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February 28, 1969

MEMORANDUM FOR RECORD

SUBJECT: Color Photography for Satellite Reconnaissance

On February 28, [redacted] and I attended a briefing given by a group of analysts from CIA to the SOC staff. The CIA presentation reviewed experience, to date, with different types of color film, advantages and disadvantages of color photography for intelligence applications, and was accompanied by a large number of samples of color photography from U-2 and KH-4 vehicles, and some very recent color photography from mission 4316.

Three types of color were looked at. Color film types designated SO 180 and SO 121, and a method called BiColor by which, through the use of green and red filters, color effect is given to panchromatic black and white film. The SO 180 color film is infra red ektachrome which requires very, very high speed and, at this point in time, seems less desirable than the SO 121.

In the series of photographs shown to the audience, the SO 180 film seemed to lend itself best to ecological detail, i.e., assessing crop types and yields for economic information, topographical studies, etc.

The strategic reconnaissance applications to which color photography should provide high yield information were technical intelligence of nuclear ore mining, processing and test facilities and missile targets such as air bases, depots and C³ installations. The BiColor process seems to do better against nuclear facilities and the SO 121 film seems to do better against the other type of targets. (In response to my question, the analysts answered that they did not yet have sufficient information to know explicitly whether certain film was best for specific applications).

Experience, particularly with the KH-4, shows that resolution is degraded very substantially with the use of color film. The most successful color photography was gained on flight 4316, 22"-24". The KH-4 color film resolution is on the order of 4'-5'.

The general concensus was that the quality of color film needs to be improved considerably. [redacted] noted that EKC had accepted this task and it was under Mr. Wagershauser's direct cognizance. A progress meeting on this subject was being held at EKC today.

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The summary conclusion of the CIA presentation was that "the question of whether color is of value to strategic intelligence has not yet been answered, and in fact it may not be possible to give a clear cut yes or no." Their recommendation is that more color photo reconnaissance be acquired and made available to analysts and users; from this broader use a better judgement of color photography and applications may be possible.

I recommend we arrange for this briefing to be given to MOI Program Office personnel. It is interesting, enlightening and may generate some fresh ideas on the subject.



Lt Colonel, USAF
Program & Policies Division

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