

SECRET

NPIC/P&DS/D/6-1418  
13 June 1966

MEMORANDUM FOR THE RECORD

SUBJECT: PAR 242, [ ] Color Demonstration Material

X1

1. The purpose of PAR 242 was to provide Color Demonstration Materials to be used in conjunction with briefing boards to brief on the results of PAR 213, Color Reproduction Systems Review. It is the opinion of NPIC that the color balance and print density of the material obtained under PAR 242 covers such a broad range that it is of little use for briefing purposes.

2. This matter was discussed with the following [ ] personnel at their [ ] plant on 17 May 1966: [ ]

X1  
X1

25X  
25X

[ ] position is that deviations from ideal color balance and print density are due to differences in contrast characteristics of the various materials and to printing and processing control limitations.

3. Specific cases discussed in detail at this meeting are as follows:

a. The first item was duplication of SO-121 material directly on SO-121 by the contact additive printing method. NPIC had requested five identical prints from a single original frame. One of the prints produced had a maximum density difference from the others of 0.38 density units. [ ] personnel claimed they had controlled these prints to a 0.05 filter density. This print density difference would indicate that this is not so. The briefing board of stereo duplicates of SO-121 was to show high color saturation. According to [ ] personnel, this was not the case, since the color saturation of two SO-121 prints is no greater than that of one, therefore, this board was intended for comparison with the one of SO-121 and one SO-108.

25X  
25X

b. The next item discussed was the duplication of SO-121 on SO-108 for use with the briefing board comparing these two materials, indicating, that one should expect higher color saturation with the SO-121 printed on SO-121. The difference in the color balance and print density of the SO-108 produced was so great that little or no conclusion could be determined regarding saturation. At this point, the [ ] personnel volunteered the information that the contact SO-121 printing used the "back-of-the-film flashing" technique for purposes of reducing haze, and for some unexplained reason this technique was not used on the SO-108 printing. This is the first time anything has been said in this project about back flashing techniques, and there is nothing in the final report on

X1

SECRET

GROUP 1  
Excluded from automatic  
downgrading and  
declassification

SECRET

PAR 213 regarding this technique. It was further stated that SO-108 cannot be color balanced to the SO-121 without losing detail.

X1 [ ] stated they would be glad to reprint the material (for a price) if a specific density point or limited density range was determined. Perhaps one should use color filters over each of these prints when making a comparison, thereby neutralizing differences in color balance?

c. The next item discussed was SO-121 contact printed on SO-121 by the additive method and by the subtractive method. This is another case where difference in color balance makes it difficult to draw any conclusions from visual comparison. It was intended that these prints would be used in conjunction with briefing boards to support the contention that additive printing is the more desirable method. Here again it was stated that the additive printing method used the flashing technique and that it could not be used with the subtractive printing. Therefore, color balance could not be attained. It was further stated that if the flashing technique was eliminated in the additive printing, a better color balance could be attained but color fidelity and apparent sharpness of image would be reduced.

X1 d. The next item discussed was the 5X enlargements of SO-121 subtractive printed on inter-negative type 6110 and contact subtractive printed on type 6109. Two identical prints were requested to be used with two separate briefing boards. One print was to compare 5X, 10X, and 20X enlargements when produced by the same method. The other was for comparison of 5X enlargements when the internegative was made on material other than type 6110. The maximum density of the two prints delivered had a density difference of 0.26 units. A meaningful comparison of these prints, with those made by use of other materials, is hardly possible, due to the density variation. [ ] personnel claimed they had held their printing to a tolerance of 0.07 exposure difference, or 9/10 of one second. It is apparent that, whatever they did, it was not good enough for the intended purpose.

e. The next discussion concerned a fourth generation, 5X enlargement on type 6109. In this instance, the original SO-121 was duped on SO-108 then an inter-negative was made on the type 5270 and finally 5X printed on type 6109. This print was intended for use with a briefing board depicting comparison of 5X prints made by various methods. NPIC contends that this print has a major high-light to shadow density shift resulting in a color shift and is therefore not suitable for comparison. [ ] personnel claims that the inter-negative was properly exposed and that considering the type of dupe positive (SO-108) and the fact that the final print is a fourth generation print, the result is as good as can be expected with normal controls.

25X

SECRET

f. Prior to this discussion with [ ] personnel on color duplication results, NPIC had a contact print made on type 6109 from a 5X inter-negative by the PSD Laboratory. NPIC personnel contend that this print has better color balance than those made [ ] This print was used as an exhibit to show that the [ ] prints did not represent the best that could be produced by the various methods. [ ] admitted that it was a better print but that color masking made the difference, and if so instructed they could have done the same. Incidentally, color masking was not used in the study and was therefore omitted from all the color demonstration prints.

25X

25X

g. The next item to come under discussion was contact black and white prints. Three of these were delivered and were to serve two purposes in conjunction with several briefing boards; one to show that by stereo viewing of black and white, with color, high resolution and color advantage could be combined in a single view. The other two were to show, by comparison, that printing of color on black and white film retained a greater amount of detail when the duplicate negative was made by additive light printing. The latter two prints, made from the color master, had a maximum density difference of 0.21 density units. It is the NPIC opinion that this is too great a density difference for comparison. [ ] claimed that this density variation was due to the difference in the contrast characteristics of the materials and that the density match was close at a limited number of points. It is felt that the darker of these two prints was over printed and is therefore not suitable for comparison in its present form.

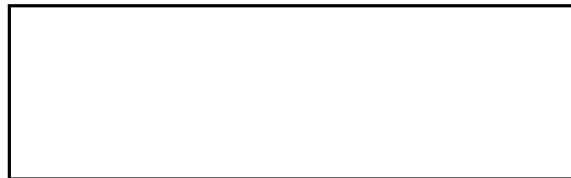
25X

4. Conclusions and Recommendations:

a. The color print material received from [ ] on PAR 242 is unsuitable for comparison purposes since it cannot support the implied advantages or disadvantages of the several materials. as shown by the briefing boards obtained for the Color Reproduction Study, PAR 213. It is recommended that [ ] be required to furnish a solution whereby the print materials prepared under PAR 242 can be used to support the advantages or disadvantages of the various materials and methods as shown by the briefing boards prepared by them under PAR 213.

25X

25X



25X

*A.H.*  
*By*

Distribution:

- Original - Project Files/DB(#997376)
- 2 - DB - Chrono

clc

X1

X1

25X1

Approved For Release 2004/07/29 : CIA-RDP78B04770A000800160002-6

Approved For Release 2004/07/29 : CIA-RDP78B04770A000800160002-6