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HEXAGON/CORONA/GAMBIT
CENTRAL INTELLIGENCE AGENCY
WASHINGTON, D. C. 20505
OFFICE OF THE DIRECTOR

BAF - A2



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11 March 1969

The Honorable Robert P. Mayo
Director, Bureau of the Budget
Executive Office Building
Washington, D. C. 20503

Dear Bob:

Confirming our telephone conversation, Jim Clark mentioned the matter of the HEXAGON photographic satellite to me at lunch the other day. The need for this system was also one of the issues in the package on intelligence which you sent to Mr. Packard on 13 February.

In my personal judgment, the record of past reviews and analyses of the HEXAGON program clearly demonstrates a concern for fiscal responsibility, as well as for getting the intelligence necessary to our national security.

The need for this system has been the subject of a number of searching reviews in the Intelligence Community, within the Department of Defense and by the Budget Bureau staff. The initial statement of the requirement for such a system was set forth by the U. S. Intelligence Board in 1964. The technical implications of a decision to proceed with the design and development of HEXAGON, as opposed to possible alternative courses, have been examined on a number of occasions by a panel of the President's Science Advisory Committee chaired by Dr. Edwin H. Land. Dr. Land's panel has consistently advised development of HEXAGON.

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In the past seven months the Budget Bureau has twice proposed to the Executive Committee of the National Reconnaissance Program that the project be canceled. In July 1968 the National Intelligence Resources Board (NIRB) completed a study of the HEXAGON's expected contribution to our national intelligence needs in the light of the program's cost and recommended unanimously that HEXAGON be continued. The staff of the Secretary of Defense also analyzed this issue and in November 1968 made the same recommendation to the Secretary. The decision to continue HEXAGON was reaffirmed at the 20 August and 13 November 1968 meetings of the Executive Committee of the National Reconnaissance Program.

At the present time, we rely on the GAMBIT-3 satellite for detailed photography and surveillance of known targets, and the CORONA system for searching out hitherto undiscovered targets. The HEXAGON would both replace the search function of the CORONA and, by performing much of the surveillance function, permit a reduced number of GAMBIT-3 missions to be concentrated on detailed photography.

There are many complicating details involved in a decision to cancel or to continue HEXAGON. The number of targets of different classes, the frequency of coverage, the resolution of the photography, the number of target looks, the area coverage, the ground swath, the days on orbit per mission, mono vs. stereo coverage, the factor of timeliness, and different cost estimates based on different assumptions -- these are but some of the pertinent factors which must be taken into account, not individually but in combination as they pertain to the HEXAGON and make it so valuable. I refer to this complexity by way of pointing out that it is easy to delve into one or another factor to the neglect of the whole array of relevant factors and, indeed, to the gut issue itself.

From where I sit, the main issue is whether, in terms of all intelligence sources -- including the present GAMBIT-3/CORONA combination -- the HEXAGON photography is worth the cost. When the needs for national intelligence and U. S. force planning are considered in the light of the cost differences between the present GAMBIT-3/CORONA and the HEXAGON/GAMBIT-3 mixes, I believe that the outcome is strongly in favor of continuing HEXAGON.

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2

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Let's look first at the cost side. According to the cost data presented in your issue paper (Tab C), cancellation of HEXAGON would result in savings in the FY 1970 budget of [REDACTED] and cumulative savings through FY 1974 of [REDACTED]. These estimates, however, omit several relevant factors which must be considered. One is the cost of satisfying the mapping and charting requirements which will be met by the HEXAGON system. The Director, NRO has estimated the cost of alternative methods of meeting this mapping and charting need would be over [REDACTED] through FY 1974. Another point is that the Bureau's estimates do not take into account the fact that the manufacturing base for the CORONA payload has been phased out; some critical testing facilities have been deactivated, and all camera sub-system suppliers have been terminated. Extension of the CORONA program -- a necessity if HEXAGON were canceled -- would involve significant additional costs. Further, since we are now so far advanced in the HEXAGON program, termination costs would be substantial. If a decision to cancel were taken at this point these termination costs would have their major impact on the FY 1970 budget. (Parenthetically, I would also point out that cancellation would have a serious impact on one of the three major U.S. camera producers -- a cost to national security which cannot be fully assessed in dollar terms.)

In sum, I am convinced that the savings which could be realistically anticipated if the HEXAGON program were canceled are significantly less than stated in the Bureau issue paper, both in terms of the FY 1970 budget and cumulatively through FY 1974.

But I do not believe that the matter of savings, although important, is the main point in considering the HEXAGON program. The intelligence yield expected from HEXAGON has been examined exhaustively since last summer. I believe that the conclusions of the National Intelligence Resources Board and the Defense position paper on HEXAGON of November 1968 continue to be valid. Put briefly, HEXAGON's special value lies in its capability to combine large area coverage and high resolution. Some examples -- but by no means the whole story -- of what HEXAGON will provide are:

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3

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- (1) significantly better intelligence on Soviet and Chinese ground forces, including force composition, readiness, and redeployment;
- (2) better insight into the logistic support systems of Communist bloc countries;
- (3) a marked upgrading in our ability to detect and evaluate mobile missile forces in the USSR which we anticipate shortly (in this connection we must have the basis for confident judgments that deployments have not occurred, as well as the ability to detect once begun);
- (4) significantly improved intelligence on a wide range of other targets, such as Communist bloc radar stations, and thus facilitating reduction in certain types of collection activity;
- (5) broad area and high resolution coverage of sensitive areas outside the USSR and China, such as the area of 
- (6) substantial improvement of our capacity to monitor Soviet adherence to or violation of any future arms control agreement.

In sum, I am firmly convinced that the HEXAGON program is well worth its cost given our intelligence needs regarding the threats which the United States faces in today's world and believe that the additional expense required to complete and operate the HEXAGON system is reasonable. I also am mindful of the budgetary pressures. Given these pressures, I strongly urge that we do our utmost to cut away obsolete and marginally productive activities within the U. S. intelligence effort,

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4
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rather than take the easier course of canceling a program so close to fruition and which will contribute so much.

Sincerely,

Rich

Richard Helms
Director

cc: Deputy Secretary of Defense

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