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Project Planning Guidance PMA Part I 2160/TMD Existing System Modifications

1.0 BMDO Point of Contact

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1.1 Project Overview

This project is responsible for implementing non-MDAP modifications to current and existing systems that result in fielded improvements to TMD capabilities. This project consists of three programs; Cueing and Netting, TALON SHIELD, and the Extended Airborne Global Launch Evaluator (EAGLE).

1.2 Project Task Summary

TASK 01 - Cueing And Netting

This program will complete development of software and hardware modifications for PATRIOT which will allow PATRIOT to receive and process cueing data from national sensors such as DSP through JTAGS, TALON SHIELD, and theater sensors such as the TPS-59. These cues allow early track initiation and allow planning for multiple shot engagements.

TASK 02 - TALON SHIELD

TALON SHIELD is a program to receive and process DSP and other national intelligence data on TBM events and to provide timely warning of launch point, time, azimuth, and impact point prediction to tactical units. Processing equipment is located at the NTF. This program is related to Army JTAGS and Air Force ALERT programs.

TASK 03 - EAGLE

EAGLE is a complementary program to TALON SHIELD that will develop and field TBM detection, tracking, and cueing systems aboard Air Force E-3 AWACS aircraft. Consisting of a passive infrared search and track sensor and an eye-safe laser ranger, EAGLE will provide precise cues to deployed GBR and SPY-1 fire control radars as well as improved estimates of TBM launch points and impact points. These cues enable earlier TBM acquisition and

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interceptor launch, yielding earlier intercepts and a dramatic increase in the interceptor defended area (footprint), while the improved estimates of TBM launch and impact points increase the effectiveness of attack operations (counterforce) and passive defense operations. The EAGLE sensor will detect and track boosting TBMs before booster burnout (BBO). Target trajectory messages will be broadcast over the JTIDS communication link shortly after TBM BBO. EAGLE will also mitigate the adverse effects of jamming and severe weather on ground-based radar, and because EAGLE is self-deployable, it will relieve airlift requirements during the early stages of a conflict for theater deployment of a ground-based capability to process space sensor information. An EAGLE prototype will be fielded aboard the AWACS TS-3 test aircraft to support flight testing and evaluation, concept demonstration, and to provide a limited contingency support capability similar to that provided by JSTARS during Desert Storm.

This task will also support the development and fielding of the EAGLE system by:

a. Using surrogate sensor platforms (e.g., AST, Cobra Ball) in field exercises, field tests, and test events to demonstrate AWACS EAGLE operational utility, facilitate EAGLE joint service TMD integration planning, and evaluate and refine EAGLE Joint service interface requirements and procedures for providing TBM target cues, launch point estimates, and impact point predictions.

b. Evaluating and refining AWACS EAGLE specifications (e.g., field of regard requirements), employment concepts, and operational procedures (e.g., procedures for providing target cues to TMD-GBR and SPY-1 fire control radars) using real-time, interactive joint service theater air defense simulations at the Air Force Theater Air Command and Control Simulation Facility (TACCSF).

c. Employing the Advanced Research Projects Agency (ARPA) Airborne Infrared Measurements System (AIRMS) test aircraft to collect flight test data appropriate to demonstrate the planned AWACS EAGLE concept of operations (in doing so, the AIRMS test target will view theater ballistic missile (TBM) surrogate targets or targets of opportunity under operating conditions comparable to those expected for the AWACS EAGLE sensor system).

d. Conducting studies and analysis of TBM IR detection and tracking issues that are relevant to the definition of AWACS EAGLE technical requirements and concept of operations.

1.3 Project Task Baselines

FUNDING (Updated via issuance by POF of revised Current Program Summary (CPS))

Task Number	Program Element	FY95	FY96	FY97	FY98	FY99	FY00	FY01
2160.01	0603872C	0.998	1.990	0.000	0.000	0.000	0.000	0.000
2160.02	0603872C	3.974	4.976	4.000	2.917	0.000	0.000	0.000
2160.03	0603872C	10.729	19.903	21.000	11.666	14.537	0.000	0.000
Total Project Funding		15.701	26.869	25.000	14.583	14.537	0.000	0.000

Note: This document does not constitute authority to commit or obligate funds.

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2.0 Executing Agent Breakout

Task 01 - U. S. Army
 Task 02 and 03 - U. S. Air Force
 Task 03 - BMDO

2.1 Executing Agent/Project/Task Managers - Army

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2.1.1 Scope of Requirements

TASK 01 - Cueing and Netting

In FY96, PATRIOT cueing software will be demonstrated in an operational environment to demonstrate its readiness for release in the next PATRIOT operational software version. A demonstration of the cueing capability will be performed at White Sands Missile Range, NM in conjunction with a scheduled missile launch in FY96. Only tactical data links/communications media will be used during this demonstration. Cueing information will be provided by JTAGS and the Marine Corps' TPS-59 radar.

2.1.2 EA Funding

(Updated via issuance by POF of revised Current Program Summary (CPS))

Task Number	Program Element	FY 95	FY96	FY97	FY98	FY99	FY00	FY01
2160.01A	0603872C	0.998	1.990	0.000	0.000	0.000	0.000	0.000
Total EA Funding		0.998	1.990	0.000	0.000	0.000	0.000	0.000

Note: This document does not constitute authority to commit or obligate funds.

2.1.3 EA Schedule and Supporting Program Requirements

SCHEDULE REQUIREMENTS

Key Events	Baseline Plan
Conduct Operational Cueing Demonstration	3Q/96

SUPPORTING TECHNOLOGY/PROGRAM REQUIREMENTS

Task Number	Deliverable	Need Date

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2.1.4 Products/Delivery

Task Number	Product/Delivery	Technical Parameter	Schedule Threshold/Goal	Verification Method	Success Criteria
2160.01A	PATRIOT Software Operational Demonstration	Cueing Capability	Threshold: 3Q/96 Goal: 2Q/96	Demonstration	Cueing message successfully received and forwarded.

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2.2 Executing Agent/Project/Task Managers - Air Force

<u>Name</u>	<u>Address</u>	<u>Telephone</u>
Task 02 - LtCol Marty Remedez	Space Warfare Center/DO Falcon AB, CO 80912-3422 USA	(719) 380-3423
Task 03 - Col Edward G. Taylor (Through AF/PEO C ³)	ESC/AW Hanscom AFB, MA 01731-2115 USA	(617) 377-5883

2.2.1 Scope of Requirements

TASK 02 - TALON SHIELD

TALON SHIELD is a program to receive and process DSP and other national intelligence data on TBM events and to provide timely warning of launch point, time, azimuth, and impact point prediction to tactical units. Processing equipment is located at the NTF. TALON SHIELD is available to support contingency missions. TALON SHIELD will provide a development test bed once ALERT becomes completely operational during 1Q/95. Improvements to the TALON SHIELD processors will continue into FY98. These improvements include the addition of additional sensors and software corrections.

TASK 03 - EAGLE

EAGLE is a complementary program to TALON SHIELD that will develop and field TBM detection, tracking, and cueing systems aboard Air Force E-3 AWACS aircraft. Consisting of a passive infrared search and track sensor and an eye-safe laser ranger, EAGLE will provide precise cues to deployed GBR and SPY-1 fire control radars as well as improved estimates of TBM launch points and impact points. The executing agent will release the EAGLE request for proposal (RFP), award the EAGLE contract, and monitor the contractor's performance during FY95-98.

2.2.2 EA Funding

(Updated via issuance by POF of revised Current Program Summary (CPS))

Task Number	Program Element	FY 95	FY96	FY97	FY98	FY99	FY00	FY01
2160.02F	0603872C	3.974	4.976	4.000	2.917	0.000	0.000	0.000
2160.03F	0603872C	9.400	19.903	21.000	11.666	14.537	0.000	0.000
Total EA Funding		13.374	24.879	25.000	14.583	14.537	0.000	0.000

Note: This document does not constitute authority to commit or obligate funds.

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2.2.4 Products/Delivery

Task Number	Product/Delivery	Technical Parameter	Schedule Threshold/Goal	Verification Method	Success Criteria
2160.03F	EAGLE Preliminary Design	As Per System Specification.	2Q/96	N/A	N/A
2160.02F	TALON SHIELD Phase II Processor Modifications	As Per System Specification.	4Q/96	N/A	N/A
2160.03F	EAGLE Final Design	As Per System Specification.	4Q/96	N/A	N/A
2160.02F	TALON SHIELD Phase III Processor Modifications	As Per System Specification.	4Q/97	N/A	N/A
2160.03F	EAGLE Prototype Installation On TS-3	As Per System Specification.	1Q/98	N/A	Successful Installation
2160.03F	EAGLE Prototype Flight Test Report	N/A	3Q/98	As Per EAGLE Test Plan	As Per System Specification
2160.02F	TALON SHIELD Operational Test Report	N/A	4Q/98	As Per Operational Test Plans	As Per Operational Test Plans

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2.3 Executing Agent/Project/Task Managers - BMDO

<u>Name</u>	<u>Address</u>	<u>Telephone</u>
Task 03 - LtCol Steven Petersen	BMDO Annex, Room 12010	(703) 604-0356

2.3.1 Scope of Requirements

TASK 03 - EAGLE

The EAGLE Demonstrations, Simulations, and Studies effort supports the development and fielding of the EAGLE system. This effort will employ AWACS EAGLE surrogate sensor platforms (e.g., AST, Cobra Ball) in field exercises, field tests, and test events to demonstrate AWACS EAGLE operational utility, facilitate EAGLE joint Service interface requirements, and finalize procedures for providing TBM target cues, launch point estimates, and impact point predictions. This task will use real-time, interactive joint Service theater air defense simulations at the Air Force Theater Air Command and Control Simulation Facility (TACCSF) to evaluate and refine AWACS EAGLE technical specifications (e.g., field of regard requirements), employment concepts, and operational procedures (e.g., procedures for providing target cues to TMD-GBR and SPY-1 fire control radars). This task will also employ the ARPA Airborne Infrared Measurements System (AIRMS) test aircraft to collect flight test data appropriate to demonstrate the planned AWACS EAGLE concept of operations. In doing so, the AIRMS test aircraft will view TBM surrogate targets or targets of opportunity under operating conditions comparable to those expected for the AWACS EAGLE sensor system. Additionally, this task will be used to perform studies and analyses of TBM IR detection and tracking issues relevant to the definition of AWACS EAGLE technical requirements and concept of operations.

2.3.2 EA Funding

(Updated via issuance by POF of revised Current Program Summary (CPS))

Task Number	Program Element	FY 95	FY96	FY97	FY98	FY99	FY00	FY01
2160.03S	0603872C	1.329	0.000	0.000	0.000	0.000	0.000	0.000
Total EA Funding		1.329	0.000	0.000	0.000	0.000	0.000	0.000

Note: This document does not constitute authority to commit or obligate funds.

2.3.3 EA Schedule and Supporting Program Requirements

SCHEDULE REQUIREMENTS

Key Events	Baseline Plan
None.	

SUPPORTING TECHNOLOGY/PROGRAM REQUIREMENTS

Task Number	Deliverable	Need Date
	None.	

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2.3.4 Products/Delivery

Task Number	Product/Delivery	Technical Parameter	Schedule Threshold/Goal	Verification Method	Success Criteria
	None.				

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3.0 Management and Reporting Requirements

Executing Agents performing work in support of this project will prepare and submit a Monthly Program Performance Status Report to the BMDO Project Integrator, with a copy to BMDO/POC (Attention PMA Operations). This report will provide the Executing Agent's assessment of the status of achieving the objectives and significant task events or deliverables stated within the signed PMA Part II (Execution Plan). The initial report will be submitted after the first full month following the approval of the Execution Plan. This report will be due by the 20th of the following month and each additional month thereafter.

The monthly commitments, obligations and expenditures, as well as the quarterly "accrued expenditures" reporting currently reported in the Financial Execution Report (FER), will continue. Specific guidance regarding Financial Execution Reporting is contained in BMDO Memorandum dated _____, 1996, Subject: Implementation of the FY96 Program Management Agreement Process.

4.0 References and Related Documents

None.