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NPIC/TDS/D/6-1721  
19 December 1966

MEMORANDUM FOR: Chief, Development Staff, TDS

THROUGH: Chief, Exploitation System Branch, DS

SUBJECT: Evaluation of Phase I of Contract [REDACTED]

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REFERENCE:

A. Technical Proposal entitled "Micro-Stereoscope" by [REDACTED] dated 11 February 1965

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B. Design Phase I Report of Contract [REDACTED] dated 14 November 1966

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C. Addendum to Contract [REDACTED] dated 21 November 1966

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D. Budgetary Figures for Production of Quantities of the Micro-Stereoscope dated 21 November 1966

1. The subject contract is for the design and development of an Advanced [REDACTED] Microstereoscope as outlined in Reference A. The contract as negotiated on 28 June 1965 was divided into two phases; Phase I the design, which was to be delivered by 28 September 1965 and Phase II, the completed instrument due six months after approval of the design phase.

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2. After many delays, the Phase I report -- Reference B -- has finally been completed. This document describes an instrument somewhat different from that described in Reference A; however, there are certain features that make the instrument sufficiently attractive to warrant a complete evaluation.

3. The instrument outlined in Reference B must be evaluated in relation to existing equipment that most nearly meets the original objectives. The only microstereoscope that is presently available that in some respects meets these objectives is the [REDACTED] stereoscope; therefore, the Phase I report will be evaluated relative to this instrument.

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Declass Review by NIMA / DoD

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GROUP 1  
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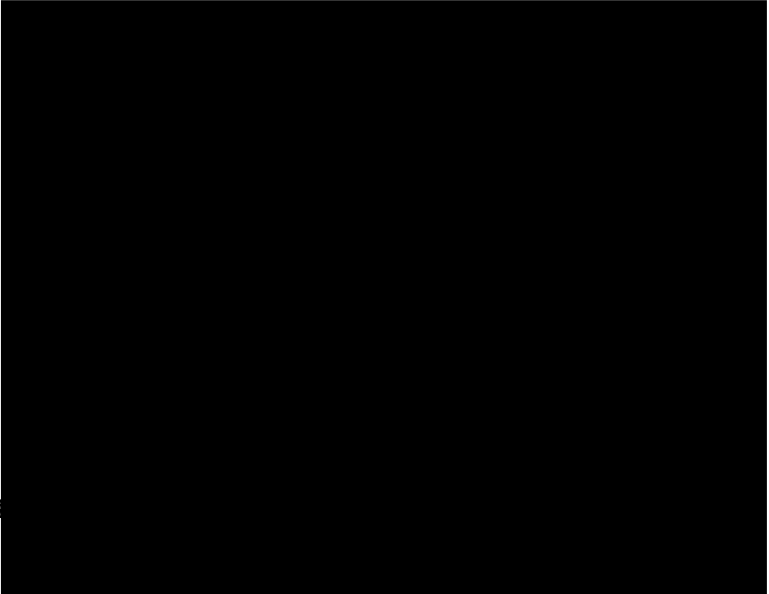
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4. The significant features of the proposed microstereoscope that are not available on the [REDACTED] Stereoscope are shown in the following table.

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FEATURE

- Magnification range
- On axis resolution
- .7 field resolution
- Edge of field resolution
- Height of eyepoint above object plane
- Capability of tilting eyepieces
- X image separation
- Y image separation
- Polaroid camera attachment
- Binocular viewing through rhomboids



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The ability of the operator to position the rhomboids over a greater percentage of the object area in relation to a fixed viewing position is a significant advantage which the [REDACTED] design possesses over the [REDACTED] instrument.

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5. The table shows that the proposed instrument has the potential of being superior in some respects to the [REDACTED] Stereoscope. Reference C outlines three methods by which the optical design can be further optimized to increase the optical performance of the proposed design. Reference D estimates that the unit cost of the microstereoscope should be [REDACTED] in quantities of 100 units. This is comparable to the [REDACTED] cost of the [REDACTED] Stereoscope.

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6. Because of the extensive delays in the past, doubts of [REDACTED] technical competence to fabricate the instrument, and [REDACTED] high production cost estimate, the following program is recommended for completion of this development:

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A. Termination of the subject contract with [REDACTED] at the end of Phase I.

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B. Submission of the Phase I report to [REDACTED] both under consulting arrangements with [REDACTED] NPIC -- for their evaluation. Both will be asked to comment on the technical significance of the design and to give their best estimate of production costs.

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C. If it is determined that the instrument could probably be produced for a cost substantially under that estimated by [redacted] and that the design represents a significant improvement, then it is recommended that the Phase I report be sent to various optical companies requesting a proposal to complete the project. In addition, they would be required to give firm costs for production quantities.

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D. The Phase II development could be specified as a fixed price supply contract. The contract should specifically require the instrument to be designed in accordance with Reference B; however, the table listed below should be the performance criteria for an acceptable instrument.

HIGH CONTRAST RESOLVING POWER

USING 10X WIDE FIELD EYEPIECE

	Total Mag.	Axis	.5 Field	.7 Field	1.0 Field
1X OBJECTIVE					
1X Zoom	10X				
2X Zoom	20X				
4X Zoom	40X				
2X OBJECTIVE					
1X Zoom	20X				
2X Zoom	40X				
4X Zoom	80X				
4X OBJECTIVE					
1X Zoom	40X				
2X Zoom	80X				
4X Zoom	160X				

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IN LINE PAIRS/MM. ( ) LP/MM/MAG.POW.

E. In order to insure the availability of this instrument at the price quoted by the successful bidder, an option should be written into the Phase II contract that would allow the Government to purchase the microstereoscope for no more than this price anytime prior to five months after acceptance of the prototype developed under the Phase II contract.

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7. The reasons for this recommendation are as follows:

A. [REDACTED] has had sufficient time (and funds) to determine if the system outlined in Phase I is feasible. If their cost data is correct the proposed instrument does not offer sufficient overall benefit to justify the investment.

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B. The time delays in the Phase I effort have been intolerable. Over sixteen months were required to complete the originally scheduled three month effort.

C. Because this instrument provides only marginal improvements over existing microstereoscopes, the fabrication of this instrument can only be justified if the price of production units is appropriately competitive with existing equipment.

D. [REDACTED] has proven to be financially and organizationally unstable.

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E. [REDACTED] has proven to be a definite security problem; e.g., using one of our contracts as collateral for a loan; an illegal procedure.

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8. Contract No. [REDACTED] stipulates that an evaluation of the contractor's performance will be made after each phase. The technical performance of Phase I has been good; however, the overall rating of this phase can be no greater than adequate because of the serious and unreasonable delays incurred and the fact that [REDACTED] failed to design an instrument that they could produce for a reasonable price. The duration of Phase I was originally scheduled for three months, but it required over sixteen months to complete or over five times the scheduled time. Therefore, the fee for this phase should be no more than the minimum of 6%.

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[REDACTED]

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Development Staff, TDS

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