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~~(S)~~ NATIONAL RECONNAISSANCE OFFICE
WASHINGTON, D.C.

THE NRO STAFF

25 March 1968

MEMORANDUM FOR RECORD

SUBJECT: MOL/DORIAN Requirements

During the past week I have made a review of the documents in the SOC to determine what MOL/DORIAN requirements have been stated by COMIREX (formerly COMOR) or USIB. Attached is a listing in chronological order of the pertinent documentation found in this limited review. The documents are summarized briefly in the following paragraphs.

NPIC completed analysis of resolution required to satisfy elements of information established previously by COMOR. The 5 July 1965 report contains a list of EEI's and resolution required to satisfy two categories of requirements: identification and/or location, and mensuration.

COMOR used the NPIC study together with judgments and comments from other committees and agencies to prepare the 27 December 1965 report which was "in response to DCI requests that a. COMOR, assisted by NPIC, study in depth the meaning of and need for particular levels of higher resolution from the intelligence viewpoint"(request dated 7 Jan 65), "and b. COMOR examine the intelligence requirements for very high resolution photography of the character envisaged for acquisition by the Manned Orbiting Laboratory (MOL)" (request dated 21 July 65). On the basis of this study COMOR concluded "that there are clearly identifiable needs for overhead photography with a ground resolution of about [redacted] and that such photography will substantially improve the strength of our intelligence on subjects vital to U.S. national security." On the subject of [redacted] ground resolution COMOR stated that the intelligence needs "can be identified, and based on past experience with very high resolution ground and low-level aerial photography and the potential indicated by simulated very high resolution photography (presented in the MOL briefing) such a resolution can satisfy between 5 and 10 percent of our photo intelligence needs, some of which are critical." COMOR recommended that USIB note the study findings and that COMOR be instructed to consider them "in completing a statement of long-term intelligence requirements for reconnaissance of denied territories by photographic satellites."



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The COMOR report was circulated to USIB members and discussed in restricted session at the USIB meeting on 13 January 1966. USIB noted the findings as stated above, noted that the DCI would send the report to SECDEF, and instructed COMOR to "(1) take account of these findings in completing a statement of long-term intelligence requirements for reconnaissance of denied territories by photographic satellites. (2) Continue to examine the need for very high resolution photography in satisfying the most important intelligence requirements and to incorporate its findings concerning such need in recommendations to USIB and NRO whenever appropriate. (3) Discuss with the Director, NRO, the working data and rationale COMOR used in preparing the report and the possible need for development of additional data."

On 13 December 1966 the Chairman of COMOR reported to USIB that the intelligence community's current needs for periodic surveillance of targets in the Soviet Bloc and Communist China by high resolution photographic satellites had been reviewed, but COMOR was unable to agree on periodicity and sample size required. As part of their recommendations, COMOR suggested that USIB advise the NRO to recognize in its planning that the yearly requirements for KH-8 missions "can be reduced to the extent that MOL provides successful coverage of targets that would normally be covered by KH-8." After considerable discussion at the 15 December 1966 meeting, USIB referred the subject back to COMOR for further study. In the minutes of the USIB meeting the following paragraph is of interest:

"The Acting State Member raised the question of the status of MOL which to date has been justified almost entirely on its contribution to intelligence. Mr. Tidwell stated that COMOR had never addressed the problem of the intelligence need for MOL. Dr. Flax said that the former DCI had expressed himself on this matter, also Dr. Flax felt there is a need for the MOL's capability which would provide [redacted] resolution. The Chairman agreed that this problem does need further examination."

On 19 May 1967, USIB approved an appraisal of intelligence requirements vs collection assets in regard to the Soviet ABM Program. The photographic portion of the appraisal contains the following assessment of the "MOL (high resolution manned, USAF)" project:

"Has potential to provide through higher resolution photography improved technical performance estimates. It is uncertain that the improved resolution will be of significant value to ABM intelligence analysis."

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The most current reference to the MOL/DORIAN system was in the COMIREX report on Warning/Indications Needs dated 5 January 1968. While the photographic requirements were only about 2 1/2 feet ground resolution, the report noted:

"Also oncoming is the Manned Orbital Laboratory which, while configured to acquire very high resolution technical intelligence photography of objectives, will have a potential to obtain some coverage of warning/indications installations. Of particular interest are the plans for achieving long-on-orbit life and readout and transfer of imagery to ground stations via data link and reporting by voice. But, as with the KH-8/KH-9 mix discussed above, unless provisions are made to achieve continuous on-orbit capability either by adding launches or by developing ways to increase on-orbit life, warning/indications requirements will not be met. A bench-tested concept based on modification of the KH-8 system and providing for readout of photography at about 2 1/2 foot resolution by data link has been suggested. This system proposes to have a response time of [REDACTED] hours from collection to readout depending on target location in relation to ground stations. Since on-orbit life probably could not exceed one month, and since access to the target area would be limited, two to three vehicles on orbit simultaneously or up to 36 launches a year would be required to obtain daily coverage."

On 27 February 1968, General Berg requested the Chairman, COMIREX, to provide the NRO a current listing of EEI's for all targets in the national data base. In a memorandum dated 14 March 1968, the Chairman replied that COMIREX was engaged in the orderly development of EEI's to be satisfied by overhead photography, but the complexity and importance of the task were such that "some months" would be required for completion. The Chairman indicated that the 5 July 1965 study by NPIC was still a reasonably accurate picture of EEI's and could be used as a valid indication of the scope and nature of present EEI's.

In summary, COMOR presented a study to USIB in December 1965 on the intelligence requirements for high resolution photography and specifically on the value of MOL/DORIAN quality photography. USIB noted the findings and instructed COMOR to continue to examine the need for very high resolution photography. In December 1966, COMOR reported their inability to agree on periodic requirements for high resolution photographic coverage. USIB directed COMOR to continue studying the problem. This study is still in progress, however, it is oriented toward defining periodic coverage

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requirements for current systems and the DCI's instructions in July 1965 regarding an evaluation of intelligence requirements for MOL quality photography appears to have dropped by the wayside.

Daniel L. Lycan

DANIEL L. LYCAN
LTCOL, USA

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References

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REFERENCES

1. Memorandum for USIB from Executive Secretary, 7 January 1965,
subject: Report by Chairman on NRO Executive Committee Meeting.
(USIB-D-41.13/18; COMOR-D-13/31).
2. Memorandum for COMOR from Executive Secretary, 5 July 1965,
subject: Background Papers for Long-Range Requirements for Satellite
Image-Forming Sensors: Elements of Information. (COMOR-D-13/46-7;
PWG-D-44/7)
3. Memorandum for USIB from Executive Secretary, 21 July 1965,
subject: The Manned Orbital Laboratory. (USIB-D-41.13/24; COMOR-D-
13/48)
4. Memorandum for Chairman, USIB from Chairman, COMOR, 27 Dec 65,
subject: Meaning of and Need for Higher Resolution of Overhead Photography.
(USIB-D-41.13/30; COMOR-D-13/56)
5. Memorandum for USIB from Executive Secretary, 17 January 1966,
subject: Meaning of and Need for Higher Resolution of Overhead Photography.
(USIB-D-41.13/31; COMOR-D-13/57)
6. Memorandum for USIB from Executive Secretary, 13 December 1966,
subject: Requirements for High Resolution Photographic Satellites. (USIB-
D-41.14/304; COMOR-D-13/67) (See also Memorandum for Holders of
USIB-D-41.14/304, 21 December 1966)
7. Memorandum for COMIREX from Executive Secretary, 5 October 1967,
subject: Value of Photography to Collection on the Soviet ABM Program.
(COMIREX-D-14.3/1)
8. COMIREX report to USIB, 5 January 1968, subject: Requirements for
Image Forming Satellite Reconnaissance Responsive to Warning/Indications
Needs. (USIB-D-46.4/3; COMIREX-D-13.7/4)
9. Memorandum for Chairman, COMIREX, from Director, NRO Staff,
27 February 1968, subject: Essential Elements of Information.
10. Memorandum for Director, NRO Staff from Chairman, COMIREX, 14 March
1968, subject: Essential Elements of Information.

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