

SECRET

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IDEA-0852-68
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6 November 1968

MEMORANDUM FOR THE RECORD

SUBJECT: Red Dot Tests

1. Objective:

a. To provide current controlled test data on film, filter and camera combinations, from which accurate predictions can be made for precise exposure and processing of film from airborne and orbiting sensors.

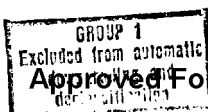
2. Procedure:

a. Eastman Kodak [] receives test requirements informally from NRO [] OSP [] OSA [] and other sources (contractors, NPIC, Navy and USAF processing sites), and prepares a detailed test plan. The test plan lists the number of flights required and specifies for each individual flight the sensor, film, filter, altitude, duration, targets and time of day and any other special instructions that are needed. The test plan is then reviewed by OSA and priorities are established, prior to approval. The test plan is then reviewed [] with flight planners and cognizant tech reps to insure availability of film, filters, cameras, and support equipment. OSA (IDEALIST OPS) then authorizes [] to conduct the tests on a non-interference basis during normal test and training operations. [] schedules and accomplishes the flight tests with Eastman Kodak providing coordination such as flight planning, Corn Target display, film processing (local or Rochester), special filters, etc. Evaluation is made by Eastman Kodak, NPIC or contractor as directed by OSA. Test results and recommendations are provided to OSP, OSA, NPIC or other interested activities and are reflected in operational procedures.

3. Discussion:

NRO review(s) completed.

These tests provide a vehicle for confirming the operational readiness state, (or lack of it), of improved films, filters, and processing chemistry or techniques



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after they have been demonstrated in the laboratory. Airborne testing (as opposed to orbital testing) is providing answers to some of the following questions which come readily to mind:

- a. Is SO-230 film ready for operational use as a replacement for 3404? Although it has better light sensitivity permitting shorter exposure times, it has slightly greater granularity and thus lower resolution and a tendency to generate emulsion dust. Further, there have been variations in light sensitivity from one emulsion batch to another that require adjustments in processing.
- b. Under what conditions of solar elevation and atmospherics do you select 3401 rather than 3400 for optimum results?
- c. Does low gamma processing offer advantages to the photographic interpreter over conventional processing?
- d. Does SO-121 or Kodachrome II provide enough advantage over black and white photography to justify the additional cost and processing complexity?
- e. Should exposure be selected solely on the basis of solar elevation or can adjustments be made for atmospheric haze and ground reflectance?
- f. Can ultra thin base film such as SO-380 be satisfactorily used in an airborne camera?

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Distribution.

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