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FY-66 Quarterly Report No. 4

997205

PAR 233

31 May 66

SUBJECT: Zoom (6X to 60X) Projection Lens for Monochromatic Light

TASK/PROBLEM

1. Investigate the possibility of designing a 6X to 60X Zoom Projection Lens for Monochromatic Light.

DISCUSSION

2. Following a visit by the customer's representative on 28 Feb 66, our lens designers found that the use of a "light flint" glass in place of the "dense flint" considered previously could increase the system transmittance to the order of 50% at 3560A. The possibility of using this glass is provided by attempting correction of the system for a narrower spectral range (3600A to 3700A) than previously considered.

3. On 22 Mar 66, a contractor's representative visited the customer's facility to review this project, among others. It was pointed out in that conference that the UV-sensitive screen proposed for use with this lens is not an amplifying (image-intensifier) screen; hence, the energy radiated from the screen as an image is supplied entirely by the projected energy upon the screen. In this case, the large f-number (small aperture) of the proposed zoom system as observed from the screen may produce an image too dim for photo-interpretation use, even with transmittance at 50%.

4. The customer has directed the contractor to do no further work on this project until directed to do so.

PLANNED ACTIVITY

5. No further work will be done on this project until the customer so instructs.

Declass Review by NGA.

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4 May 1966

COMMENTS ON P&DS MEMORANDUM FOR THE RECORD, 6-1343
CONCERNING PAR 233, ZOOM PROJECTION LENS STUDY,
DATED 3 MAY 1966.

K1 I recommend that PAR 233 not be "terminated", but instead be held active for an indefinite period under a stop-work condition at no cost to Contract. We would then be in a position to terminate at any time, but have the additional advantage of being able to continue work immediately whenever we receive a breakthrough on any of the items mentioned in the basic memorandum.

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Development Branch, P&DS

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This note and referenced memorandum is being routed to:

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following action)

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NPIC/P&DS/D/6-1343
3 May 1966

MEMORANDUM FOR THE RECORD

SUBJECT: Termination of Contract [redacted] Zoom Projection
Lens Study, with [redacted]

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1. Work on PAR 233, an investigation of the feasibility of a 6X to 60X zoom projection lens for monochromatic light, was authorized on 10 May 1965. The total estimated cost of [redacted] was drawn from FY-1964 funds.

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2. In late February 1966, the principal investigator, [redacted] [redacted], tentatively discontinued all work on the project after encountering several technological barriers. On 4 March 1966, NPIC/P&DS cabled approval of his decision, pending re-evaluation of the project.

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3. Difficulties have also plagued other projects directly related to PAR 233. These projects provide potential applications for the subject zoom projection lens. Their current status is as follows:

a. Spectral region requirements for the ultra-violet, phosphor projection screen being developed at [redacted] have not yet been determined and so cannot be defined for the projection lens.

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b. The [redacted] Virtual Image Viewer may utilize a zoom system for monochromatic light, but problems associated with diffraction grating production have hindered its final acceptability.

c. A third possible application of PAR 233 was in conjunction with an image intensifier screen. This area, too, has so far yielded incomplete results, especially the [redacted] Polarized study of the dipole re-orientation technique.

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4. Until at least one of the above programs has been successfully completed, a usable narrow spectral band cannot be defined, and the problems with PAR 233 cannot be alleviated.

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5. In view of the current technological impasse, P&DS/DB/ISS recommends that PAR 233 be terminated.



Development Branch, P&DS

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Orig - Project File (99720-5)

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