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~~(S)~~ NATIONAL RECONNAISSANCE OFFICE

WASHINGTON, D.C.



THE NRO STAFF

October 6, 1969

MEMORANDUM FOR GENERAL ALLISON

SUBJECT: Impact of Collateral MIRV Test Bans on Satellite Intelligence Collection Systems

This memorandum responds to a request from your staff for our review of the potential impact on satellite intelligence collection systems of a ban on releasing multiple objects in space and a ban on maneuvering in space.

As you know, we have attempted, in concert with your staff, to define with greater precision a ban on the release of multiple objects in space which would materially assist in the MIRV verification task and at the same time not seriously impact on our intelligence collection systems. We have been unable to do so.

The current broad coverage CORONA system and the high resolution GAMBIT system both use two reentry vehicles per mission for return of photographic products. The HEXAGON system will employ four RV's for primary photography and one smaller RV for mapping and charting photography. There is some commonality in reentry technique between data carrying RV's and earlier weapons RV's. Many of these systems were, and continue to be, developed by a common contractor, General Electric.

Generally, we return one RV per week during a mission. This time can be significantly shortened, but not significantly lengthened. Our rationale for developing the position that a more precise definition cannot be obtained is based on the following considerations:

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CORONA HEXAGON GAMBIT EARPOP



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1. We must be concerned with the RV and the dispensing system.
2. Although reconnaissance RV's have low betas, a MIRV system could be tested with RV's having a very wide range of betas.
3. The weight of reconnaissance RV's varies from approximately 250# to 800#. Again a MIRV system could be tested using almost any weight RV.
4. Reconnaissance RV's transmit health status telemetry and beacon tracking signals. The telemetry gives no indication of RV function since no photographic related systems are operating.
5. Reconnaissance RV's contain a deboost propulsion package. We understand that a potential MIRV system also contains individual propulsion packages.
6. Very detailed knowledge of an RV would still tell very little about the dispensing system.

In general, therefore, none of the observables (time of release, place of release, beta, weight, propulsion) are sufficiently unique for reconnaissance RV's versus weapons system RV's to permit a precise definition of a ban which would be verifiable.

A ban on maneuvering in space has a less profound, albeit significant, impact on current and programmed systems. Both the CORONA and GAMBIT vehicles use orbit adjust propulsion systems to reorient latitude of perigee and to provide for drag make-up. We cannot obtain the best photographic product possible if we do not operate the systems at the lowest feasible orbital altitude. The capability to perform orbital adjustments becomes even more critical with longer life systems such as HEXAGON.

A ban on maneuvering in space would also severely affect synchronous altitude and highly elliptical collection systems. The

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In summary, a more precise definition of a ban on the placing of multiple objects in space does not appear to be compatible with continued operation of present or programmed satellite intelligence collection systems. Further, a ban on maneuvering in space would significantly impact U.S. satellite intelligence collection efforts and Soviet and U.S. space programs in general.

I will be pleased to discuss this matter with you further should you require additional information.



LEW ALLEN, JR.  
Colonel, USAF  
Director

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