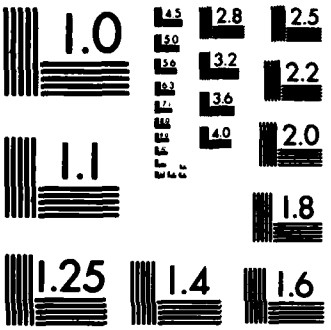
AD-A135 895 AQM-81A FIREBOLT(U) TACTICAL AIR COMMAND LANGLEY AFB VA 1/1
21 OCT 83

UNCLASSIFIED F/G 1/3 NL



DEPARTMENT OF THE AIR FORCE
HEADQUARTERS TACTICAL AIR COMMAND
LANGLEY AIR FORCE BASE, VA 23665

21 OCT 1983

TAC SUPPORT PROJECT ORDER: AQM-81A Firebolt

TAC PROJECT NUMBER: 84D-003T

TO: USAFTAWC/CC

1. INTRODUCTION: Supersonic subscale aerial targets are required for employment in weapons system development, test and evaluation, and training to simulate high performance aircraft and missiles. Due to lower procurement and operational costs, subscale targets are employed in missions where large quantities of targets are required and/or a fine degree of simulation of threat signature characteristics is not cost effective. The inherent signature characteristics of the subscale target may be augmented by Target Auxiliary System (TAS) devices to provide signature characteristics consistent with the test objectives. For threat cruise missile simulation, the subscale target signature characteristics provide a relatively fine degree of simulation without augmentation. As a result of extensive studies by the Air Force and Navy and successful completion of advanced development, the AQM-81A Firebolt has been selected as the most cost effective solution to satisfy projected high altitude supersonic requirements. Armament Division has signed a contract with Teledyne Ryan Aeronautical (TRA) for development, support, and delivery of 9 vehicles and 21 refurbishment kits. Contract run is approximately 48 months with delivery/support spread over 40 months. DT&E is currently being conducted by the Target SPO (AD/YIQ) with program transfer for IOT&E to AFOTEC scheduled for Dec 83. AFOTEC will conduct the AQM-81A Firebolt Test from Dec 83 to Sep 84 with support provided by TAC.

2. DESCRIPTION: The AQM-81A Firebolt vehicle is 216 inches long and 13 inches in diameter. The propulsion system uses a solid propellant with a liquid oxidizer catalyst. The vehicle contains a parachute recovery system to allow midair retrieval as the primary recovery procedure and a flotation system to allow water recovery. A Programmable Radar Augmentation System (PRAS) provides a selectable radar cross-section presentation (ground adjustable from 2 through ~~60 square meters~~) in the forward hemisphere (~~± degrees~~ in azimuth) (+10 to -60 degrees in elevation). The Scalar Scoring System (SSS) provides missile miss distance information throughout 90 percent of the scoring volume described by a 150-foot sphere centered on the target. The postulated scoring accuracies are 3 feet at miss distance of 100 feet or less and 5 feet at miss distances greater than 100 feet. The Firebolt will be air-launched from an F-4 aircraft during full-scale development (FSD) testing; however, the F-15 is the designated primary launch aircraft for operational use.

3. OBJECTIVES: The purpose of this project is to support AFOTEC in the IOT&E of the AQM-81A Firebolt system. The purpose of the AQM-81A IOT&E is to evaluate the military utility of the Firebolt system in simulating representative threat targets for weapon system evaluation and training. The objective of this support project is to provide test support to AFOTEC as defined in AFOTEC Test Plan Outline (TPO) AFOTEC-0127, IOT&E for the AQM-81A Firebolt, and the AQM-81A Firebolt Test Plan (to be published). The following objectives will be evaluated by AFOTEC during this test:

Readiness is our Profession

a. Operational Effectiveness Objectives.

(1) Objective E-1: Evaluate Firebolt's operational performance.

(2) Objective E-2: Evaluate Firebolt's capability to replicate the threat.

(3) Objective E-3: Evaluate Firebolt's scalar scoring system.

(4) Objective E-4: Estimate Firebolt's vulnerability to missile damage.

(5) Objective E-5: Investigate the impact of using the F-4 as launch aircraft for Firebolt on Tyndall AFB target operations.

b. Operational Suitability Objectives.

(1) Objective S-1: Evaluate Firebolt's ability to support the required presentation rate.

(2) Objective S-2: Evaluate Firebolt logistics reliability.

(3) Objective S-3: Evaluate Firebolt mission reliability.

(4) Objective S-4: Evaluate Firebolt system maintainability.

(5) Objective S-5: Identify problems with Firebolt loading procedures.

(6) Objective S-6: Evaluate Firebolt support equipment to be used by Air Force personnel.

(7) Objective S-7: Evaluate Firebolt technical data.

(8) Objective S-8: Evaluate the potential hazards associated with the Firebolt that could damage equipment or injure personnel.

(9) Objective S-9: Evaluate the supportability of Firebolt software.

4. TEST PLAN: A USAFTAWC generated test plan is not required.

5. RESPONSIBILITIES:

a. HQ TAC will:

(1) Assign a project officer, Major Norm Schoening, DRAA, AV 432-5914.

(2) Accomplish responsibilities as outlined in AFR 80-14 and TACR 55-10.

(3) Authorize USAFTAWC direct communication with participating agencies.

b. USAFTAWC will:

(1) Assign a project officer, Major Dave Gillespie, DOX, AV 872-4162.

(2) Accomplish responsibilities as outlined in AFR 80-14 and TACR 55-10.

(3) Provide test support to AFOTEC as defined in AFOTEC Test Plan Outline (TPO) AFOTEC-0127, IOT&E for the AQM-81A Firebolt, and to be further defined in the AFOTEC AQM-81A Firebolt Test Plan (to be published).

c. ADTAC will:

(1) Assign a project officer, Lt Colonel Bob Farland, DOR, AV 432-6214.

(2) Accomplish responsibilities as outlined in AFR 80-14 and TACR 55-10.

d. USAFADWC will:

(1) Appoint a project officer.

(2) Accomplish responsibilities as outlined in AFR 80-14 and TACR 55-10.

6. TARGET DATES:

a. Start IOT&E - Dec 83.

b. End of Test - Sep 84.

7. TEST REPORTS: A USAFTAWC generated final report is not required.

8. PRIORITY:

a. USAF Precedence Rating: 2-7 (FAD).

b. TAC Priority: 3.

9. AUTHORITY: USAF PMD No. R-P8051(3)64211F, dated 3 Sep 80.

10. RESOURCES: The Test Plan Outline (TPO), AFOTEC-0127, includes a complete list of required resources and support for this test. Included in the list is:

a. Aircraft support for:

(1) Safety/photo chase aircraft.

(2) F-16 with mapping radar for range clearance.

(3) F-15 capable of carrying SAIMS/BASES and captive AIM-7M/F (GOLDEN BIRD).

(4) F-4, F-15 capable of launching AIM-7M/F missiles.

(5) F-16 capable of launching AIM-9L missiles.

b. Drone control facilities and analysis support.

c. Load crew training as required.

d. Recovery boats for intended water recoveries and backup for other missions.

e. Funding for this project will be under AF PMD R-P8051(3)/64211F, 3 Sep 80.

11. SAFETY: USAFTAWC will designate and provide personnel to perform project safety officer functions at the test location. A detailed safety review will be conducted prior to initiating active testing. Test configurations do not present any known aircraft restrictions for this test.

12. INFORMATION: Public release of information concerning this project is not authorized without prior coordination with HQ AFOTEC/TE.

13. SECURITY: The only classified data collected during this test program will be missile miss distances. This data will be classified in accordance with the appropriate missile system's classification guide. Target performance data is unclassified. No secure telemetry requirements presently exist for IOT&E.

14. ENVIRONMENTAL IMPACT: The Firebolt impact statement was approved by AFSC/DEV on 22 Aug 79. A copy has been provided to TZPN.

15. STATEMENT OF INVESTIGATION: Investigation has determined that the objectives of this test do not duplicate previous or current testing accomplished by this or other government agencies.

16. DISTIRBUTION: See attached list.

FOR THE COMMANDER

THOMAS L. CRAIG
Major General, USAF
DCS, Requirements

1 Atch
Distribution List

Accession For	
NTIS GRA&I	X
DTIC TAB	☐
Unannounced	☐
Justification	
By Ltr. on File	
Distribution/	
Availability Codes	
Dist	Avail and/or Special
A/1	

DISTRIBUTION LIST

	NO. OF COPIES
HQ USAF/XOO, Washington DC20330	1
HQ TAC, Langley AFB VA 23665	
DOO	1
LGM	1
XPF	1
DRP	1
DRA	5
ADTAC, Langley AFB VA 23665	
DOO	1
DOR	1
LGM	1
WR-ALC/MMY, Robins AFB GA 31098	1
AD, Eglin AFB FL 32542	
YIQ	1
YIQT	1
YIQE	1
USAFTAWC, Eglin AFB FL 32542	
DOX	1
DOOT	1
TXMA	1
USAFADWC/HO, Tyndall AFB FL 32403	4
325 FWW, Tyndall AFB FL 32403	
CC	1
TE	1
TEO	1
TED	1
4484 TESTS/CC	1
82 TATS/CC	1
AFOTEC, Kirtland AFB NM 87117	
CC	1
TEF	1
RMR	1
AFOTEC/Det 2, Eglin AFB FL 32542	1
[redacted]	2

Atch 1

END

FILMED

1-84

DTIC