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THE JOINT CHIEFS OF STAFF
WASHINGTON, D. C. 20301

JCSM-103-68
17 February 1968

MEMORANDUM FOR THE SECRETARY OF DEFENSE

Subject: PACOM Requirement for Electronic Countermeasures Drones (S)

1. (S) In response to an urgent CINCPAC requirement for an accelerated electronic countermeasures (ECM) drone capability in Southeast Asia, the US Air Force was requested to develop a plan to provide an operational capability as soon as possible. The system would initially provide chaff screening and a random chaff target environment in direct support of tactical air strike forces within high threat surface-to-air missiles and anti-aircraft artillery areas of the NVN air defense. The system would also be used to inject confusion and delay to area defense fighter interceptors and ground control intercept controllers, to decoy enemy fighters into MIG traps set up by US forces, or to act as a diversionary force. The Air Force plan is contained in the Appendix hereto.

2. (S) The plan has been developed and is ready for execution with an initial operational capability 12 weeks after contract go ahead. It provides for 119 drones to be modified to provide a 40 sortie per month ECM capability. The development, procurement, and operational cost of the 12-month program is \$21.94 million. The initial concept is to utilize Air Force personnel for command control, flight crews, and air launches and contractor maintenance personnel for drone generation, maintenance, recovery, and repair.

3. (U) A portion of the resources required to initiate this program will be borrowed from existing systems. The loan of these resources from existing inventories will not reduce current operational capability nor delay other programs.

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| Copy No. <u>1</u> |
| Case No. <u>94-F-0533</u> |
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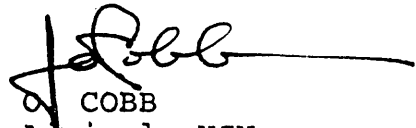
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4. (S) The Joint Chiefs of Staff believe that drones used as ECM platforms will provide a low-risk, high-confidence, electronic warfare capability that should significantly increase the survivability of strike aircraft in the heavily defended areas of Vietnam. The saving of seven strike aircraft would offset the entire program cost for one year. Improvements in chaff, dispensing techniques, and the advent of solid state expendable jammers and deception devices indicate that there is considerable future potential in the employment of this electronic warfare system.

5. (S) The Joint Chiefs of Staff recommend that you approve the following at the earliest practicable date for immediate execution:

- a. Authorization of additional funds of \$21.94 million for FY 1968 to support a one-year program.
- b. An increase of 91 personnel in theater ceiling.
- c. Authorization of 43 manpower spaces within the US Air Force.

For the Joint Chiefs of Staff:


J. O. COBB
Rear Admiral, USN
Deputy Director, Joint Staff

Attachment

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APPENDIX

REF: CHAIRMAN'S MEMORANDUM FOR THE CHIEF OF STAFF, USAF

CM-2891-68 9 Jan 68

CINCPAC MSG 21/2306Z NOV 67
"NEED FOR IMPROVED ECM IN SEA".

JCS MSG 3949 29/2249Z NOV 67
"REQUEST CINCPAC RECOMMENDATIONS"

CINCPAC MSG 19/2328Z DEC 67
"USE OF DRONES AS DISPENSING PLATFORM"

TASK: REQUEST AIR FORCE INVESTIGATE THE USE OF AIR LAUNCHED DRONES AS ECM PLATFORMS. DETERMINE IMMEDIATE QUICK REACTION CAPABILITY TO BE TAKEN TO PROCURE A SUFFICIENT NUMBER ECM DRONES FOR USE IN SEA.

(TWO PART TASK: CHAFF-ELECTRONICS).

THE JOINT STAFF WILL ASSIST IN REQUESTING SUPPORT OF OSD FOR FUNDING AND PRIORITY.

ANALYSIS: IT HAS BEEN DETERMINED THAT THIS PROGRAM IS TECHNICALLY AND OPERATIONALLY FEASIBLE.

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SOME FEATURES OF DRONES AS ECM SUPPORT
PLATFORMS

1. Test the combat environment with new ECM tactics and techniques.
2. Act as diversionary force or decoys for MIG traps.
3. Provide ECM support in high threat areas without giving up ordnance stations.
4. Maintain a planned profile (day or night, all weather) in altitude and course regardless of the hostile environment.
5. Maintain a sustained and flexible ECM harassing and degrading operation against the air defense without sacrificing tactical strike aircraft and crews.
6. Provide direct or indirect ECM support without endangering combat crews and expensive aircraft.

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EMPLOYMENT

- Immediate
 - + Provide Chaff Screening/Saturation/Confusion Capability for Tactical Air Strike Forces
 - Target Defenses VS SAM & AAA
 - Area Defenses VS GCI/ACQ Systems
 - + Divert SAM/AAA/FTR Defenses (MIG Bait)
 - + Trigger Defense Reaction for Recce
- Future
 - + Escort Strike Forces W/JX and Chaff
 - + Seed Area with Dispensable Jammers

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IMMEDIATE APPLICATION

- + Light Wt Chaff
- + Out of High Threat Area
- + Screen Entire Tgt Area
- + Provide Area Seeding

FUTURE APPLICATION

- + Improved Chaff
- + Parachute JX
- + Escort Strike Force with JX and Chaff Support
- + Saturate Defenses
- + EWO Support

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TWO PART PROGRAM

PART I

CHAFF

PHASE ONE - 75 Days

Modified Target Drone

ALE-2 POD Dispenser

QRC-370 Chaff

PHASE TWO - 180 Days

Same Drone

Same POD Dispenser

QRC-370 Chaff + Self Protection

PHASE THREE - 1 Year

Same Drone

New POD Dispenser

Improved Chaff + Self Protection

+ Active Chaff + Solid State JX

PART II

Penetration escort jamming support as ECM can
be made available and/or developed for drones.

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CONCEPT OF OPERATIONS

COMMAND AND CONTROL

1 Unit ASSIGNED TO TAC/PACAF/7AF

MISSIONS: Timed to strike sorties

Planned locally

Executed by 7AF

LAUNCH: Assign/modify two C-130A aircraft

Borrow two from SAC during interim

Two DC-130A aircraft at OL

Each launch four drones

MCGS control

DRONES: Modified BQM-34A target drones

147NA Air/Ground control (MCGS)

147NC Air/Ground/Internal control (MCGS)

All pods can be jettisoned

Land/Water non-MARS recovery

PERSONNEL: Air Force Commander/Staff/Aircrews

Contractor maintenance

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TIMING
(WEEK)

ARO 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24

BQM INPUT (119) 34 16 5

147NA (24) 1 1 2 2 3 3 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2

TEST < 4 FLTS >

CHAFF TEST 2 FLTS

SURVEY * 2 2 2 2 3 2

147NC (95) X

AGE

AIRCRAFT LOAN #1 < MINOR MOD > #2 < MAJOR MOD 28 > NEW #1 < MAJOR MOD > #2 < MAJOR MOD 31 >

CHAFF 80 CART. X X X X X X X CHAFF 150 CART. X X X X X X X

ALE-2 PODS 68 32 10

IOC *

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SORTIE CAPABILITY

24 147 NA DRONES

24 DRONES (TOTAL)
x 4 SORTIES PER DRONE
 96 SORTIES
+ 4 DRONES PER CHAFF DROP MISSION
 24 DAY CAPABILITY
÷ 2.5 MONTHS
 10 MISSIONS PER MO. (4 DRONES P/M)

95 147 NC DRONES

10 DRONES (PER MONTH)
x 4 SORTIES PER DRONE
 40 SORTIES PER MONTH
÷ 4 DRONES PER CHAFF DROP MISSION
 10 DAYS CAPABILITY PER MONTH

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PROGRAM COST
(First Year)

147 Drone

| | |
|--|----------------|
| Non-Recurring Engineering | \$ 810,000 |
| Non-Recurring Tooling | 650,000 |
| O.L. Location Support - One Year | 1,815,000 |
| 24-147NA \$17,000@ | 408,000 |
| 95-147NC \$34,000@ | 3,230,000 |
| Spares (Incl FSN \$593,000) | 1,900,000 |
| AGE (Incl AGE Spares) (Incl FSN \$163,000) | <u>830,000</u> |
| | 9,643,000 |

MCGS

| | |
|------------------|---------------|
| One TPW-2 | 325,000 |
| Spares | 300,000 |
| 119 APW-25 Units | 833,000 |
| AGE | <u>64,000</u> |
| | 1,522,000 |

CFAFF

| | |
|------------------------|----------------|
| QRC-370 (1000 Cartons) | 350,000 |
| Active Chaff | <u>200,000</u> |
| | 550,000 |

LAUNCH AIRCRAFT

| | |
|-------------------------|--------|
| DC-130 497 MOD (4 PODS) | 54,000 |
| DC-130 496 MOD (4 PODS) | 56,000 |

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LAUNCH AIRCRAFT (Cont)

| | |
|---------------------------------|------------------|
| MOD 2 Replacement ACFT (2 PODS) | <u>1,570,000</u> |
| | <u>1,680,000</u> |
| | \$13,395,000 |
| BQM-34A | |
| Replacement 119 \$55,000@ | <u>6,545,000</u> |
| BUDGET ESTIMATED PROGRAM COST | \$19,940,000 |
| POSSIBLE PROGRAM INCREASE - 10% | <u>2,000,000</u> |
| TOTAL PROGRAM COST | \$21,940,000 |

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ESTIMATED SECOND YEAR COST

147 Drones

| | |
|------------------------|---------------|
| 120 147 NC (\$31,000@) | \$3,720,000 |
| Spares | 1,900,000 |
| OL Support - One Year* | -0- |
| AGE Spares | <u>80,000</u> |
| | 5,700,000 |

MCGS

| | |
|-----------------------|----------------|
| 120 APW-25 X \$7,000@ | <u>840,000</u> |
| | 840,000 |

BQM-34A

| | |
|-----------------|------------------|
| 120 X \$55,000@ | <u>6,600,000</u> |
| | <u>6,600,000</u> |
| | \$13,140,000 |

*NOTE: Air Force Personnel Perform Drone Maintenance.

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CONCLUSIONS

HIGH CONFIDENCE IN CONCEPT

LOW RISK PROGRAM - TECHNICAL/TIMING

SYSTEM CAN PROVIDE AN IOC 12 WKS ARO

OFFERS DEEP PENETRATION JAMMING CAPABILITY

OPERATIONAL FLEXIBILITY

AIR FORCE SHOULD PROVE CONCEPT

PROGRAM GROWTH - NEW EQUIPMENT

EWO MISSION

IF THE PROGRAM CAN SAVE 7 F-4C AIRCRAFT IT WILL PAY FOR ONE YEARS
TOTAL COST.

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