



OSA -2702-67

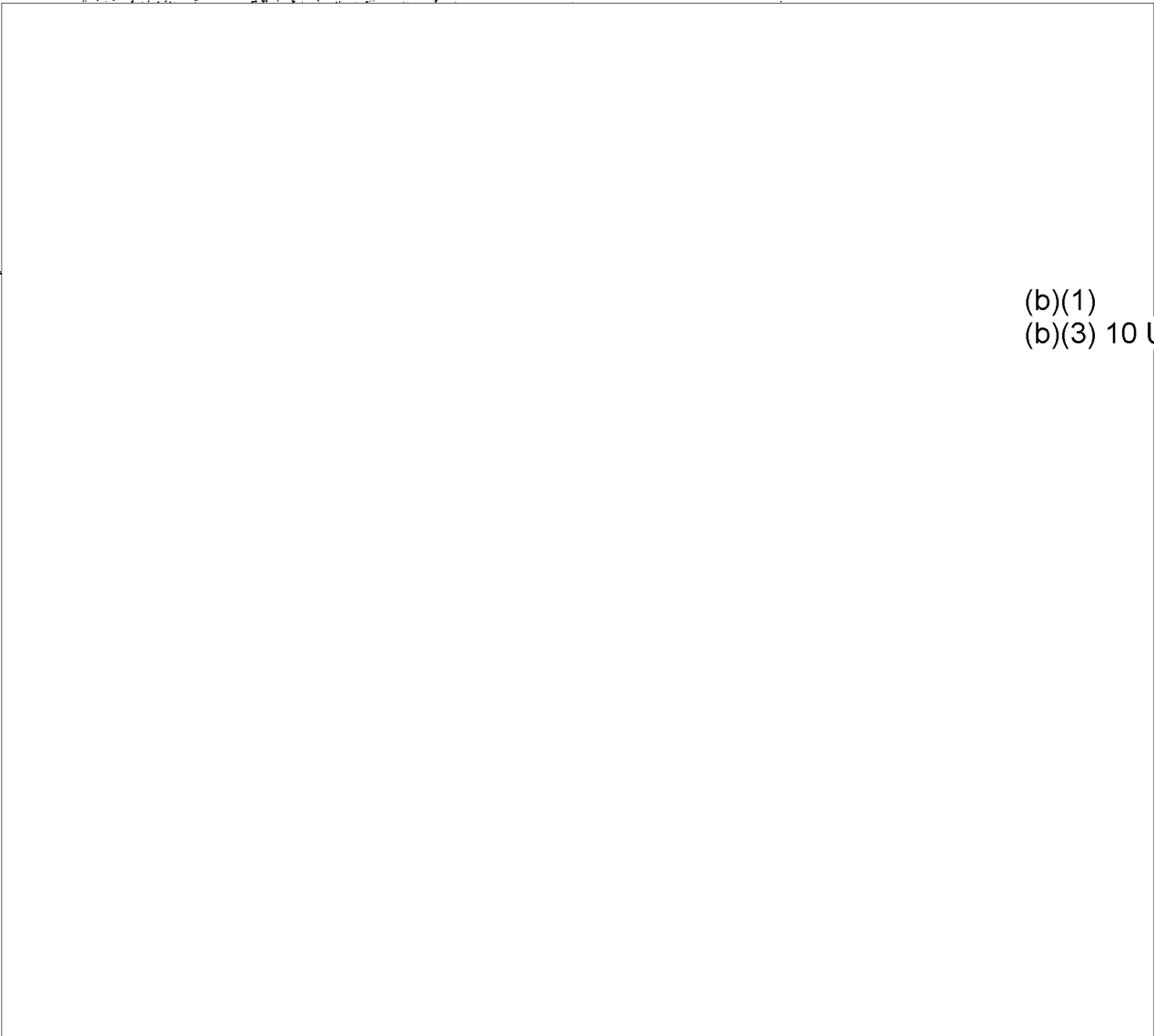
29 May 1967

*This Proposal
Incorporated by
Am # 4*

ATTN: (b)(3)

SUBJECT: Contract No. NOW-66-0453
File No. JG-1969

Gentlemen:



(b)(1)
(b)(3) 10 USC 130

29 May 1967

Page 2

(b)(3)

modification necessary for installation of the system. The system electronics will be redesigned and constructed to fit within the remaining available space. Preliminary investigations of the weight and center of gravity of the loaded aircraft have shown that the aircraft limits will not be exceeded. The system electronics to be installed in the aircraft will be designed for minimum operator requirements. Electronic installation time will be minimized and system calibration will be automated.

Flight testing will start immediately after aircraft modification and system installation are complete, approximately 6 weeks after notification of program extension. These flight tests, in addition to obtaining operational experience, will be planned to determine the system limitations due to dynamic operation. System response to movement of control surfaces and cables, aircraft maneuvers, other aircraft noises, and geological formations will be studied. Correlation of aircraft system response with ground tests (i.e., response patterns, range parameters, and target parameters) will be examined.

In the event that the ground and airborne tests indicate that the [redacted] (b)(1)

[redacted] at the direction of the Contracting Officer, will design and build a prototype system for installation in a designated military aircraft. Approximately two months will be required for this design and fabrication.

The results of all tests under the existing contract have indicated that the active magnetic detection system, in its present form, is the most sensitive airborne magnetic detection system currently available. The purpose of this extension is to examine the operation of the system in a small, lightweight aircraft in which the targets of interest are those associated with limited war operations. For this evaluation, a time extension under the present contract of 6 months and an increase of funds of \$199,061 is requested. The enclosed cost estimate and work outline summarize the tasks to be performed under the extension.

Sincerely yours,

Wm. T. Flannery

WTF:mw

Enclosures

Not part of Am. #4 ju

(b)(3) 10 USC 130

PROGRAM OUTLINE

Objectives: Acquire data for the evaluation of the applicability of the
 technique to limited war operations.

(b)(1)

(b)(3) 10 USC 130

Approach: The evaluation will be performed under two parallel tasks:
(1) ground testing of an operational model; and (2) airborne testing
of system in light, single-engine aircraft.

I. Ground Testing

1. Response pattern
 - a. velocity, altitude ratio
 - b. system geometry
 - c. operating frequency
2. Range parameters
 - a. operating power
 - b. operating frequency
 - c. target size, orientation
3. Target parameters
 - a. material permeability, conductivity
 - b. critical frequency
 - c. target dimensions

II. Airborne Testing

1. System design
 - a. aircraft modifications
 - b. power requirements
 - c. electronic requirements
2. System fabrication
3. Flight tests (80 hours = 100 hours minimum flight time)
 - a. system limitations during flight
 - 1) movement of control surfaces and cables
 - 2) aircraft maneuvers
 - 3) aircraft noise (magnetic)
 - 4) geologic effects

- b. system response
 - 1) military targets (as available)
 - 2) geological formations

4. Flight — Ground Test Correlation

III. Operational Prototype (optional: as directed by Contracting Officer)

- 1. System requirements
 - a. aircraft type
 - b. available power
 - c. equipment location
 - d. electronic requirements
- 2. System design
- 3. System Fabrication

*Not part
of Am. #4
ju*

AND PRICE ANALYSIS - RESEARCH AND DEVELOPMENT CONTRACTS

FORM APPROVED
BUDGET BUREAU NO. 22 - R208
PURCHASE REQUEST NUMBER

This form is to be used in lieu of DD Form 633, as provided under ASPR 16-206. It will be executed and submitted with proposals in response to "Requests for Proposals," for the procurement of research and development services. If your cost accounting system does not permit analysis of costs as required, contact the purchasing office for further instructions.)

NAME AND ADDRESS OF OFFEROR The Electro-Mechanics Company	TITLE OF PROJECT The Extension of the Electromagnetic Active Detection Technique (Total)
---	--

DETAIL DESCRIPTION

1. DIRECT LABOR (Specify)	ESTIMATED HOURS	RATE/HOUR	TOTAL ESTIMATED COST (Dollars)
Engineering:			
Electronic Engineers	4,695	5.75	26,996
Technicians	5,265	3.10	16,321
Draftsmen	330	2.50	825
Shop:			
Mechanical Engineers	1,125	5.00	5,625
Draftsmen	430	3.10	1,334
Machnists	2,295	3.10	7,114
Other:			
Technical Typists	400	2.50	1,000
TOTAL DIRECT LABOR			59,215
2 BURDEN (Overhead - specify) DEPARTMENT OR COST CENTER	BURDEN RATE	X BASE =	BURDEN (\$)
Engineering	70	45,142	31,600
Shop	120	14,073	16,888
TOTAL BURDEN			48,488
3 DIRECT MATERIAL		EST COST(\$)	
TOTAL MATERIAL			25,000
4. SPECIAL TESTING (Including field work at Government installations)			
TOTAL SPECIAL TESTING			
5. SPECIAL EQUIPMENT (If direct charge - specify in Exhibit B, reverse)			10,000
6. TRAVEL (If direct charge)			
a. TRANSPORTATION		3,000	
b. PER DIEM OR SUBSISTENCE			
TOTAL TRAVEL			3,000
7. CONSULTANTS (Identity - purpose - rate)			
TOTAL CONSULTANTS			
8. SUBCONTRACTS (Specify in Exhibit A on reverse)			5,000
9. OTHER DIRECT COSTS (Specify in Exhibit D on reverse - explain royalty costs, if any)			100
10. TOTAL DIRECT COST AND BURDEN			150,803
11. GENERAL AND ADMINISTRATIVE EXPENSE (Rate % of item nos.)			30,161
12. TOTAL ESTIMATED COST			180,964
13. FIXED FEE OR PROFIT (State basis for amount in proposal)			18,097
14. TOTAL ESTIMATED COST AND FIXED FEE OR PROFIT			199,061

DD FORM 633-4 1 SEP 60