent EOI exploitation? How should EOI exploitation

* Copy made from the Directorate of Intelligence Program Plan, FY 1973-FY 1977, dated March 1971, Secret.

** This date has subsequently been slipped one year.

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be related to exploitation of KH-8 and KH-9 imagery? COMIREX is already seeking to clarify and specify community needs with respect to these and related questions. With COMIREX findings as a guide, planning for the necessary restructuring of the exploitation function can be undertaken.

b. Use and Integration of EOI Information

The availability of imagery on a near real time basis will have a significant impact on at least the following intelligence functions:

- (1) Warnings/Indications,
- (2) Military Analysis (order of battle, forces posture, etc.)
- (3) Crisis Management,
- (4) Current Intelligence,
- (5) Target Surveillance and Activity Analysis,
- (6) Monitoring of Arms Limitation or Disarmament Agreements.

These, and perhaps other functions, must be examined in-depth, in terms both of the production methodologies which can take optimum advantage of EOI system capabilities, and of the EOI collection strategy and reporting formats which will contribute most to the production effort.

The ability to integrate EOI information with such other near real time information as that derived from sources may call for an entirely different relationship between production analysts and imagery analysts than that now existing.

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The availability of EOI on a near real time basis may permit an effective mobilization of collection resources against a given target or problem. For example, an activity detected by [redacted] could almost immediately be made a target for EOI; similarly an activity detected on imagery could be made a target for [redacted] Pro-
cedures for this kind of rapid, responsive collection action do not now exist.

c. Requirements

It will be necessary to develop and formulate refined concepts for the allocation of EOI system capability in support of the various projected uses of EOI. Consideration must be given to such aspects as pre-selected targets, target arrays, and target mixes related to continuing intelligence problems, the optimum means of shifting from one condition of system capability allocation to another when intelligence needs warrant a change. Target sampling techniques must be assessed from the points of view of general confidence or assurance levels, and the validity of warning/indications methodologies for the use of EOI in establishing "norms" and detecting deviations from norms by daily or periodic sampling. The sample sizes and periodicities for various purposes must be determined. Procedurally and organizationally the near real time characteristics of EOI will require wholly new arrangements for collection tasking and guidance on a day to day basis.

d. System Integration

The various problems which must be studied and resolved to ensure full and efficient use of EOI are closely interrelated and interdependent. It will be necessary to test various alternatives, using simulation techniques, before choices can be made among alternatives. After the EOI system becomes operational, revisions and improvements will be necessary in the light of experience.

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3. As a mechanism to investigate, initiate and oversee completion of the steps necessary to enable the Agency to utilize fully EOI capabilities, we propose the establishment of a full-time EOI Study Group. This Group would be administratively assigned to the Office of the Deputy Director for Intelligence; as a Group with Agency-wide responsibility it would report substantively to the Executive Director-Comptroller.

4. The proposed Study Group will require some 10 positions throughout the planning period. In addition, [] annually should be allocated for the non-personnel costs of the Study Group. The Directorate's proposed FY 1973 Program Plan includes these funds, but makes no provision for the 10 positions, in view of the stringent manpower limitations now in effect.

5. The Deputy Director for Intelligence, however, regards the establishment of the proposed EOI Study Group as a matter of the highest importance, not only to the Directorate of Intelligence, but to the Agency as a whole. Thus, in the event that the 10 positions cannot be made available from elsewhere, we are prepared to furnish our share by re-programming within the Directorate. Such re-programming will result in elimination or curtailment of selected activities, primarily in the Production Program.

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