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11 May 1962

MEMORANDUM FOR THE RECORD

SUBJECT: A Meeting of the COMOR Technical Subcommittee on Processing,
Held at NPIC

A meeting was held at the National Photographic Interpretation Center, Room 502, Steuart Building, at 0930 hours on 11 May 1962. The following members were present: Mr. James Reber, CIA, [REDACTED]

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1. The agenda as proposed in the memo, dated 3 May, was covered with the exception of item 4 of the subject memo having to do with camera problems. Mr. James Reber, who chaired this meeting, announced that a special meeting would be held at the Langley ~~site~~ on 18 May, at which time the members of this subcommittee would be given a briefing on the operational aspects of the several camera systems in use and proposed. This meeting will be held in Room 6B21 at 0930 hours. The group will meet at the main entrance at 0925 hours for escort to the briefing area. [REDACTED] brought a set of sample materials to the meeting and a similar set will be mailed according to the following distribution: One set each to Army, Navy, AFIC, SAC, ACIC and NPIC. These test materials are the result of an experiment in the Kodak laboratory. From the operational negative, a normally exposed

25X1A

1 + 2 f/stop

duplicate positive was prepared from a small increment of one roll. The density range of this duplicate positive was from ~~the 0.48 to~~ 1.45. ~~Quantity~~ Additional duplicate positives were made from this same original negative with 1 and 2f/stop equivalents of under-exposure and 1 and 2f/stop equivalents of over-exposure. From the so-called normally exposed duplicate positive, a series of third generation duplicate negatives were prepared, ranging from a normal to ^{two} stops under-exposed and ^{two} stops over-exposed. Further duplicate negatives were prepared from the 2f/stop equivalent under exposed duplicate positive and the 2f/stop equivalent over-exposed duplicate positive. This results in the preparation of nine third generation duplicate negatives in which only the exposure had been varied to produce a variety of density cuts. Of this series, the second generation duplicate positive and the third generation duplicate negative, which had been normally exposed to produce a gamma of 1.05, resulted in materials quite similar to the last mission, processed by the contractor. In addition, a direct reversal duplicate negative sample had been prepared and sent to NPIC for evaluation. The committee members are invited to inspect this sample at NPIC so that recommendations regarding the use of this method can be made at the 18 May meeting, if possible. In the direct reversal method, the duplicate negative thus generated is one generation closer to the original negative than by conventional printing from negative to positive to negative. ~~Also,~~ ^{of how this was accomplished} No details were furnished by the contractor. It is assumed that this is a chemical reversal process in which the duplicating material is exposed to the original negative by a contact method and is developed, bleached, and redeveloped, in which case an iron oxide metallic replaces the original silver image in a reversal fashion. Previous investigation of this type of processing gave evidence that the tonal scale in the ^{reversal} original negative ^{was} had been shortened and the granularity effect

had been increased compared to the silver structure of the original material. It is proposed that a microdensitometer trace of identical areas be prepared on the original negative, the direct reversal duplicate negative, and a third generation duplicate negative made from a conventional ^{second generation} duplicate positive. Only by comparing these traces of identical areas can an accurate evaluation be made. It is significant to mention that in all of the aforementioned test materials only the exposure had been changed and all samples received identical processing, therefore, the gamma of all these materials would vary. For instance, ~~to~~ the duplicate positive which was ^{over} 2 equivalent f/stop underexposed received the same processing as the duplicate positive which was normally exposed, etc. Had this subject duplicate positive received prolonged development or development in a more svariicious solution the shape of the D log E curve would vary considerably. It is suggested that the contractor continue testing by varying also the processing times and solutions.

Custom Printing

2. Most of the committee members present agreed that the quality of ^{dupliat} the last mission left very little to be desired on an individual basis. ^{Sum} Mr. Green explained that a considerable amount of editing ^{of} the original negative in terms of density differences had been accomplished and that the customary procedure of breaking each pass into two equal parts had not been strictly followed on the last mission. By breaking the original negative into smaller and smaller increments and adjusting the exposure increment to be compatible with these segments, a more uniform duplicate positive and subsequent duplicate negative can be generated.

3. In addition to ~~the above mentioned~~ editing ~~of~~ the original negative, if the contractor attempted to satisfy this individual preferences of the 14

members of the committee who receive 36 prints from the original, the task would be insurmountable. Since the needs and requirements of all of the committee members are basically the same, the individual preferences would be based largely on some rather intangible, psycho-physical aspects rather than ~~academic~~ ^{specific} requirements.

4. It was agreed at this meeting that some definite statements be prepared by the committee members regarding the pressure on the contractor for delivery of the individual materials from each mission. ~~There~~ ⁺ has always been implied ^{*} a very strict time limitation and it was agreed to investigate this area completely so that real ^{*} [from imaginary] requirements could be differentiated. ^{*} If ~~this~~ ^{the} pressure for speed can be eliminated or lessened it will allow the contractor to do more editing of the original ~~MM~~ material for subsequent printing. This will result in more useful duplicate materials.

5. It is perhaps significant to mention at this ~~MM~~ point that all of the above-mentioned editing is necessary ^{because currently there is no} ~~in lieu of a~~ printer which incorporates fully automatic exposure control. The contractor stated that such a printer is being investigated by his company, together with more sophisticated processing equipment. In this connection the subject of improving the contractor's facility and equipment was briefly discussed.

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It was also pointed out that the [redacted] at Westover AFB has recently let a contract for a fully automatic processing machine which incorporates IR scanning devices for automatic readout of the development of the latent image at several ~~positions~~ ^{positions} and provides for compensating development controls within the range of 2f/stops under and over-exposure in the original material. [redacted]

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[redacted] is also investigating several continuous roll printers for the transfer of high resolution materials. It is suggested that ~~MM~~ subcommittee be appointed by the chairman to make a new evaluation of the Westover facility and to report their findings ^{these could} ~~which will affect the ultimate choice of whether~~ ^{decisions regarding} to improve the ~~present~~ ^{present} contractor's facility, or to transfer the operation to

~~Executive (or both).~~

6. The meeting was adjourned at 1230 hours.