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Approved For Release 2005/02/17 : CIA-RDP78B04770A001000030051-3

13 January 1966

EVALUATION OF FINAL REPORT ON PAR 217

Background

25X1 PAR 217 of Contract [ ] was concerned with the optimization of  
the laser for photographic purposes. Its basic task was to explore  
25X1 the production of 0.5 micron wavelength (blue-green) laser radiation  
25X1 by harmonic doubling in certain bi-refrangent crystals, those of  
25X1 ammonium di-hydrogen phosphate (ADP) and potassium di-hydrogen  
phosphate (KDP). [ ] undertook the problem on 2 March 1964  
and completed the work on 12 October 1965 at a cost to the Government  
[ ] The primary objective of this program, as defined at  
the outset [ ] was "a final report discussing in detail all investigation  
and tests accomplished." Special emphasis was to be placed upon  
reporting: (1) the knowledge gained regarding the combination of a  
laser with a harmonic doubling crystal element as a source of coherent,  
visible light radiation; (2) the data organized regarding the use of the laser  
with a variety of photographic sensitized materials; and (3) recommendations  
regarding the breadboarding and building of prototype equipment to  
support the photo-exploitation community.

Evaluation

25X1 1. An entirely accurate appraisal of the worth of this contract  
and its final report will be most difficult to make. Due to concurrent  
advances in the state-of-the-art regarding lasers, several aspects  
of the prescribed course of study became unavoidably obsolescent during  
the contract period, while other features retained their original  
significance throughout. In particular, the development of an operational,  
continuous wave, gas laser, which radiated in the blue-green wavelength  
area virtually eliminated the necessity of resorting to the harmonic  
doubling process with its consequent flicker fusion of discrete pulses  
from the neodymium-doped, borate glass laser. In view of the above  
unforeseen circumstances, it would be both unfair and inaccurate to  
judge [ ] work solely upon an absolute value basis. Their work  
will be evaluated according to the successes and/or failures experienced  
in approaching their objectives as originally stated.

2. The final report does not reflect inputs from other sources  
associated with similar studies; a literature search in the required  
depth would have helped the study.

3. The laboratory-oriented portion of the study was a competent effort  
as far as it went. Unfortunately, it was cut short by the unreported

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(Enclosure #4)

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Evaluation, continued.

re-allocation of equipment to another project during the re-examination of the goals on this program. Prior to that time, [ ] had successfully completed the initial, mechanical problem-solving stage in achieving operation of the glass laser with harmonic doubling element. Aside from a theoretical error in some crystallographic considerations and the consequent backtracking in experimental procedure, this phase of the contract seems to have progressed well with some meaningful results. In fact, its description occupies the bulk of the Final Report. Subsequent to this phase were scheduled the photographic tests which promised to yield the results of greatest potential interest to us. These tests, involving image quality and a variety of sensitized materials, however, were virtually eliminated by [ ] all because of rather tentative findings obtained from PAR 216. The lone area to receive any detailed attention was that of beam uniformity, only preliminary results were obtained, however, and no significant quantitative parameters or probable causes could be determined. That the beam would vary in spatial intensity was expected; the correction of this phenomenon is a real photographic concern and a known problem area.

25X1

4. [ ] discussion of the conversion efficiency aspects of the second harmonic technique for the generation of visible, coherent radiation is valid. The necessity of such a high energy, low efficiency method of lasing has become outmoded, however, and even at the time of this contract, [ ] sole recommendation that we expect a moderately priced, continuous wave, blue-green, gas laser soon to be commercially available was a foregone conclusion.

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(Enclosure #4, continued)

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*AVAILABLE*

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Next 1 Page(s) In Document Exempt

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AL 16-100053-1

27 January 1966

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[REDACTED]

I have received your letter of 3 January, together with its attachment "NPIC Evaluation of PAR 211", dated 30 December 1965. Because of the wording of this evaluation as well as your informal forwarding of it, I am sure you do not desire a sentence by sentence commentary on it.

One of the misconceptions that came up early in the life of this contract was that the services of our Research Laboratory were being bought. I have tried in the past to make it quite clear that this Company will not accept work under contract for any research involving photo-sensitive materials or processes. We might attempt to determine, under contract, what material, process, equipment or combinations of these would best solve a customer problem. Nevertheless, this misconception continues and you could go a long way in establishing rapport between us if you could eliminate it.

I think I would disagree that the processing of the camera films is not of interest to NPIC. Anything which affects NPIC's ability to extract information from the film should be of importance to NPIC even though they may not perform the operation in their own house.

It is true that we had planned to do work on the duplicating films 8430 and 5427. In fact, in our report on 26 February 1965, we indicated that we were ready to start work on these films. By this date, however, we were not only close to our authorized expenditure but were well aware of the feelings of your office concerning our efforts. The stop work order, while formalized in a letter dated 27 April 1965, had been implied in telephone calls and conferences much earlier. The three supplements to this PAR were prepared as a result of specific requests from your office but were not approved upon submission.

I am surprised that there is a complaint that the Final Report includes data previously reported in quarterly and monthly reports. I guess I just thought this was a common practise to collect all of the data even though it might have been mentioned previously.

While your evaluators recognize the circumstances, they apparently failed to realize that what they were reading was a "Termination" rather than a "Final" report. We would be the first to agree that we had not completed the job we had planned to do.

  
E. L. G.

ELG:meo

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DTB PLAAAS

4P

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OUT 57590

20 JAN 21 1972

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[Redacted]

CONTRACTS

ACTION COPY

25X1

1. CONTRACT [Redacted] WAIVE FORMAL REQUIREMENT TO PREPARE FINAL REPORT ON PAR 202/224 BRIEFING PRINT ENLARGER IN VIEW OF FOLLOWING FACTORS: (1) WE HAVE ALREADY AUTHORIZED YOU TO PROCEED WITH PROTOTYPE (2) SAVING OF TIME, EFFORT, AND COSTS WHICH COULD NOW BE APPLIED TO PROTOTYPE PHASE (3) YOUR EXTENSIVE BRIEFINGS AND DEMONSTRATIONS OF BREADBOARD BPE (4) THE ACCEPTANCE QUALITY OF THE PRINTS AND (5) THE DESIRE TO EXPEDITE MANUFACTURING OF SUCH A DEVICE. WE WISH TO INCLUDE CERTAIN SPECIFICATION AGREEMENTS UNDER PAR 243 AND WILL DISCUSS THEM WITH YOU DURING 31 JAN VISIT.

25X1

2. NEW SUBJECT. YOU ARE AUTHORIZED TO CHARGE COST OF LEAD TAB EXPERIMENTS OF RT-24 TO PAR 238 EQUIPMENT INSTALLATION NOT TO EXCEED

[Redacted]

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[Redacted]

25X1

-END OF MESSAGE-

4

File # 997164

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GROUP 1 Excluded from automatic downgrading and declassification

**MATERIEL INSPECTION AND RECEIVING REPORT** (DOMESTIC)  
 1. **Z-3345** Job **11/217**  
**Approved For Release 2005/02/17 : CIA-RDP78B04770A001000030051-3**  
 5. OFFICE ADMINISTERING CONTRACT C. INSPECTION OFFICE  
 7. CREDIT VOUCHER OR FILE NO.

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6. AGENCY PLACING ORDER ON SUPPLIER—CITY—STATE  
**Project Headquarters, Washington, D. C.**  
 10. NAME OF PRIME CONTRACTOR—CITY—STATE

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14. SHIPPED TO—MARK FOR  
**AI-15-100939-5**

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16. SHIPPER FOREIGN NO. **65-ZI-373**  
 17. CURRENCY USED ON CONTRACT  
 A. PARTIAL B. FULL  
 18. GROSS WEIGHT / NET WEIGHT  
 90 lbs.

20. DATE SHIPPED **12-13-65** 21. SEAL NUMBERS 22. P/L OR REGISTRATION NO. 23. CAR NO. 24. ROUTING **Mil Air**

CONTRACT ITEM NUMBER	STOCK AND/OR PART NUMBER AND DESCRIPTION OF ARTICLES <small>(Indicate no. of shipping containers—Type of container—Container no.)</small>	UNIT OF MEAS.	QUANTITY SHIPPED	QUANTITY RECEIVED	USED	TOTAL QUANTITY
25	26	27	28	29	30	31
	Fractional H.P. Eaton Adjusto Speed Gearhead Motor 1 H. P., 3300-65 RPM, 220V, 3 phase, 60 cycle; with an integral Gearhead 20 to 1 ratio and an integral FR-1 Transistor control.  Replacement Motor  For use with RT-12R Processor P/N 1-220-E-001, Serial No. 101  1 of 1 Boxes  PLEASE SIGN AND RETURN THREE (3) COPIES	EA.	1			

32. APPROPRIATION 33. INVOICE ROUTING

25X1

A. I CERTIFY THAT THE ITEMS LISTED HEREIN HAVE BEEN INSPECTED BY ME OR UNDER MY SUPERVISION. THEY CONFORM TO CONTRACT, AND HAVE BEEN ACCEPTED, EXCEPT AS NOTED.

DATE \_\_\_\_\_ SIGNATURE OF AUTHORIZED GOVERNMENT REPRESENTATIVE \_\_\_\_\_

(Typed name of Inspector)



**SECRET**

*For*  
*F*

IN 2341

25X1 SECRET 092140Z

125 NOV 13 05 59Z

[Redacted]

1. DUE TO COMPLICATED NATURE OF THE MATERIAL TO BE PRESENTED, FOR EXAMPLE, SAMPLES OF MOIRE PATTERNS, WE FIND WE HAVE NOT HELD BACK SUFFICIENT FUNDS IN PAR 207 TO COVER THE FINAL REPORT.

2. ESTIMATE TOTAL COST TO COMPLETE WILL BE [Redacted] ADDITIONAL. HAVE STOPPED WORK PENDING YOUR APPROVAL TO PROCEED.

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END OF MESSAGE

**ACTION COPY**

**4**

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[Redacted]

*File # 997164*

PLANS & DEVELOPMENT

CABLE ROUTING

ASST \_\_\_\_\_

ASST *[Signature]*

C/PLANS \_\_\_\_\_

C/EDL \_\_\_\_\_

C/DEV *[Signature]*

RETURN TO O/ASST

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downgrading and  
declassification

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[Redacted]

P&DS/DB  
3308  
12 November 1965

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[Redacted]

[Redacted]

X

[Redacted]

[Redacted]

[Redacted]

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[Redacted]

INCREASE IN FUNDS APPROVED FOR COMPLETION PAR 07,

END OF MESSAGE

[Redacted]

Asst/Operations, NPIC

[Redacted]

Asst/P&DS

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