File Out "O" OX

24 May 1961

MEMORANDUM FOR : Mr. Kiefer

1. The formula for lens film combination resolution is:

$$R = \sqrt{\frac{1}{R_F^2} + \frac{1}{R_L^2}}$$

However, the following formula will give a quick close check on lens film resolution and this I have used:

$$\frac{1}{R} = \frac{1}{R_F} + \frac{1}{R_L}$$

2. Using available film data and the following for the 48 inch F5.6 lens, we find the resolution and exposure capability as indicated:

T stop 6
Lens Resolution 180 lines lpm, low contrast (2:1)

3. SO 132 film, limiting resolution 225 lpm, high contrast (1,000:1)

$$\frac{1}{R} = \frac{1}{180} + \frac{1}{225}$$

$$\frac{1}{R} = \frac{180 + 225}{180 \times 225}$$

$$\frac{1}{R} = \frac{405}{40500}$$

$$R = \frac{40500}{405} \quad \text{OR} \quad 101.25 \text{ lpm.}$$

4. SO 130 film, limiting resolution 160 lpm, high contrast (1,000:1) will give a lens film resolution of 96 lpm.

5. Employing the above, we find that we can use the 48 inch F56 lens under the following conditions:

Shutter Speed	SO 132		SO 130		SO 102	
	Sun∠	Res.	Sun∠	Res.	Sun ∠	Res.
1/50	15°up	101.25	5°up	96	5°up	63
1/125	20°up	101.25	5°up	96	5°up	63
1/250	do not use	Low	7°up	96	5°up	63

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[redacted]
Major USAF

DPD-3105-61

23 May 1961

Dear Bill,

Enclosed are copies of HK Service Bulletins pertaining to the B Configuration. These bulletins are forwarded for your retention for the duration of the project.

Sincerely,

SIGNED

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Enclosures:
As cited

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