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28 DEC 1962

MEMORANDUM FOR THE SECRETARY OF THE AIR FORCE

SUBJECT: MIDAS

8043

Your memorandum to me of November 27, 1962, strongly supporting a substantial increase in the MIDAS program with the intention of planning for an eventual deployment, has been carefully reviewed, along with your subsequent memorandum to me of December 7. The care which was obviously taken in the preparation of the supporting papers is appreciated. This is particularly true of the enclosure prepared by Dr. McMillan. I do not feel, however, that I can approve your request.

The reasons for not doing so are essentially those set forth in my Decision/Guidance paper to you of August 6, 1962. Despite the fact that MIDAS can probably be made effective against ICBMs, and eventually, SILEMs, its high cost and the existence of reliable and less costly alternatives combine to make it seem unwise to go forward with a high priority program such as you recommend.

With respect to cost, I note that your recommended plan (Plan 2) would rise from \$100 million in FY 1963 to \$194 million in FY 1964, and over the five year period FY 1964-1968 inclusive the total would be \$1436 million. Continuing H&O costs thereafter you estimate to be \$165 million per year, based on the attainment of an average satellite life in orbit of 9 - 12 months. I do not doubt that such an extremely long life can eventually be reached as satellite technology improves. Considering, however, the complicated nature of the satellite, its performance to date, and the life attained by other, less complicated satellites, it seems very dubious to me that your design goal will be reached in the early years of its deployment. Since your cost figures are very sensitive to satellite life, an average life of only a few weeks or months would result in a substantial increase in your estimated cost.

Even if the reliability is attained early in the program, the \$165 million annual operating costs are very substantial when compared to costs attached to some of the alternatives, which consist of various types of radars installed in various locations. Although none by itself will do all that a MIDAS system might do, taken in combination a system can be envisioned which will approach MIDAS potentiality. For example:

1. Maximum warning time. Over-the-horizon radars show considerable promise, which, if attained, would give the same maximum warning time as MIDAS.
2. Source location. Tracking radars installed at BMEWS sites can accomplish source location on single objects, but are limited in traffic handling capability. A phased array radar functioning as a BMEWS would remove this limitation. Over-the-horizon radars may have some potentiality in this respect.

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3. Impact prediction. Both the HMDAS tracking radars and a phased array radar can accomplish accurate impact prediction, which HMDAS cannot.
4. Warning against Extended Range Ballistic Missiles. Here radar installations in the South Pacific or Indian Oceans must be considered.
5. Warning against SLBMs. Coastal radars of the new SAGE type may perform effectively against SLBMs.

Summarizing, you have made an excellent case for the value of reliable early warning and surveillance and the potential contribution of HMDAS. However, I do not share your conclusion that it is desirable to now proceed at the increased pace. First we must determine if the possible potential of the system can be in fact realized and realized at a cost that makes it competitive with other alternatives.

Your alternative 4 reflects the guidance provided on 6 August. I propose to support such a program but at a lower level of effort (\$75 million in 1963 and \$15 million in 1964). It is requested that a revised Development Plan be submitted to the Director of Defense Research and Engineering based on the above guidance.

Signed
ROSWELL L. GILPATRICK
Deputy Secretary of Defense

RSS 12/26

cc: ASD(Comp)

Prepared: Mr. R. S. Sargent/cmn
ODDR&E/DS, 3D-132 X-57327
26 December 1962/Rewritten

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