

**1 MARCH 2007**



**Test and Evaluation**

**PROGRAMMING AND REPORTING AERIAL  
TARGET AND MISSILE EXPENDITURES  
IN TEST AND EVALUATION**

**COMPLIANCE WITH THIS PUBLICATION IS MANDATORY**

---

**ACCESSIBILITY:** Publications and forms are available on the e-Publishing website at [www.e-publishing.af.mil](http://www.e-publishing.af.mil) for downloading or ordering.

**RELEASABILITY:** There are no releasability restrictions on this publication.

---

OPR: HQ USAF/TEP

Certified by: HQ USAF/TEP  
(Col Donald S. Watrous)

Supersedes AFI99-108, 8 November 1993

Pages: 21

---

This Air Force instruction (AFI) implements Air Force Policy Directive (AFPD) 99-1, *Test and Evaluation*, by providing guidance and procedures for programming, requesting, allocating, and reporting the expenditure of aerial targets and air-to-air missiles. It also establishes responsibility for programming and allocating aerial targets and missiles for all Air Force organizations that conduct Air Force developmental and operational testing, tactics development and evaluation (TD&E), weapon system evaluation programs (WSEP), and competitions. This AFI **must** be used in conjunction with AFI 10-601, *Operational Capability Requirements*; AFI 63-101, *Operations of Capabilities Based Acquisition System*; AFI 99-103, *Capabilities Based Test And Evaluation*; AFI 99-120, *Forecasting and Programming Munitions Telemetry and Flight Termination Systems*; AFI 21-201, *Management and Maintenance of Non-Nuclear Munitions*; and AFI 36-2217, *Munitions Requirements for Aircrew Training*. It requires semi-annual reports (Report Control Symbol (RCS) HAF-TEP (SA) 7101) to HQ USAF from each major command (MAJ-COM) and the Air Force Operational Test and Evaluation Center (AFOTEC), which expend targets. This instruction applies to the Air Force Reserve Command. Ensure that all records created as a result of processes prescribed in this publication are maintained in accordance with AFMAN 37-123 (will convert to AFMAN 33-363), *Management of Records*, and disposed of in accordance with the Air Force Records Disposition Schedule (RDS) located at <https://afrims.amc.af.mil/>. Send comments and suggestions for improvements on AF Form 847, Recommendation for Change of Publication, through channels, to HQ USAF/TEP, 1530 AF Pentagon, Washington D.C. 20330-1530.

**SUMMARY OF CHANGES**

AFI 99-108 is updated to incorporate guidance in AFI 99-103, *Capabilities Based Test and Evaluation*. The new term "presentation authorization" (PA) is introduced. A new complementary instruction, AFI 99-120, *Forecasting and Programming Munitions Telemetry and Flight Termination Systems*, was created to address funding and programming issues regarding the use of a Telemetry (TM) Instrumentation Kit (TIK) and/or Flight Termination System (FTS) during developmental and operational test and evaluation of munitions.

1.	Planning for Aerial Target and Air-to-Air (A-A) Missile Expenditures. ....	3
2.	Applicable Aerial Targets and Missiles. ....	3
3.	Programs Requiring Aerial Target and Missile Expenditures. ....	3
4.	Responsibilities in the Aerial Target and Missile Allocation Process. ....	3
5.	MAJCOM/AFOTEC Guidance for Using Allocated Aerial Targets. ....	6
6.	MAJCOM/AFOTEC Guidance for Expending Allocated Missiles. ....	6
7.	Semi-Annual Aerial Target / Missile Expenditure Report. ....	6
8.	Summary of Kill / Presentation Authorization Process. ....	7
Figure 1.	KA/PA and Aerial Target Acquisition Process .....	7
9.	Summary of Aerial Target Acquisition Process. ....	8
<b>Attachment 1— GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION</b>		<b>9</b>
<b>Attachment 2— AERIAL TARGET / MISSILE REQUEST FORMAT</b>		<b>12</b>
<b>Attachment 3— ANNUAL AERIAL TARGET ALLOCATIONS LETTER EXAMPLE</b>		<b>14</b>
<b>Attachment 4— SEMI-ANNUAL AERIAL TARGET / MISSILE EXPENDITURE REPORT FORMAT</b>		<b>18</b>
<b>Attachment 5— KILL / PRESENTATION AUTHORIZATION CALCULATIONS</b>		<b>19</b>

**1. Planning for Aerial Target and Air-to-Air (A-A) Missile Expenditures.** The Air Force has many complex aircraft weapon systems requiring constant exercise to ensure their satisfactory performance in operational units. The Air Force must thoroughly test new and modified systems to ensure they meet user requirements. As these systems become more complex, and as tactical demands multiply, there is an increase in quantity of the aerial targets MAJCOMs must expend to evaluate these systems in test and evaluation (T&E) programs. To improve the means by which the Air Force ensures weapon combat capability, each MAJCOM and AFOTEC must establish a program to justify their operational requirements and manage the targets it expends. For planning purposes, the Air Force considers every missile expenditure a T&E event.

**2. Applicable Aerial Targets and Missiles.** This instruction only applies to missiles removed from war reserve materiel (WRM) for any test program. MAJCOMs and AFOTEC will not include missiles procured directly from a contractor, specifically for the developmental test or operational test of that missile, in the missile expenditure requests and reports. This instruction applies to the following types of aerial targets and missiles:

- 2.1. **Subscale Aerial Target (SSAT):** BQM-34; MQM-107; BQM-167 (Air Force Subscale Aerial Target: AFSAT).
- 2.2. **Full Scale Aerial Target (FSAT):** QF-4; Air Superiority Target (AST).
- 2.3. **Air Intercept Missile (AIM):** AIM-7, AIM-9, AIM-120.

**3. Programs Requiring Aerial Target and Missile Expenditures.** The principal T&E programs in which the Air Force expends its A-A missiles, aerial targets, and supporting resources on are developmental and operational testing and WSEP. **NOTE:** In this instruction, the term WSEP includes William Tell and the USAF Weapons Instructor Course (WIC) missile firings.

3.1. **The Role of WSEP in Test and Evaluation.** Air Combat Command (ACC) conducts WSEP to determine the overall operational effectiveness and suitability of fully integrated fielded weapon systems in realistic operational scenarios while enhancing training. The goal of WSEP is to evaluate each weapon system within 12 months after fielding and continuing throughout its operational life cycle, using line of the Air Force crews, aircraft, and weapons. Although training is an important part of WSEP, it is a secondary objective. The primary objective is to gather effectiveness and suitability data on the complete weapons system. To achieve the primary objective, ACC/A3TW and the 53d Weapons Evaluation Group (53 WEG) will:

- 3.1.1. Maintain an accurate missile firing database to support Air Force decision makers regarding operational capabilities, force structure recommendations, required material modifications, and requirements for new equipment.
- 3.1.2. Ensure the accuracy of the database. As a goal, ACC should normally conduct enough missile firings to define the probability of mission success ( $P_{ms}$ ) of each aircraft/missile combination.
- 3.1.3. Provide accurate test data for determining the operational effectiveness and suitability of each weapon system.
- 3.1.4. Identify weapon system deficiencies, determine causes, and make recommendations for improving operational effectiveness and suitability.

**4. Responsibilities in the Aerial Target and Missile Allocation Process.**

**4.1. MAJCOM and AFOTEC Responsibilities for Planning Expenditure Requirements.** Each MAJCOM and AFOTEC will prepare an eight-year plan to identify and justify the types of aerial targets and missiles required for its T&E programs. In preparing this plan, consider system design requirements, test program objectives, present and future threats, aircraft resources, missile resources, target resources, range facilities, past WSEP results, and results from other test programs.

4.1.1. Each MAJCOM and AFOTEC must establish the necessary coordination and review procedures to ensure projected expenditures are:

4.1.1.1. Prioritized according to MAJCOM and AFOTEC requirements.

4.1.1.2. Based on current operational tactics, scenarios, and concepts of operations.

4.1.1.3. Realistic and conform to weapon system evaluation and other test program needs.

4.1.1.4. Based on the need to determine weapon system effectiveness. The expenditures should be the absolute minimum required to meet test objectives or weapons system evaluation requirements.

4.1.1.5. Based on data collected from previous firing programs and adjusted to fit the planned employment environment.

4.1.1.6. Realistic considering the limited availability of assets.

4.1.1.7. Based on warranty expiration considerations, if no overriding program guidance.

**4.2. MAJCOM and AFOTEC Directions for the Expenditure Request Format.** The aerial target and missile expenditure request must contain the items listed in [Attachment 2](#). The MAJCOM or AFOTEC then forwards this request to HQ USAF/TEP for review and validation. The target/missile request must arrive at HQ USAF/TEP no later than 1 March of each year. For all Air Force Materiel Command (AFMC) conducted developmental test programs, the system program office (SPO) will include the requested targets/missiles in the appropriate Test and Evaluation Master Plan (TEMP). For all HQ Air Force Operational Test and Evaluation Center (AFOTEC) conducted operational test programs, HQ AFOTEC/XPR will request targets/missiles as described above and will ensure that required assets are listed in the Test Resource Plan (TRP). For all MAJCOM-conducted force development evaluations (FDE), the MAJCOM will request targets/missiles as described above and will list required targets in the TEMP, TRP, test plan, or *COMACC Plan 85* for WSEP. **NOTE:** Inclusion of the request in the approved TEMP, TRP, test plan, or *COMACC Plan 85* does not automatically provide target/missile support. Only direct aerial target allocation from HQ USAF/TEP and direct missile allocation from HAF/A5RW ensures support.

**4.3. HQ USAF Responsibilities.**

4.3.1. HQ USAF/TEP will :

4.3.1.1. **Aerial Target Allocations.**

4.3.1.1.1. Allocate aerial targets for all T&E programs including WSEP. Aerial target and associated munition items inventories do not allow 100 % support of all target requests. Therefore, HQ USAF/TEP will track historical target usage rates versus requests and will allocate targets based on these numbers and USAF priorities. HQ USAF/TEP will send final written target allocations to all MAJCOMs and AFOTEC before the beginning of each fiscal year (FY).

4.3.1.1.2. Coordinate with ACC/A8X prior to publishing the annual aerial target allocation letter.

4.3.1.1.3. Issue a kill authorization (KA) when the expectation is that the unmanned target will be lost during the mission. A KA may be issued even if the potential of saving the target through survivability maneuvers is likely. Even if no kill is anticipated, an aerial target that is on a "critical profile" as defined by AFI 91-204, *Safety Investigations and Reports*, requires a KA for launch.

4.3.1.1.4. Issue a presentation authorization (PA) when there is not an expectation that the unmanned target will be lost during the mission. A PA will be issued if there are no live weapons fired at the target or weapons are planned to be terminated or kinematically defeated prior to impact.

4.3.1.1.5. Require that programs obtain a KA or PA prior to launching an unmanned target.

#### 4.3.1.2. **Missile Allocations.**

4.3.1.2.1. Review and validate all test missile expenditure requests. The purpose of this validation is to ensure the missile request is a legitimate T&E requirement. HQ USAF/TEP then forwards the request to HQ USAF/A5RW. Procedures for forecasting and programming the air-to-air missiles telemetry and flight termination system are found in AFI 99-120.

#### 4.3.2. **HQ USAF/A5RW will:**

##### 4.3.2.1. **Missile Allocations.**

4.3.2.1.1. Include the missile expenditure allocations in the annual *USAF Tactical Air Missile Program (TAMP)* document if the request is 100% supportable.

4.3.2.1.2. Coordinate with HQ USAF/TEP, MAJCOM, and AFOTEC to determine priorities and resolve disconnects if the request is not 100% supportable.

4.4. **Defense Component, Command, and Agency Responsibilities.** Any Department of Defense (DoD) component, command, or agency (i.e. Army, Navy, Northern Command) requiring Air Force aerial targets on a recurring basis will request the targets as described above. These organizations will provide procurement funds to the aerial targets system program office (691st Armament Systems Squadron (691 ARSS)) at least two years before the need date to allow the SPO sufficient time to increase the next planned production buy. For operations and maintenance costs, the using component will coordinate costs with the 53 WEG, ACC/A8X, and HQ USAF/TEP.

4.5. **MAJCOM and HQ USAF Responsibilities for Foreign Military Sales (FMS) Programs.** Each MAJCOM will request the targets they need for conducting FMS programs. When a foreign military program destroys an aerial target, whether intentional or not, the 53 WEG will advise the MAJCOM responsible for the FMS program, which in turn, notifies the FMS case manager in SAF/IA or Air Force Security Assistance Center (AFSAC). The SAF/IA FMS or AFSAC case manager then bills the foreign government for items expended. Once the foreign government has been billed and funds are on deposit, the MAJCOM aerial targets line manager (as identified in the FMS case) is responsible for getting these funds back to 691 ARSS. The line manager obtains a fund cite from 691 ARSS and

transfers money from the FMS account to 691 ARSS. The 691 ARSS uses the reimbursement funds to purchase replacement targets during the next production buy.

## 5. MAJCOM/AFOTEC Guidance for Using Allocated Aerial Targets.

5.1. **Aerial Target Allocation Deviations.** Deviations from target allocations require HQ USAF/TEP coordination.

5.1.1. Interchanging subscale aerial targets for full-scale aerial targets and vice-versa by any using agency (MAJCOM, AFOTEC, 53 WEG, DoD Agency) requires HQ USAF/TEP approval. Exception: The 53 WEG may interchange subscale aerial target types or models between programs provided they do not exceed total annual SSAT expenditure limits and are still able to meet user profile requirements.

5.2. **Aerial Target Survivability Measures.** Test organizations, program managers, and the 53 WEG will build target survivability maneuvers into every missile shot profile that does not have specific endgame requirements.

5.3. **Special Aerial Target Procedures.** Target allocations not used in one fiscal year do not carry over to the next fiscal year. HQ USAF/TEP will provide a new set of allocations for each fiscal year in an annual *Fiscal Year Target Allocations* letter. An example of this letter is shown in **Attachment 3**. **Test programs that slip from one fiscal year to the next must submit a new request each year.**

5.4. **Unprogrammed Aerial Target Requirements.** MAJCOMs and AFOTEC will first try to fill unprogrammed target requirements (also known as out-of-cycle requests) from existing, current-year allocations. When the MAJCOM or AFOTEC cannot fill unprogrammed requirements, they must submit a request to HQ USAF/TEP. HQ USAF/TEP may authorize additional allocations provided the requirement is valid and inventories permit once the MAJCOM or AFOTEC has expended all other targets of the type requested.

## 6. MAJCOM/AFOTEC Guidance for Expending Allocated Missiles.

6.1. **Missile Allocation Deviations.** Commands will not exceed programmed allocations from the TAMP without HQ USAF/TEP coordination and HQ USAF/A5RW approval.

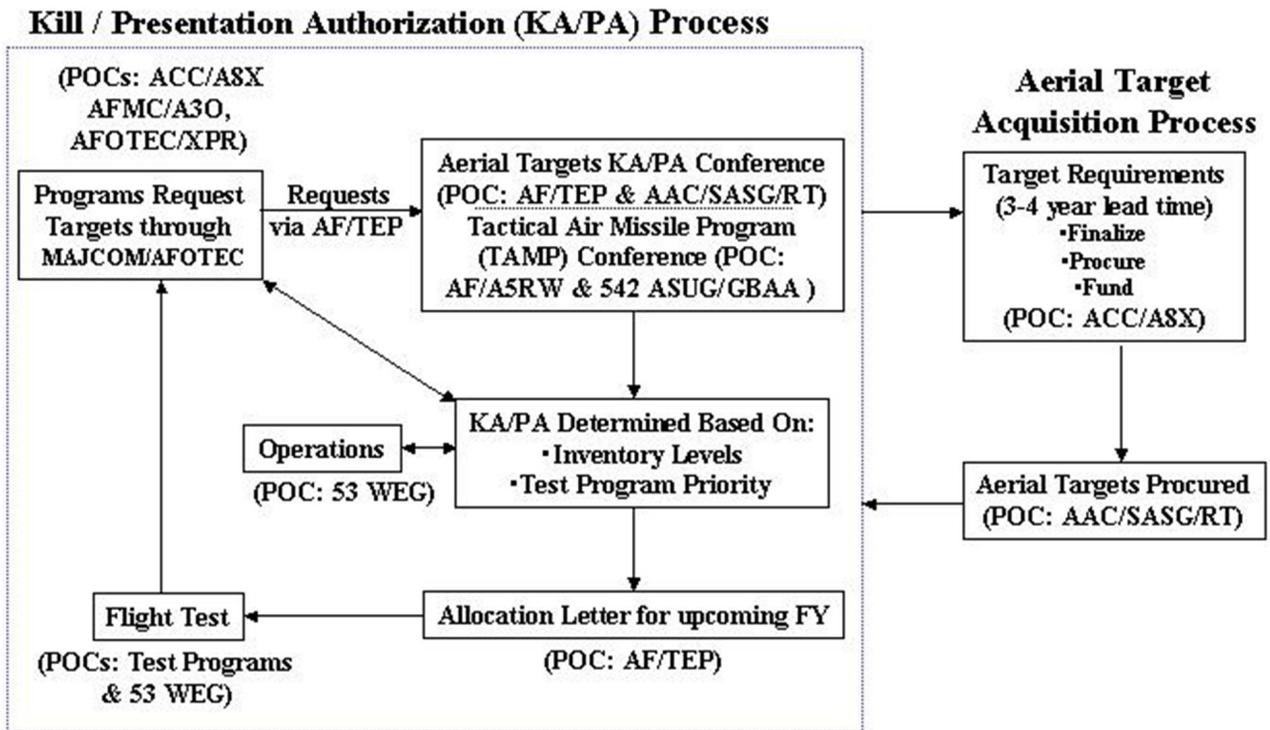
6.2. **Special Missile Procedures.** Missile allocations not used in one fiscal year do not carry over to the next fiscal year. The MAJCOM/AFOTEC will have to request new allocations. The one exception to this is when the missile has already been shipped to the test location and it has been configured (with telemetry, flight termination system, or other special equipment) for the test.

6.3. **Unprogrammed Missile Expenditure Requirements.** MAJCOMs/AFOTEC should first try to fill unprogrammed missile requirements (also known as out-of-cycle requests) from existing current-year allocations. When unprogrammed requirements cannot be met, MAJCOM/AFOTEC must submit a request for additional allocations to HQ USAF/TEP who will validate the request and forward the recommendation to USAF/A5RW for approval. For guidance on funding and programming the missile telemetry and FTS kits, see AFI 99-120.

7. **Semi-Annual Aerial Target / Missile Expenditure Report.** All MAJCOMs and AFOTEC must submit a semi-annual report of all target and missile expenditures by 1 May and 1 November. **Attachment 4** lists the items required in these reports.

**8. Summary of Kill / Presentation Authorization Process.** The current KA/PA process is shown in **Figure 1.** Each test program requests through their appropriate MAJCOM/AFOTEC the number of KA/PA's that are needed for the next eight years. The number of drones requested should be documented in either an approved TEMP, TRP, or test plan. Programs should calculate the number of KA/PAs requested as shown in **Attachment 5.** At the Aerial Targets KA/PA Conference and at the Tactical Air Missile Program (TAMP) Conference in the spring of each year, the HQ and MAJCOMs/AFOTEC discuss the requested number of aerial targets for each program as well as the expected expenditures. After consultation with the 53 WEG, the MAJCOMs/AFOTEC, and based upon current and projected inventory levels (as well as the priority of test programs), HQ AF/TEP will issue the KAs/PAs by 30 September each year. Programs then use the KA/PAs throughout the FY to test against aerial targets.

**Figure 1. KA/PA and Aerial Target Acquisition Process**



**9. Summary of Aerial Target Acquisition Process.** The aerial target acquisition process fits into the KA/PA process in an indirect manner. ACC/A8X monitors the drone inventory and projected target expenditures to finalize ACC's budget request into the Air Force Program Objective Memorandum (POM) submission. When Congress approves the President's Budget, ACC/A8X authorizes the aerial target squadron (program office) of the air-to-air missile system wing to purchase aerial targets which then enter the inventory after delivery from the aerial target contractor.

John T. Manclark  
Director, Test and Evaluation

**Attachment 1****GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION*****References***

AFPD 33-3, *Information Management*, 28 Mar 2006

AFPD 99-1, *Test and Evaluation*, 22 Jul 1993

AFI 21-201, *Management and Maintenance of Non-Nuclear Munitions*, 6 Jan 2007

AFI 33-360, *Publications and Forms Management*, 18 May 2006

AFI 91-204, *Safety Investigations and Reports*, 14 Feb 2006

AFI 99-103, *Capabilities Based Test and Evaluation*, 6 Aug 2004 (Under revision)

AFI 99-120, *Forecasting and Programming Munitions Telemetry and Flight Termination Systems*, TBD

AFMAN 37-123 (will become AFMAN 33-363), *Management of Records*, 31 Aug 1994

***Abbreviations and Acronyms***

**ACC**—Air Combat Command

**AFI**—Air Force Instruction

**AFMAN**—Air Force Manual

**AFMC**—Air Force Materiel Command

**AFOTEC**—Air Force Operational Test and Evaluation Center

**AFPD**—Air Force Policy Directive

**AFSAC**—Air Force Security Assistance Center

**AFSAT**—Air Force Subscale Aerial Target

**AMRAAM**—Advanced Medium-Range Air-to-Air Missile

**AST**—Air Superiority Target

**DoD**—Department of Defense

**DT&E**—Developmental Test and Evaluation

**EA**—Electronic Attack

**FDE**—Force Development Evaluation

**FMS**—Foreign Military Sales

**FOT&E**—Follow-on Operational Test and Evaluation

**FSAT**—Full-Scale Aerial Target

**FYDP**—Future Years Defense Plan

**FY**—Fiscal Year

**HQ**—Headquarters

**IR**—Infra-Red

**KA**—Kill Authorization

**MAJCOM**—Major Command

**MOA**—Memorandum of Agreement

**NAS**—Naval Air Station

**OFP**—Operational Flight Program

**OT&E**—Operational Test and Evaluation

**PA**—Presentation Authorization

**PE**—Program Element

**PMD**—Program Management Directive

**POM**—Program Objective Memorandum

**RCS**—Report Control Symbol

**RTO**—Responsible Test Organization

**SPO**—System Program Office

**SSAT**—Subscale Aerial Target

**T&E**—Test and Evaluation

**TAMP**—Tactical Air Missile Program

**TEMP**—Test and Evaluation Master Plan

**TRP**—Test Resource Plan

**TD&E**—Tactics Development and Evaluation

**WEG**—Weapons Evaluation Group

**WIC**—Weapons Instructor Course

**USAF**—United States Air Force

**WRM**—War Reserve Materiel

**WSEP**—Weapon System Evaluation Program

**WSMR**—White Sands Missile Range

**www**—World Wide Web

NOTE: See AFI 99-103 for definitions of terms relating to capabilities based test and evaluation."

*Terms*

**Future-Year Defense Program (FYDP)**—The official document and database which summarizes SECDEF approved plans and programs for the DoD for a six year period (current year plus 5 out-years).

**Responsible Test Organization (RTO)**—The lead government developmental test organization on the Integrated Test Team that is qualified to conduct and responsible for overseeing DT&E.

## Attachment 2

### AERIAL TARGET / MISSILE REQUEST FORMAT

**A2.1.** Each MAJCOM and AFOTEC will submit an eight-year forecast of aerial target and missile expenditures. MAJCOMs and AFOTEC will prioritize target requests according to their requirements and submit their forecasts annually no later than 1 March. No specific format is required; however, each request must contain the following items:

A2.1.1. **DATE.**

A2.1.2. **COMMAND/ORGANIZATION.**

A2.1.3. **PROGRAM TITLE/PROGRAM ELEMENT (PE).** Include the program title and program element code for each planned aerial target/missile expenditure (i.e. F-16 OFP/ PE 12345).

A2.1.4. **MISSILE TYPE/QUANTITY/TM/FTS.** List the quantity, type, and series/subseries letter of the missiles requested (i.e. 2 x AIM-9M; 5 x AIM-120C5/6; 1 x AIM-120B). Also, if more than one type of missile could fill the requirement, specify by listing all usable series/subseries (i.e. AIM-120A/B/C3). List the type of missile TM/FTS package requested and see AFI 99-120 for funding/programming for TM/FTS. Programs are responsible for obtaining their own TM/FTS. For missiles not requiring TM/FTS, specify why it is not required (i.e. “warhead shot” or “for separation purposes only”).

A2.1.5. **TARGET/AUTHORIZATION TYPE/ QUANTITY.** List the quantity, type and model of target requested (i.e. any SSAT, MQM-107E, BQM-167A, QF-4, AST). Enter the total requirements by target/authorization type for each fiscal year (i.e. 2 KA x SSAT; 3 KA x QF-4; 1 PA x BQM-34). For KA/PA quantity determination, see **Attachment 5**.

**NOTE:** List both planned profiles per target and total required kills or expenditures. For a multiple-ship profile, each target that is to be airborne requires a kill or presentation authorization.

A2.1.6. **SCORING SYSTEM.** List the type of scoring system requested (i.e. scalar or vector).

A2.1.7. **TARGET AUGMENTATION.** List the types of target augmentation systems requested (i.e. chaff, flares, electronic attack (EA) pod).

A2.1.8. **SPECIAL TARGET MODIFICATION REQUIREMENTS.** Provide a general description of any special engineering modifications that either the 53 WEG or the user will make to the target (i.e. any special payloads, instrumentation systems, or other hardware modifications required for the target).

A2.1.9. **FISCAL YEAR.** Group targets by fiscal year for a period covering the next eight consecutive fiscal years. Do not include the current fiscal year.

A2.1.10. **RANGE.** Annotate if a range other than Eglin or Tyndall is required (i.e. White Sands Missile Range).

A2.1.11. **REFERENCE and JUSTIFICATION:** Include the reference (title and page number) from the TEMP, TRP, and/or test plan that justifies the aerial target request. Also include an electronic copy or an internet link for the TEMP, TRP, and/or test plan.

Example of aerial target request table:

**Table A2.1. AFOTEC Aerial Target Request, 29 Feb 07**

<b>Fiscal Year</b>	<b>Program PE</b>	<b>Target/ Qty/ KA/ PA</b>	<b>Range</b>	<b>Scoring</b>	<b>Augmentation / Mods</b>	<b>Missiles/Qty, TM/FTS Type</b>	<b>Test Ref</b>	<b>Notes</b>
2008	F-22A Inc. 2 FOT&E PE12345	2 x SSAT KA	Eglin	Scalar	Flares/None	2 x AIM-9X	F/A-22 TEMP p.81 (attch.)	No TM
2008	F-35 IOT&E PE 23456	2 x FSAT PA (QF-4)	WSMR	Vector	EA Pod/ None	2 x AIM-120C3/4	F-35 TEMP p.103 (attch.)	2-ship formati on
2009	F-22A Inc. 3A FOT&E PE12346	2 x MQM-10 7E KA	Eglin	TBD	Signature/ See Note1	2 x AIM-120C5/6	F/A-22 TEMP p.81 (attch.)	1

<sup>1</sup> See AFOTEC classified F/A-22 A-A weapons validation plan letter dated 29 Feb 06.

**Attachment 3****ANNUAL AERIAL TARGET ALLOCATIONS LETTER EXAMPLE**

26 Sep 2007

***MEMORANDUM FOR SEE DISTRIBUTION***

FROM: HQ USAF/TEP

1530 Air Force Pentagon

Washington DC 20330-1530

SUBJECT: FY06 Aerial Targets Allocation

1. USAF aerial targets support a variety of test and evaluation programs and are critical assets in ensuring weapon system effectiveness and suitability. In order to preserve present and future aerial target capabilities, we must adhere to a disciplined, efficient process for the allocation of these scarce resources. HQ USAF/TEP, IAW AFI 99-108, allocates the aerial targets to AF and AF-sponsored customers.
2. The objective of the process is to provide an Air Force-wide forum for a detailed and comprehensive review of planned test objectives. At the 2005 Tactical Air Missile Program (TAMP) Conference at Robins AFB, GA, each customer (AFMC, ACC, and AFOTEC) presented their FY06-FY13 aerial target and missile requirements. The 53<sup>rd</sup> Weapons Evaluation Group (WEG) provided historical data and projected usage rates for the full-scale aerial targets (FSAT) and the sub-scale aerial targets (SSAT). All of this data was used by AF/TEP to develop the FY06 allocation computations and establish the kill authorizations (KA) and presentation authorizations (PA) for FY06.
3. The PA is a term defining an authorization with the expectation that the target will not be damaged or destroyed. Typical examples would include those presentations in which the target is not fired upon, missile is terminated before impact, or target is out of missile kinematic range at missile flyout. Until official policy governing PAs is formalized, requests will be accepted and PAs issued on a case-by-case basis. Any program that expends a target with a PA must notify AF/TEP immediately after the mission is complete.
4. KA/PAs for FY06 expire at the end of the fiscal year. Air Force KA/PAs are for all targets owned and operated by the Air Force on either the Eglin Gulf Range or the Whites Sands Missile Range (WSMR). Each MAJCOM/AFOTEC is responsible for maintaining their test program(s) (including sponsored FMS testing) within the yearly allocations. Swaps between programs, within the MAJCOM/AFOTEC, will be coordinated with AF/TEP by appropriately addressed message or memorandum via e-mail or regular mail. Any additional requirements, not covered by the annual allocation, will be addressed via an out-of-cycle request IAW AFI 99-108.

5. FY06 allocations are as follows:

Command	Program	FSAT KA(s)	SSAT KA(s)	FSAT PA (s)	SSAT PA(s)	Notes
ACC/A3	WSEP/WIC	5*	20			*1 x FSAT KA rolled over from FY05
ACC/A3	FMS Combat Archer (Canada, Germany, Singapore, Taiwan)		4			
ACC/A3	Amalgam Virgo				2	NORTHCOM
ACC/A8	AATC		2			
ACC/A8	AIM-9X	1*				* 1 x FSAT KA rolled over from FY05
ACC/A8	AMRAAM FOT&E	2	2			
ACC/A8	F-16 OFP		1	1	1	
ACC/A8	FEP	3				
ACC/A8	F-15 OFP/CTF		2	2	2	
ACC/A8	F-15C V2/3 OFP	1*				* 1 x FSAT KA rolled over from FY05
ACC/A8 & AFOTEC	F/A-22 FOT&E and FDE	6*	2	2		* 4 x FSAT KAs rolled over from FY05
AFOTEC	A-10		1		1	
AFMC	AIM-9X	2		1		
AFMC	AAMSW: AMRAAM Aerial Targets	6*	2 2**	2	1	* 3 x FSAT KAs rolled over from FY05 **BQM-167A test
AFMC	AFRL				1	
AFMC	F-16 FMS		2		1	
AFMC	F-16 SPO		5*	1	1	*2 x SSAT KAs rolled over from FY05
AFMC	JSF			1		
Navy	Planned	5	1*		1*	*Aegis
<b>Total</b>		<b>31</b>	<b>46</b>	<b>10</b>	<b>11</b>	

6. In FY05, the Navy began utilizing Air Force QF-4s at Tyndall AFB, FL and WSMR due to Navy QF-4s retiring from NAS Point Mugu, CA in Jun 04. Navy representatives have coordinated QF-4 purchases and utilizations, which are documented in *Memorandum of Understanding for Air Force/Navy Interservice QF-4 Full-Scale Aerial Target Program Production Lots 9-15 Allocation and Support*, AAMSW-2005-001, 15 Apr 05. Additionally, the Air Force and Navy have traded aerial targets through Memorandum of Agreements (MOAs). Army and Navy-purchased aerial targets and AF-pay-back-to-Navy trades are listed as follows:

<b>Army/Navy Aerial Targets QF-4 Accounting</b>	<b>FSAT</b>	<b>SSAT</b>	<b>Notes</b>
Army purchased prior to FY04	1		
<b>Total AF owed to Army</b>	<b>1</b>		
Navy purchased prior to FY04		8	Aegis MOA, 20 May 05: 8 x BQM-167, 12 x BQM-34, or 12 x MQM-107
Navy purchased for FY05 delivery	5		
Navy purchased for FY06 delivery	4		
AF owed to Navy from trades	5		See para 7. Due NET FY07
<b>Total AF owed to Navy</b>	<b>14*</b>	<b>8</b>	<b>*includes 5 due NET FY07</b>

7. Air Force programs that have expended Navy aerial targets at NAS Point Mugu prior to FY05 for pay-back:

Target Type	Date Expended	AF Program
QF-4S	26 Sep 00	F-16
QF-4S	24 Nov 03	F/A-22, SRM
QF-4S	29 Mar 04	AF/TE
QF-4S	7 May 04	F/A-22, MRM-15-2
QF-4S	24 Jul 04	F/A-22, MRM-20-1

8. AF programs requiring SSAT target support at another range, (i.e. Navy ranges such as Point Mugu or China Lake) must first obtain an AF KA/PA and facilitate a MOA between the AF and the aerial target supplier. AF customers using other services' targets should not expect automatic "payback" of future AF targets to that service. If target "payback" is necessary, requests must be coordinated with ample lead-time, MAJCOM/AFOTEC support, and guidance from AF/TEP. Targets used for "payback" apply to the basic airframe and engine only. EA, IR expendables and other such requirements must be handled directly with the target operating agency or hardware supplier. Programs desiring to purchase targets and equipment directly from a non-Air Force source, need not coordinate KA/PAs with AF/TEP; all responsibilities are borne by the customer.

9. To efficiently manage the limited target assets, MAJCOMs/AFOTEC will inform AF/TEP and ACC/A8X upon completion of the requirements for which the KA/PA was allocated. Unexpended KAs will be

used to support other FY06 requirements and out-of-cycle requests as prioritized by AF/TEP. If, for example, AMRAAM completes the original test shot matrix within the FY and do not expend all the allocated KAs, the unused KAs are returned to the HQ test pool. The AMRAAM program does not retain the KAs for “pop-up” test requirements later in the year.

10. Careful management of our limited aerial target inventory is required. Out-of-cycle KAs will be closely scrutinized. To help preserve assets, drone-saving maneuvers should be planned and executed to the maximum extent possible. Missiles should be flown to impact only when absolutely required to obtain test data.

11. Questions should be directed to Lt Col Jane Smith, HQ AF/TEP, DSN 227-0208, Commercial (703) 697-0208. E-mail: [Jane.Smith@pentagon.af.mil](mailto:Jane.Smith@pentagon.af.mil) or SIPRNET e-mail [af.tep@af.pentagon.smil.mil](mailto:af.tep@af.pentagon.smil.mil) (when coordinating via SIPRNET, include notification e-mail to the unclassified address).

JOHN E. DOE, Col, USAF  
Chief, Policy and Programs Division  
Directorate of Test and Evaluation

DISTRIBUTION:

SAF/AQPC/W

HAF/A5RW

HQ ACC/A3/A8

HQ ACC/A3T/A8X

HQ AFMC/A3

HQ AFMC/A3OR

HQ AFOTEC/XP/XPR

AAC/CC

AAMSW/CC

AAC/691<sup>st</sup> (ARSS)

53 WG/CC

53 WEG/CC/CDT

53 TSS/CC

83 FWS/CC

**Attachment 4****SEMI-ANNUAL AERIAL TARGET / MISSILE EXPENDITURE REPORT FORMAT**

**A4.1.** Each MAJCOM and AFOTEC will submit a semi-annual report of target and missile expenditures no later than 1 May and 1 November. HQ USAF/TEP will ensure HQ USAF/A5RW receives a copy of this report. No specific format is required; however, each report will contain the following items:

A4.1.1. **DATE.**

A4.1.2. **COMMAND/ORGANIZATION.**

A4.1.3. **PROGRAM TITLE/PROGRAM ELEMENT.** Include the program title and element code for each target actually expended (i.e. F/A-22 OFP, PE12345). Missiles and targets should be grouped by program.

A4.1.4. **AERIAL TARGET/MISSILE TYPES.** List types and models of targets and missiles expended (i.e. MQM-107E/AIM-9M, QF-4/AIM-120C5, etc...).

A4.1.5. **FISCAL YEAR (FY).** Enter the FY the report covers.

A4.1.6. **QUANTITY EXPENDED THIS FY.** Enter the cumulative number of targets, by type, expended during the FY.

A4.1.7. **ALLOCATION FOR FY.** Enter the total number of targets allocated for this FY.

A4.1.8. **ALLOCATION EXPENDED.** Mathematically divide the category "EXPENDED FOR FY" by the category "ALLOCATED FOR FY."

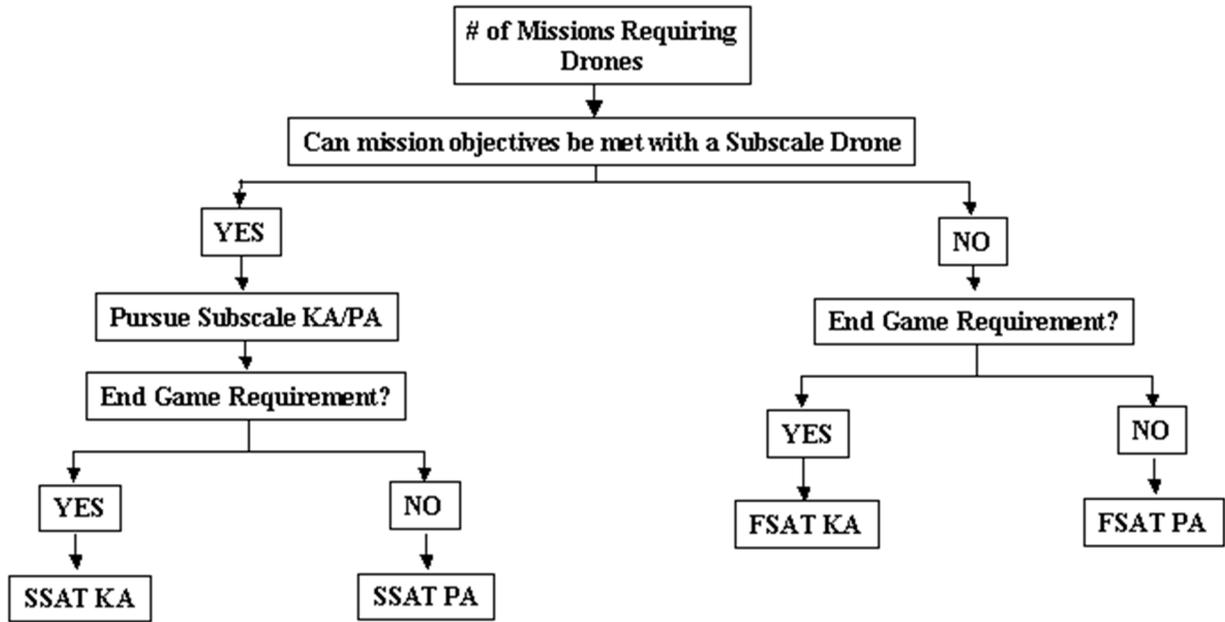
A4.1.9. **FIRINGS PER LAUNCH.** Enter the number of missile firings per target per launch. Mathematically divide the total number of missiles fired at that type of target by the total number of launches of that type of target.

A4.1.10. **FIRINGS PER LOSS.** Enter the number of missiles fired at a particular type target before it was lost or destroyed.

Attachment 5

KILL / PRESENTATION AUTHORIZATION CALCULATIONS

Recommended Drone Allocation Screening Process



## Recommended Drone KA/PA Calculation Process

Example

		<u>FSAT KA/PAs* Needed</u>	
# of Missions Requiring Drones	20		
# of Missions where objectives can be met with Subscals	- 10	→	Pursue SSAT KA/PA (next chart)
# of Missions To be Considered for Full-scale Drone KA/PAs	= 10		
# of Missions where missile is terminated <u>OR</u> no live missile shot	- 4	→	1 PA**
# of Missions For End Game Assessment	= 6		
# of Missions Without Drone Saving Maneuver	- 2	→	2 KA***
# of Missions With Drone Saving Maneuver	= 4	x (Survival Factor) (default 75%)	3 KA
		<b>Total</b>	<b>5 KA / 1 PA</b>

\* 1 KA/PA needed for each aircraft in multi-ship formation (ie 2 KAs for 2-ship formation)

\*\* PA allows multiple uses until test objective met

\*\*\* KA allows multiple uses until test objective met or target is expended

## Recommended Drone KA/PA Calculation Process (cont.)

Example

		<u>SSAT KA/PAs* Needed</u>	
# of Missions To be Considered for Subscale Drone KA/PAs	=	10	
# of Missions where missile is terminated <u>OR</u> no live missile shot	-	3	→ 1 PA**
# of Missions For End Game Assessment	=	7	
# of Missions Without Drone Saving Maneuver	-	2	→ 2 KA***
# of Missions With Drone Saving Maneuver	=	5	x (Survival Factor) (default 75%)
		4 KA	
<b>Total</b>		<b>6 KA / 1 PA</b>	

\* 1 KA/PA needed for each aircraft in multi-ship formation (ie 2 KA/PAs for 2-ship formation)

\*\* PA allows multiple uses until test objective met

\*\*\* KA allows multiple uses until test objective met or target is expended