

Naval Audit Service



Audit Report



Aircraft Quantitative Requirements for the Acquisition of the Joint Primary Aircraft Training System

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N2010-0035
14 June 2010

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MEMORANDUM FOR DIRECTOR, AIR WARFARE, OFFICE OF THE CHIEF
OF NAVAL OPERATIONS (OPNAV N88)

Subj: **AIRCRAFT QUANTITATIVE REQUIREMENTS FOR THE
ACQUISITION OF THE JOINT PRIMARY AIRCRAFT TRAINING
SYSTEM (AUDIT REPORT N2010-0035)**

Ref: (a) NAVAUDSVC letter 7510/N2009-NIA000-0123.000, 9 Apr 09
(b) SECNAVINST 7510.7F, "Department of the Navy Internal Audit"

Encl: (1) Status of Recommendations and Funds Potentially Available for Other Use
(2) Background, Scope, and Methodology
(3) Calculation of Cost per T-6 Texan II Aircraft

1. Introduction. We have completed a portion of the subject audit, announced by reference (a). The Office of the Chief of Naval Operations (OPNAV) (N88) did not respond to the recommendations. Therefore, we consider the recommendations to be undecided and are resubmitting them to OPNAV N88 for consideration. See the "Response Guidelines" paragraph for further information.

2. Reason for Audit. Our objective was to verify that the Department of the Navy's quantitative requirement for the T-6A/B Texan II – Joint Primary Aircraft Training System (JPATS) aircraft is supported by logical assumptions and accurate, complete, reliable, and up-to-date information. This topic was generated by the Auditor General of the Navy and subsequently agreed to by OPNAV N882, Head of Maritime Aviation, Unmanned Aerial Systems and Aviation Training Plans and Programs. The last audit of the quantitative requirements for the JPATS program was published by the Government Accountability Office in September 1997. Due to the length of time since the last audit, it was deemed reasonable that the topic should be audited to verify that the computations used by the Navy are accurate and based on the most up-to-date and accurate information.

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3. Background, Scope, Methodology, and Pertinent Guidance

Background

a. JPATS is a joint Navy and Air Force program comprised of aircraft, a ground-based training system, and logistical support that is used to train Navy and Air Force undergraduate pilots in primary flight skills. The JPATS program includes the T-6 Texan II aircraft, which was developed by Raytheon Aircraft Corporation and designed to replace the Navy's T-34C Turbo Mentor and the Air Force's T-37B Tweet. For the Navy, the T-6 will be used for primary training of pilots and student Naval flight officers (SNFOs) who, after graduation from primary training, will track-select their careers into strike aircraft, rotary aircraft (helicopters), or multi-engine aircraft. The Navy plans to buy 315 T-6 Texan II aircraft at a total program cost of \$2.2 billion. The Navy began buying the T-6 aircraft in Fiscal Year (FY) 2000 and is planning to buy between 35 and 43 T-6 aircraft per year through FY 2013.

b. The T-6 aircraft has a service life expectancy of 24 years and is designed to provide better performance, improved safety, reliability, and maintainability than the existing T34C Turbo Mentor aircraft. The aircraft should upgrade the Navy's primary training capabilities with a lighter and more fuel efficient airframe, which will allow for longer flying events, or sorties. The T-6 aircraft will include safety features not available on the T-34C, including a pressurized cockpit, ejection seats, and additional bird strike protection.

c. The Navy's procurement objective of total required T-6 aircraft is calculated by the Naval Air Systems Command (NAVAIR) Program Manager Air for Naval Undergraduate Flight Training Systems (PMA-273). PMA-273 uses the estimated flight hours per year from the Chief Naval Air Training Command (CNATRA) to compute the primary aircraft authorization or the number of aircraft needed to train the planned number of pilots and SNFOs. To the primary aircraft authorization figure, PMA-273 adds a quantity of aircraft (Attrition Reserve Aircraft) to replace those that are estimated to fail due to a Category One (loss or damage) strike. PMA-273 also adds a quantity of aircraft to replace aircraft that may be out of service at any given time for maintenance or inspection (Backup Aircraft Authorization (BAA)). PMA-273 provides the results of the calculation to OPNAV N88, Director, Air Warfare, and this figure becomes the Navy's procurement objective.

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Scope and Methodology. See Enclosure 2.

Pertinent Guidance

a. **OPNAV Instruction 5442.8**, “Management of Naval Aircraft Inventory,” dated 18 April 1995, establishes the formula for calculating the aircraft required by the Navy to be applied to the JPATS program.

b. **Operation Requirements Document (ORD) for the Joint Primary Aircraft Training System (JPATS)**, dated 1 April 2000, states the capability requirements of the T-6 aircraft to be acquired by the Navy and Air Force. The ORD states that the length of the T-6 life cycle is 24 years.

c. **“Joint Primary Aircraft Training System (JPATS) Aircraft Prime Item Product Function Specification (PIPFS),”** dated 13 May 2008, and the **“Joint Primary Aircraft Training System (JPATS) Aircraft T-6B Prime Item Product Function Specification (PIPFS),”** dated 27 March 2009, state the capability requirements for each aircraft Type/Model/Series (TMS). They state the total flight hour life cycle (18,720 flight hours) per airframe, as well as the operational service life (24 years) for the T-6 aircraft.

d. **OPNAV N881 Memorandum, Series 13000, Ser N881C2A/9U183811**, “Aircraft Inventory Planning Factors,” dated 26 June 2009, contains the service life planning factor for each aircraft TMS in current operational use. It states that the back-up aircraft percentage for the T-6 is 7.5 percent and the attrition rate of 0.0 aircraft lost per 100,000 flight hours.

e. **OPNAV Instruction 3502.6**, “Naval Air Training Command Planning Factors Manual,” dated 6 December 1991, provides the official Naval Air Training Command planning factors. These factors are used as standard measurements against which training flow and performance are judged and by which requirements for aircraft, instructors, support personnel, and facilities are determined. CNATRA is to formally review the planning factors annually and forward recommended changes to OPNAV.

4. Communication with Management/Noteworthy Accomplishments

a. OPNAV N88, Director, Air Warfare, took immediate action pertaining to the inconsistent methodology used in determining the T-6 procurement objective when we presented our preliminary conclusions on 6 August 2009.

b. As a result of our analysis, OPNAV N88 personnel met with CNATRA, PMA-273, and the Naval Audit Service auditors via teleconference on 6 August 2009 and

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19 August 2009 to discuss the preliminary findings of the audit. In our opinion, OPNAV N88 demonstrated objectivity and a willingness to re-evaluate the procurement objective for the Navy's T-6 aircraft consistent with current OPNAV instructions.

c. We also briefed OPNAV N882, Head of Maritime Aviation, Unmanned Aerial Systems and Aviation Training Plans and Programs, on 15 September 2009 and during a working meeting on 22 October 2009, with CNATRA representatives and PMA-273 participating.

5. Federal Managers' Financial Integrity Act (FMFIA). The FMFIA of 1982, as codified in Title 31, United States Code, requires each Federal Agency head to annually certify the effectiveness of the agency's internal and accounting system controls. Recommendations 1-6 address issues related to the internal control over the procurement of training aircraft. In our opinion, the conditions noted in this report may warrant reporting in the Auditor General's annual FMFIA memorandum identifying management control weaknesses to the Secretary of the Navy.

6. Conclusions and Summary of Audit Results

a. Using formulas the Navy has used for 14 years to calculate JPATS requirements, and up-to-date information, we calculated that the Navy's current procurement objective of 315 T-6 Texan II training aircraft is 54 aircraft more than is supported by predicted pilot training rates and historical data. PMA-273 did not use the Navy's established aircraft requirements calculation formula, and employed atypical and unsubstantiated attrition aircraft and backup aircraft estimating factors to calculate aircraft requirements. As a result of this overstatement, the Department of the Navy may be spending \$365.2 million¹ to purchase 54 unneeded T-6 Texan II training aircraft. Table 1 shows the procurement objective when we began the audit, the procurement objective established by NAVAIR PMA-273, and the results of our audit.

¹ See Enclosure 3 for the methodology for calculating the cost of the excess T-6 Aircraft.

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Table 1: T-6 Texan II Aircraft Requirements

Source	Primary Aircraft	Attrition Reserve Aircraft	Backup Aircraft	Other ² Aircraft	Total Aircraft
Official Programmed and Budgeted Navy Procurement Objective	240	43	25	7	315
PMA-273 Procurement Objective	208	48	23	7	286*
Naval Audit Service Procurement Objective Based on Audit	208	30	16	7	261
Amount Original/Programmed and Budgeted Objective Exceeds Naval Audit Service Procurement Objective Based on Audit	32	13	9	0	54

*As of July 2009, PMA-273 had not communicated with OPNAV N88 a reduction in the procurement objective as required by instruction

b. **Flight Hours Not Updated.** We compared the official programmed and budgeted Navy procurement objective for T-6 aircraft provided by OPNAV N88 to the procurement objective calculations provided to us by PMA-273. Existing OPNAV instruction requires PMA-273 to provide annual revisits/changes to the aircraft procurement objective. PMA-273 had calculated a requirement (286) that was 29 aircraft lower than the official procurement objective (315); however, as of July 2009, they had not updated OPNAV N88. This occurred because PMA-273 stated that they were unaware of the annual requirement. When asked during a Naval Audit Service site visit to PMA-273, personnel from PMA-273 stated that the 29 extra aircraft could be used to satisfy any unforeseen conditions, such as an extension of the program. However, according to the OPNAV-sanctioned requirements determination formula that has been used since this aircraft acquisition began, the additional 29 aircraft, which will cost millions of dollars, are not needed, and the funds programmed to acquire them can be used for other needs. We also noted that the Primary Aircraft Authorization (PAA) portion of the official Navy procurement objective, 240 T-6 Texan aircraft, exceeded the

² The other aircraft are made up of 6 aircraft for the Navy Test Pilot School and 1 aircraft for Research, Development, Test, and Evaluation. These quantities were determined by OPNAV and because they will not be used to provide primary pilot training, we did not audit these figures.

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current PMA-273 calculated PAA quantity (208) by 32 T-6 Texan aircraft worth \$212.723 million. The Navy's official PAA was calculated using an annual flight hour requirement of 177,753 flight hours. However, PMA-273 is currently using an annual flight hour requirement of 153,812 flight hours and calculated the revised PAA requirement of 208 T-6 aircraft. As shown in Table 1, in the official Navy procurement objective as compared to the PMA-273 calculations, Primary Aircraft quantity was overstated by 32 aircraft, Attrition Reserve Aircraft was understated by 5 aircraft, and backup aircraft was overstated by 2 aircraft. The reduction in flight hours was primarily caused by a reduction in the number of syllabus hours required for pilots and SNFOs to complete primary training. We reviewed the basis for the calculation of 153,812 and agree that the number appears to be reasonable and that, therefore, the PAA of 208 aircraft was reasonable.

c. Attrition Reserve Aircraft and Backup Aircraft Calculations Not Substantiated. We do not agree with PMA-273's calculated requirement for attrition reserve and backup aircraft, which led to their total computed requirement of 286 aircraft. In addition to the Navy's primary aircraft overstatement of 32 aircraft due to the use of outdated flight hour data, we determined that both the Navy's and PMA-273's attrition reserve aircraft and backup aircraft numbers were also overstated. We used PMA-273's revised annual flight hour requirement (153,812 hours) to calculate the number of attrition reserve aircraft. We also used PMA-273's revised PAA (208) to calculate the backup aircraft requirement because it was based on more accurate estimates of planned flight hours during the training. We found that PMA-273's total aircraft requirement (286) is also overstated.

Attrition Reserve Aircraft

The Navy's officially programmed and budgeted procurement objective of 43 attrition aircraft is 13 aircraft, worth \$90.116 million, more than the 30 attrition aircraft requirement we calculated. In addition, PMA-273's figure of 48 attrition aircraft is 18 aircraft more than the 30 aircraft we calculated.

PMA-273 used a 1-year (FY 1998) aircraft attrition rate of 1.25 aircraft lost per 100,000 flight hours flown over the 3,821,925 estimated flight hours for the T-6 program to calculate the Navy's need to buy 48 attrition reserve aircraft. However, OPNAV Instruction 5442.8, "Management of Naval Aircraft Inventory," dated 18 April 1995, requires the aircraft attrition rate be calculated by using a 5-year running average of the number of aircraft that ceased operation due to a Category One strike from the Aircraft Inventory Reporting System.

The predicted attrition rates are published yearly by OPNAV N88. OPNAV N88 published factors for the T-6 aircraft via OPNAV N881 Memorandum, Series 13000,

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Ser N881C2A/9U183811, "Aircraft Inventory Planning Factors," dated 26 June 2009, stating that the 5-year historical attrition rate for the Navy's T-6 is 0.0 aircraft lost per 100,000 flight hours. In our judgment, a rate of 0 aircraft lost per 100,000 flight hours is not a reasonable estimate. Therefore, we analyzed the historical attrition rates for the Navy's T-34C and the Air Force's T-6 aircraft to establish a reasonable attrition reserve aircraft requirement. The latest 5-year rate for the T-34C Turbo Mentor aircraft is 0.3 aircraft lost per 100,000 flight hours. The 30-year average for the T-34C based on approximately 4.65 million hours flown is 0.77 aircraft lost per 100,000 flight hours. The Air Force has flown the T-6 Aircraft approximately 718,000 flight hours since Calendar Year 2000 and has lost 5 aircraft due to a Category One strike, which computes to an attrition rate of 0.69 aircraft lost per 100,000 flight hours.

Considering these factors and the estimated Navy T-6 flight hour requirement over the life of the program through year 2035, we, in coordination with OPNAV N88, agreed to estimate the T-6 Texan aircraft attrition rate as 0.77 aircraft lost per 100,000 flight hours. This mirrors the T-34C aircraft lifetime attrition rate and provides the most conservative estimate of attrition aircraft requirements from among the historical rates. We also selected this rate because it used the largest universe of actual hours flown. Using the 0.77 T-6 Texan aircraft lost per 100,000 flight hours over the 3,821,925 cumulative flight hours over the life of the program computes to 29.4 aircraft (or 30 aircraft) needed to replace T-6 aircraft that will cease operating because of a Category One strike.

Backup Aircraft

The Navy's officially programmed and budgeted procurement objective of 25 BAA aircraft is 9 aircraft, worth \$62.388 million, more than the 16 BAA aircraft requirement we calculated. In addition, PMA-273's figure of 23 BAA aircraft is 7 aircraft more than the 16 BAA aircraft we calculated.

PMA-273 estimated a backup percentage of 10 percent, which exceeded the historical rate required by published Navy criteria of 7.5 percent, to calculate a BAA requirement of 23 aircraft. In addition, PMA-273 applied the backup percentage to both the number of aircraft needed to meet the Navy's daily training quota (PAA) and the number of backup aircraft (BAA); essentially calculating a need for backup aircraft to back up backup aircraft. OPNAV Instruction 5442.8 states that only the PAA should be used.

The actual BAA rate for the T-6 aircraft was published by OPNAV N88 via memo 13000 Ser N881C2A/9U183811, dated 26 June 2009, at 7.5 percent. In addition, OPNAV Instruction 5442.8 states that the number of backup aircraft should be calculated

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by multiplying the estimated number of PAA aircraft (208) times the BAA rate (7.5 percent), which computes to 15.6, or 16 T-6 aircraft.

d. **Conclusion.** Based on our calculations, the Navy's officially planned and programmed procurement objective of 315 T-6 Texan aircraft is 54 more than the 261 that can be supported by current estimated annual flight hours and attrition reserve and backup aircraft formulas as stated in Table 1. The overstatements in the Navy's procurement objective were caused by use of outdated total flight hour data, use of an unsubstantiated attrition reserve aircraft factor, and use of an unsubstantiated backup aircraft factor. Reducing the procurement objective by 54 T-6 aircraft will allow the Navy to put approximately \$365.2 million to other use (see Enclosure 3 for an explanation of how funds potentially available for other use were calculated).

7. Recommendations and Corrective Actions.

a. We recommend that the Director, Air Warfare, Office of the Chief of Naval Operations, OPNAV N88:

Recommendation 1. Establish controls and provide oversight to ensure that PMA-273 provides current flight hours calculation for computing the procurement objective for T-6 aircraft.

Recommendation 2. Establish controls and provide oversight to ensure that PMA-273 uses the attrition rate percentage of 0.77 per 100,000 flight hours in determining the number of T-6 aircraft required by the Navy.

Recommendation 3. Establish controls and provide oversight to ensure that PMA-273 uses the prescribed requirements formula and 7.5 percent historical BAA rate in determining the number of T-6 aircraft required by the Navy.

Recommendation 4. Using the corrected numbers developed in response to Recommendations 1 through 3, reduce the procurement objective of T-6 aircraft to be procured by 54 aircraft, to 261 aircraft, and put the funds associated with the purchase of these aircraft to other use.

Recommendation 5. Require the Commander, NAVAIR and Chief of Naval Air Training to annually update JPATS aircraft planning factors to include, but not be limited to, attrition reserve aircraft and BAA.

Recommendation 6. Establish and maintain monitoring procedures to ensure that the JPATS aircraft planning factors are supported by logical assumptions and are accurate, complete, reliable, and use up-to-date information.

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Director, Air Warfare, Office of the Chief of Naval Operations, OPNAV N88 did not respond to the recommendations.

Naval Audit Service comment on the lack of a response to the recommendations. Because Director, Air Warfare, Office of the Chief of Naval Operations, OPNAV N88 did not respond to the recommendations, we are considering the recommendations undecided. We are resubmitting the recommendations to OPNAV N88 for consideration.

8. Response Guidelines.

a. The report provides results of the subject audit announced in reference (a). Paragraph 6 of this report provides our results and Paragraph 7 provides the recommendations. Enclosure 1 provides the status of the recommendations.

b. The Director, Air Warfare, Office of the Chief of Naval Operations, OPNAV N88 did not respond, and the recommendations are considered undecided and are being resubmitted to OPNAV N88 for reconsideration within 30 days. The responses should also specifically address the funds potentially available for other use; management may comment on other aspects of the report, if desired. Please provide all correspondence to the Assistant Auditor General for Installations and Environment Audits, XXXXXXXXXX, by e-mail at XXXXXXXXXXXXXXXXXXXX, with a copy to the Director, Policy and Oversight, XXXXXXXXXXXXXX. Please submit correspondence in electronic format (Microsoft Word or Adobe Acrobat file), and ensure that it is on letterhead and includes a scanned signature.

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c. Any requests for this report under the Freedom of Information Act must be approved by the Auditor General of the Navy as required by reference (b). This audit report is also subject to followup in accordance with reference (b).

9. We appreciate the cooperation and courtesies extended to our auditors.



XXXXXXXXXXXXXXXXXX
Assistant Auditor General
Installations and Environment Audits

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Enclosure 1:

Status of Recommendations and Funds Potentially Available for Other Use

Recommendations								FUNDS POTENTIALLY AVAILABLE (In \$000s)				
Finding ³	Rec. No.	Page No.	Subject	Status ⁴	Action Command	Target or Actual Completion Date	Interim Target Completion Date ⁵	Category ⁶	Claimed Amount	Agreed To	Not Agreed To	Appropriation ⁷
1	1	8	Establish controls and provide oversight to ensure that PMA-273 provides current flight hours calculation for computing the procurement objective for T-6 aircraft.	U	OPNAV N88	7/14/10						
1	2	8	Establish controls and provide oversight to ensure that PMA-273 uses the attrition rate percentage of 0.77 per 100,000 flight hours in determining the number of T-6 aircraft required by the Navy.	U	OPNAV N88	7/14/10						

³ / + = Indicates repeat finding.

⁴ / O = Recommendation is open with agreed-to corrective actions; C = Recommendation is closed with all action completed; U = Recommendation is undecided with resolution efforts in progress.

⁵ If applicable.

⁶ / A = One-time potential funds put to other use; B = Recurring potential funds put to other use for up to 6 years; C = Indeterminable/immeasurable.

⁷ / = Includes appropriation (and subhead if known).

ENCLOSURE 1: STATUS OF RECOMMENDATIONS AND FUNDS POTENTIALLY AVAILABLE FOR OTHER USE

Recommendations								FUNDS POTENTIALLY AVAILABLE (In \$000s)				
Finding ³	Rec. No.	Page No.	Subject	Status ⁴	Action Command	Target or Actual Completion Date	Interim Target Completion Date ⁵	Category ⁶	Claimed Amount	Agreed To	Not Agreed To	Appropriation ⁷
1	3	8	Establish controls and provide oversight to ensure that PMA-273 uses the prescribed requirements formula and 7.5 percent historical BAA rate in determining the number of T-6 aircraft required by the Navy.	U	OPNAV N88	7/14/10						
1	4	8	Using the corrected numbers developed in response to Recommendations 1 through 3, reduce the procurement objective of T-6 aircraft to be procured by 54 aircraft, to 261 aircraft, and put the funds associated with the purchase of these aircraft to other use.	U	OPNAV N88	7/14/10		A A	122,607 242,620			17121506 17131506
1	5	8	Require the Commander, NAVAIR and Chief of Naval Air Training to annually update JPATS aircraft planning factors to include, but not be limited to, attrition reserve aircraft and BAA.	U	OPNAV N88	7/14/10						
1	6	9	Establish and maintain monitoring procedures to ensure that the JPATS aircraft planning factors are supported by logical assumptions and are accurate, complete, reliable, and use up-to-date information.	U	OPNAV N88	7/14/10						

Background, Scope, and Methodology

Background

Formula Used to Calculate Aircraft Requirements

The Navy calculates the total number of T-6 Primary aircraft it needs using a formula that divides the total number of required T-6 training hours per year by the number of hours the T-6 is estimated to fly per year. In addition to the primary aircraft quantity, the formula includes airplanes to replace those that will fail due to a Category One strike (Attrition Reserve) and airplanes that may be out of service due to maintenance or inspections (Backup Aircraft).

To estimate the total T-6 flight hours, the Chief of Naval Air Training (CNATRA) calculates the number of flight hours the T-6 is expected to fly per year. CNATRA calculates the flight hours it takes to graduate a student pilot or student Naval flight officer (SNFO) from primary training and multiplies this number times the number of students it must graduate annually to meet the pilot training requirements established by the Office of the Chief of Naval Operations (OPNAV) (N88). CNATRA estimated that they need to fly the T-6 fleet 153,812 hours per year to meet the future projected Fleet Aviator, CNATRA, and Fleet Readiness Squadrons training requirements published by OPNAV N88.

The Naval Air Systems Command (NAVAIR) Program Manager Air for Naval Undergraduate Flight Training Systems (PMA-273) calculated the number of hours the plane is expected to fly per year by dividing the aircraft life in flight hours by the life of the program in years. For the T-6 aircraft, the plane is expected to have a life of 18,720 flight hours and the program is scheduled for 24 years. Therefore, each T-6 aircraft is estimated to fly 780 hours per year; however, this figure is reduced 5 percent as a reduction factor, to 741 flight hours per year. This is the utilization rate per aircraft used to compute aircraft requirements

The Navy Safety Center keeps historical data on number of aircraft that are lost due to a Category One strike, and the number of hours flown, to calculate the estimated aircraft attrition rate per 100,000 flight hours flown. This rate is published by OPNAV N88 and is to be applied to the estimated number of flight hours to estimate the number of aircraft that will be lost over the life of the program. This total number of aircraft is added to the quantity of aircraft needed to meet training requirements.

The quantity of aircraft necessary to allow for aircraft out of service for maintenance or inspections is calculated using data in the Aircraft Inventory Reporting System (AIRS) data base. This data is averaged over 5 years and is published annually by OPNAV N88. The latest published rate for the T-6 aircraft was 7.5 percent of the total aircraft inventory.

Scope

Our audit focused on the process used by the Department of the Navy to estimate the quantity of T-6 Texan aircraft needed to provide primary flight training for pilots and SNFOs. Our audit included an evaluation of the T-6 aircraft and flight hours flown for both the Department of the Navy and the Air Force over the approximately 10 years the T-6 has been flown. We also evaluated historical data associated with the T-34C aircraft and primary pilot and SNFO training conducted with both the T-34C and T-6 aircraft. Audit fieldwork was performed between 6 May 2009 and 20 November 2009.

We conducted our audit work at the following commands:

- Chief of Naval Operations, Washington, DC
- Naval Air Systems Command, Patuxent River, MD
- Wright Patterson Air Force Base, Dayton, OH
- Chief of Naval Air Training, Corpus Christi, TX
 - Commander Training Air Wing 4, Corpus Christi, TX
 - Commander Training Air Wing 5, Milton, FL
 - Commander Training Air Wing 6, Pensacola, FL

Methodology

We obtained and evaluated the current T-6 Texan aircraft procurement objective of 315 aircraft.

We obtained the spreadsheet used by PMA-273 and evaluated the data used to estimate primary aircraft requirements, attrition aircraft requirements, and backup aircraft requirements.

We examined historical flight data in the Naval Aviation Production Process (NAPP) Integrated Production Data Repository (NIPDR), Training Integration Management System (TIMS), and AIRS databases.

We obtained the spreadsheets used by CNATRA and verified the data and calculations used to compute the number of flight hours required per primary flight training graduate. This included obtaining copies of the primary pilot and SNFO syllabuses and comparing them to data used by CNATRA.

We obtained appropriate OPNAV N88 correspondence that publishes flight training requirements and compared that data to data used by CNATRA to calculate the estimated number of primary graduates per year.

We obtained appropriate OPNAV N88 correspondence that publishes backup aircraft percentages and attrition aircraft rates and compared that data to data used by PMA-273 in calculating aircraft requirements.

We obtained Navy Safety Center historical data regarding aircraft lost due to category one strikes for the T-34C aircraft.

We conducted this performance audit in accordance with Generally Accepted Government Auditing Standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Enclosure 3:

Calculation of Cost per T-6 Texan II Aircraft

The cost of the T-6 Texan II aircraft was calculated using the latest figures available from Office of the Assistant Secretary of the Navy (Financial Management and Comptroller), (OASN (FMC), Director, Office of the Budget (FMB). Specifically, we used the Recurring Flyaway Cost for Aircraft planned for procurement in Fiscal Years (FYs) 2012 and 2013. The Recurring Flyaway Unit Cost for the 35 T-6 aircraft planned for purchase in FY 2013 is \$6.932 million. The Recurring Flyaway Unit Cost for the 43 T-6 aircraft planned for purchase in FY 2012 is \$6.453 million.

We assumed the Attrition Aircraft would be the last aircraft purchased, so the value of the 13 attrition aircraft proposed for elimination from the procurement was estimated at \$6.932 million per aircraft, or \$90.116 million.

We assumed the backup aircraft would be purchased just before the Attrition Aircraft, so the value of the 9 backup aircraft proposed for elimination from the procurement was also estimated at \$6.932 million per aircraft or \$62.388 million.

The remainder of the 35 aircraft planned for procurement in FY 2013 (13 aircraft) were used to value 13 of the primary aircraft proposed for elimination from the procurement. These 13 aircraft were valued at \$6.932 million each, or \$90.116 million. The final 19 primary aircraft proposed for elimination from the procurement were valued at the FY 2012 recurring flyaway cost of \$6.453 million per aircraft or \$122.607 million. The total value of the 32 primary aircraft eliminated from the procurement was \$212.723 million.

Aircraft Category	FY	Recurring Flyaway Cost (\$000)	Number of Aircraft	Total Value of the Aircraft (\$000)
Attrition	2013	\$6,932	13	\$90,116
Backup	2013	6,932	9	62,388
Primary	2013	6,932	13	90,116
Subtotal	2013	6,932	35	242,620
Primary	2012	\$6,453	19	122,607
Total			54	\$365,227

Recurring flyaway cost covers only the airframe, engines, avionics, and other equipment that comes “standard” with every airplane (and thus is “recurring”).

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