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EOI EXPLOITATION CONCEPTS

1. The timeliness and persistence of the EOI system will enable the National Photographic Interpretation Center to arrange photointerpretation work along lines which will be more compatible to the flow of intelligence from other sources and will involve a smoother level of photointerpretation effort over time.

2. We know that we could receive as many as [redacted] of imagery from [redacted] imaging satellite [redacted] making one pass around the earth. We also know, however, that returns per revolution usually will at most be about 50 readable scenes -- after accounting for stereo coverage and after subtracting cloud covered frames -- and that the most frames we could receive in one day will be [redacted]

3. We know that the timely characteristics of the system will give us the opportunity to do current exploitation for purposes which are time-sensitive:

- Current intelligence which could be of immediate use -- in other words, intelligence upon which some timely consideration of an action could be based.

- Detection of activity which suggests that the current targeting regime of the collection system should be changed to gain early additional information related

to that activity -- in other words, "feed-back" to the control of the collection system. This could serve the purpose of gaining further coverage of a current intelligence matter, or might simply serve to take advantage of an opportunity to observe activities of less urgent interest but valuable for detailed intelligence research.

- Detection of activity which suggests that other intelligence collection systems and sources should be brought into play -- in other words, for "tip-off" to those other systems and sources which provide their own unique input of intelligence on a dynamic activity such as ground force movements or an event such as a nuclear test.

4. We know that the persistence of coverage that the system can provide will strengthen our capabilities for exploitation which serves detailed intelligence research of the kind that is not time sensitive. We shall, for example, gain frequent looks, during short spans of time, at the components and units of particular forces -- such as a ground or missile or submarine force -- valuable for measuring force levels, training, equipment, readiness and other measures of capability.

5. In short, our considered arrangements of manpower and equipment for exploiting EOI returns should match the responsiveness of the system to both current and research intelligence purposes. We have learned to cope

well with the detailed exploitation done for research intelligence purposes. We foresee no major changes in the organizational arrangement of photointerpreters to continue those detailed exploitation services.

6. For exploiting the responsiveness of the system to current intelligence purposes, NPIC has examined several possible arrangements and determined two to be the most promising. Each is responsive in a different degree to the timely characteristics of the system. Each includes two essential current exploitation functions: first, an initial scan for time-sensitive purposes, and second, a more detailed readout of all targets in search of activity of current intelligence import and for updating the data base.

7. The development and maintenance of a current data base will be a critical element in our EOI current exploitation. This data base will provide an immediately accessible and complete record of the normality patterns of activity -- as derived from imagery -- which current imagery can be matched against to detect abnormalities. During the transitional first year of EOI operations, construction of this data base will require a special effort by NPIC, including the photointerpreters described in the following exploitation arrangements.

Concept I

8. The first arrangement considered would call for continuous initial scan by three eight-hour shifts of photointerpreters, backed

up by selected PI teams working the normal eight-hour day, seven days a week. We are estimating that the shift PI's should have an average time of ten minutes each to accomplish the following with each frame of photography:

- Determine if the target object or area is visible. If not, because of cloud cover or other reasons, report back to system control.

- Scan the image and compare what he sees with the previous coverage data base and with any special current, tip-off, and indications intelligence requirements.

9. Those images which did not contain intelligence relevant to predetermined special requirements would be passed on to selected teams of photointerpreters to be analyzed by them during a normal day schedule. These selected teams would be located in and would be parts of the regular PI exploitation divisions.

10. In Concept I, then, we are considering devoting to the current exploitation function additional manpower at two points -- the three eight-hour shifts, and the selected teams within the regular PI divisions.

11. The strength of each of the eight-hour shifts will vary because the maximum receipt of imagery of the Asian and European (USSR) land mass will be between [redacted] while imagery of Western Europe and the Western Hemisphere will be received between [redacted]

12. Totaling the estimated needs for the three eight-hour shifts plus the selected back-up teams, NPIC estimates that about 50 photointerpreters would be required to man these functions under Concept I. This estimate includes factors for operating three shifts, 24 hours a day, seven days a week, as well as factors for leave and sickness.

Concept II

13. In this arrangement, both parts of the current exploitation photointerpretation work would be accomplished by three groups of PI's, each group working one of three eight-hour shifts. In other words, the kinds of select teams described in Concept I as working a normal day schedule would work along with the shift PI's, and all the current exploitation and reporting tasks would be accomplished within the eight-hour shifts.

14. NPIC estimates that this arrangement would require a total of about 70 PI's to man the three shifts, 24 hours a day, seven days a week.

15. The manpower estimates for both these concepts are based on the net addition of EOI current exploitation functions to the KH-8 and KH-9 exploitation functions for which NPIC will be responsible. It has been suggested that the EOI system has a potential for gaining imagery at least equal to that of the KH-8. If the KH-8 were phased out, some photointerpreters could be shifted to EOI current exploitation work.

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AEM Hold

DRAFT
15 October 1970

SUBJECT: Exploiting the Take from Electro-Optical Imagery Satellites -- Who and Where

1. Our purpose in developing and orbiting a satellite borne electro-optical imagery system is to gain a considerable intelligence advantage for the U.S. Government. Our objective in planning, designing and constructing the management and exploitation of the imagery acquired by such a system is to make that advantage work to the benefit of all government branches and operating components concerned with national security, defense and foreign policy.

2. The considerable advantage will be gained by the EOI system's qualities of persistence and responsiveness. Our management and exploitation of the EOI product should be structured to demand the most that we can get from those qualities.

3. For these purposes, the two important aspects of product management and exploitation structure are:

a. The relationship between the system operators and managers and the exploitation personnel.

b. The relationship between those who collect and exploit the imagery and those who make use of the results.

4. The EOI system will be capable of seeking out and returning imagery on new, different and additional targets within hours of being commanded to do so. To identify opportunely when this capability should be exercised and to exploit the results with commensurate speed, immediate

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and continuous photo interpretation should be employed. This can best be accomplished with a select team of photo interpreters placed close -- in time and space -- to the point at which the EOI signals are transformed into images, as well as close to those who task the system.

5. This "quick look" exploitation, to be as effective as possible within the time constraints, should be more than a simple "eyeballing" exercise by men with good eyesight. The photo interpreters assigned to this work should be backed by an up-to-date, easily accessible data base from past photography, by versatile equipment and by other photo interpreter experts on call when needed.

6. The National Photographic Interpretation Center can supply the kinds of exploitation men, equipment, data bases and know-how needed to establish an effective working relationship with the operation of the system. By being located with the EOI imagery processing facility, NPIC could provide selected personnel, equipment and data for the "quick look" work around the clock, and could provide the in-depth expertise and organization for carrying through with follow-up and detailed photo analysis work using the EOI as well as any other imagery currently acquired.

7. Effective "quick look" exploitation will be vital to the relationship with those who make use of the results. EOI products will serve and be demanded urgently by a wide spectrum of customers:

a. The national and departmental intelligence analysis and production components at Washington -- CIA, DIA, INR, NIC, Army, Navy and the Air Force -- and those centers and arms of the Executive Branch which they serve with strategic intelligence.

b. Military commands and their component forces in the U.S. and overseas, who are thirsty for timely tactical and theater intelligence.

c. Intelligence collection agencies and services such as NSA, AFTAC, DDS&T, DDP and others who will seek from (and give to) the EOI system "tip-off" information to achieve timely focussing of collection assets.

8. The diversity and potential bulk of these demands testifies to the value of an EOI system, but also sharpen concerns about control over its products and its responsiveness. These concerns in part can be accommodated by the National Photographic Interpretation Center -- a joint and shared capability -- being located with the imagery processing facility and undertaking an alertness across the full spectrum of users' needs.

9. The remaining and sharpest concerns will be with the controls over the responsiveness of the system -- direction of its targeting and coverage priorities, and dissemination of the images acquired. While these concerns can be accommodated through mechanisms under CIA management

like those we now use -- COMIREX -- much will depend on our actual performance when the system becomes operational.

10. The speed and reliability of both coverage responses and dissemination of the images, as well as the effectiveness of our decisions about same, will be highly dependent on close and timely communications among those CIA officers responsible for managing the components of the EOI system and the supporting services. The mechanics of sustaining such communications would be considerably strengthened by locating the EOI processing facility and NPIC at CIA Headquarters.

11. In sum, we recommend that NPIC and the EOI processing facility be placed together, and that they be located adjacent to CIA Headquarters.