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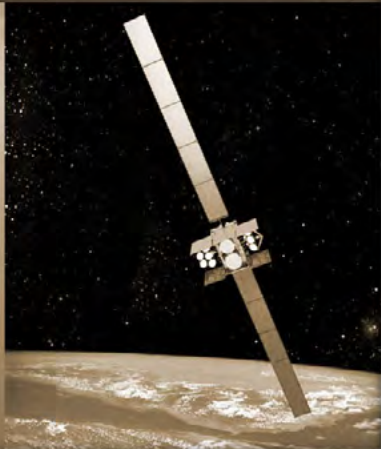


# A BRIEF HISTORY AND HERITAGE OF AFOTEC

THE AIR FORCE OPERATIONAL TEST & EVALUATION CENTER

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## AIR FORCE ORGANIZATIONAL EXCELLENCE AWARD

The Air Force Organizational Excellence Award recognizes the achievements and accomplishments of U.S. Air Force organizations or activities. It is awarded to Air Force internal organizations that are entities within larger organizations. They are unique, unnumbered organizations or activities that perform functions normally performed by numbered wings, groups, squadrons, etc. Then Secretary of the Air Force, Robert C. Seamans, Jr., authorized this award on August 26, 1969.

This award is a ribbon with a narrow blue center stripe, flanked by a thin white stripe, a wide red stripe, a thin white stripe, edged with a narrow blue stripe. A bronze "V" device is worn on the ribbon to denote award for combat or direct combat support actions.

The Air Force Operational Test and Evaluation Center has received this award ten times since 1983.

### AFOTEC Air Force Organizational Excellence Awards

Special Order GB-481, 1 January 1983 – 31 December 1984

Special Order GB-539, 1 April 1985 – 31 March 1987

Special Order GB-173, 1 October 1987 – September 1989

Special Order GB-114, 1 October 1991 – 31 October 1993

Special Order GB-121, 1 November 1993 – 15 November 1995

Special Order GB-130, 1 January 1998 – 31 December 1999

Special Order G-221, 1 January 2000 – 31 December 2001

Special Order G-284, 1 January 2002 – 31 December 2003

Special Order G-188, 1 January 2005 – 31 December 2006

Special Order G-078, 1 January 2007 – 31 December 2008

## A BRIEF HISTORY OF THE AIR FORCE OPERATIONAL TEST AND EVALUATION CENTER

### Air Force Operational Test and Evaluation, 1941-1973

In 1941, the Air Corps Proving Ground activated at Eglin Air Force Base, Florida, when General Henry H. "Hap" Arnold ordered the creation of an aircraft and armament proving ground. The next year, the Air Corps Proving Ground became the Proving Ground Command, responsible for testing new aircraft in their operational roles as they came off the assembly lines. In 1948, the PGC became the Air Proving Ground Command (APGC), one of the major commands of the fledgling United States Air Force.

APGC conducted realistic testing of new weapons as an independent organization, reporting directly to the Chief of Staff of the Air Force and advocating a "fly-before-buy" approach to acquiring new systems. Such a shift, however, remained a challenge, for the Air Force continued the "buy-fly-fix" process that had grown from the demands of World War II and undervalued the importance of timely independent operational test and evaluation.



APGC attempted to simulate combat conditions during its tests. It also grew in size as it acquired the systems it tested. By 1956, Air Force regulations outlined an eight-phase test and evaluation process that did not include the APGC until phase seven. By that point in the acquisition cycle, the Air Force had often already fielded units with new systems that APGC had not yet tested. Not surprisingly, operators often experienced serious problems with these new, untested systems. This led to a misperception about the value of operational test and evaluation (OT&E) and APGC. Had OT&E taken place before production decisions and fielding new systems, there likely would not have been any question about the added value of independent OT&E.

As a result of the doubts about the value of APGC and cuts to the defense budget, in 1957 the Air Force stripped APGC of its major command status, reduced its budget and authorized personnel, and redesignated the Command the Air Proving Ground Center, and assigned it to the Air Research and Development Command. This action meant the Air Force no longer had an independent organization that specialized in impartial operational test and evaluation.

Decentralized operational testing at the major commands occurred from 1958 to 1973. Major command emphasis was often on quick deployment rather than thorough testing and impartial evaluations. Although the Air Force streamlined OT&E from eight to three phases during this period, OT&E still came at the end of the acquisition process. In addition, as systems became more complex, and the Air Force moved to acquire systems quickly, the "fly-before-buy" approach fell by the wayside. The consequences became clear when a Department of Defense study found that 21 of 22 major weapons systems used in the Vietnam War from 1965-1970 suffered severe operational deficiencies. These results strongly stated the case for independent OT&E in the Air Force.

### Air Force Test and Evaluation Center Established

In addition to the study of fielded weapons used in Vietnam, a new Department of Defense leadership team began major reforms when the new Richard M. Nixon administration began in 1969. Deputy Secretary of Defense David Packard, the esteemed entrepreneur who favored the

“fly-before-buy” approach, and Undersecretary of the Air Force John L. McClucas, who dealt with operational problems with the F-111 and C-5 transport, took the lead in defining a new emphasis on OT&E.

Several government committees, commissions, and agencies studied how to implement acquisition reform, including the benefits of independent operational test and evaluation. Participants in all of these studies, along with an increasing number of Senators and Congressmen, concluded that the developing and using commands had become less impartial about the capabilities of, and need for, their major acquisition programs.

In July 1970, a Presidential Blue Ribbon Defense Panel recommended the creation of an OT&E organization in each service, independent from the developer and user, and reporting directly to the chief of each service. Deputy Secretary Packard quickly started to implement the Panel's recommendations. By November 1971, Congress showed its support for OT&E by requiring that the services submit OT&E results before procuring new systems.

Congress expected the independent operational test agency in each service to test and evaluate a system relative to two questions: Is the system operationally effective? and Is the system operationally suitable?. Operational effectiveness addresses how well a system performed the mission for which it was designed. Operational suitability, on the other hand, examined if a system could be maintained, kept available, and was reliable in the operational environment.



Some members of the Air Staff, unfavorably recalling the contributions of the Air Proving Ground Command, attempted to find alternatives to creating a new, independent OT&E organization. They contended that internal changes were the first step. Air Force leadership also adopted a new dichotomy in which developing commands would typically conduct developmental test and evaluation while the using commands would usually conduct operational test and evaluation. Senior Air Force leadership believed these changes could bring to the Air Force the balance and independence Congress and the Department of Defense favored for each service.

In 1973, John L. McClucas became Secretary of the Air Force, and General George S. Brown became the new Chief of Staff of the Air Force. In September 1973, General Brown ordered the Air Staff to plan for a new independent OT&E agency. On December 11, 1973, a directive from Headquarters Air Force established the Air Force Test and Evaluation Center at Kirtland Air Force Base, New Mexico, effective 1 January 1974.

## AFTEC's Early Years

AFTEC's charter largely addressed the criticisms of OT&E and the Blue Panel's recommendations. For example, as a Separate Operating Agency, the Center reported directly to the Chief of Staff of the Air Force as a means of ensuring independence from the developing and using commands. AFTEC test teams would consist of specialists who would operate and maintain the systems after deployment. The Center would provide the results of its evaluations to the Secretary of the Air Force and the Chief of Staff in support of key decision points in the acquisition process. And, AFTEC would conduct impartial tests under conditions as close to those encountered in the field.

At the same time, the Air Force also took steps to avoid creating another APGC. AFTEC would be a small management headquarters with approximately 200 personnel, and AFTEC would never

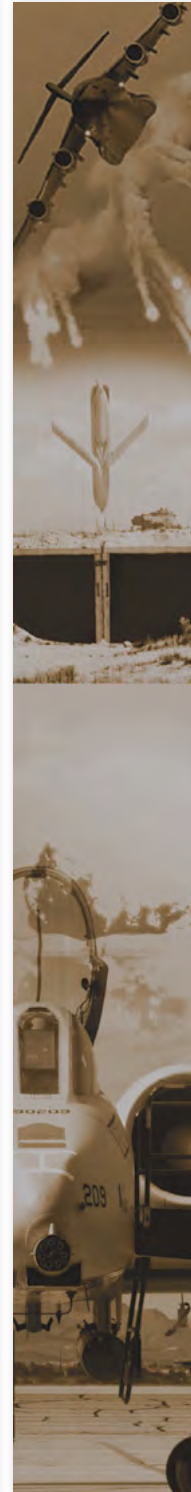
## COMMON TEST AND EVALUATION TERMS AND DEFINITIONS

The following descriptions explain terms that are synonymous with operational test and evaluation.

**Operational Suitability** – The degree to which a system can be placed satisfactorily in field use with consideration given to availability, compatibility, transportability, interoperability, reliability, wartime usage rates, maintainability, safety, human factors, manpower supportability, logistics supportability, natural environmental effects and impacts, documentation, and training requirements.

**Operational Effectiveness** – The overall degree of mission accomplishment of a system when used by representative personnel in the environment planned or expected (e.g., natural, electronic, threat) for operational employment of the system considering organization, doctrine, tactics, survivability, vulnerability, and threat (including countermeasures, initial nuclear weapons effects, and nuclear, biological, and chemical (NBC) contamination threats).

**Verification, Validation and Accreditation (VV&A)** – (1) Verification: The process of determining that a model or simulation (or other test capability) implementation accurately represents the developer's conceptual description and specifications. For model and simulation, verification also evaluates the extent to which the model and simulation has been developed using sound and established software-engineering techniques. (2) Validation: The process of determining (a) the manner and degree to which a model and simulation (or other test capability) is an accurate representation of the real-world from the perspective of the intended uses of the model and simulation, and (b) the confidence that should be placed on the assessment. (3) Accreditation: An official determination that a model or simulation is acceptable for a specific purpose, and is based on a five-step process: identify test issues; review validation documentation; compare test capabilities and validation information with test issues; identify potential shortfalls; and develop and execute strategy to address shortfalls (assess risk).







## COMMON TEST AND EVALUATION TERMS AND DEFINITIONS

**Operational Utility Evaluation (OUE)** – Are evaluations conducted to demonstrate or validate new operational concepts or capabilities, upgrade components, or expand the mission or capabilities of existing or modified systems. OUEs are not used when IOT&E, QOT&E, or FDE are required or are more suitable.

**Advanced Concept Technology Demonstration (ACTD) and Joint Capability Technology Demonstration (JCTD)** – Serve to accelerate and facilitate the application of mature advanced technologies to provide near-term solutions to meet joint requirements.

**Military Utility Assessment (MUA)** – An assessment of operational utility completed at the end of an ACTD/JCTD.

**Initial Operational Test and Evaluation (IOT&E)** – An independent and dedicated operational T&E conducted in as realistic an operational environment as possible to estimate the prospective system's overall operational capability determined by effectiveness, suitability, and other operational considerations. In addition, OT&E provides information on organization, personnel requirements, doctrine, and tactics. It may also provide data to support or verify material in operating instructions, publications, and handbooks.

**Multiservice Operational Test and Evaluation (MOT&E)** – OT&E conducted by two or more services on systems to be acquired by more than one service or to be interoperable between services.

**Follow-on Operational Test & Evaluation (FOT&E)** – Continuation of IOT&E or QOT&E. FOT&E answers specific questions about unresolved COIs and test issues, verifies the resolution of deficiencies determined to have substantial or severe impact on mission operations, or completes areas not finished during the I/QOT&E. Requirements for FOT&E are documented in an approved AFOTEC OT&E report prior to the planning of the FOT&E.

**Qualification Operational Test and Evaluation (QOT&E)** – The operational testing performed on programs instead of IOT&E for which there is no RDT&E-funded development effort.

own any of the systems it tested. The charter and subsequent events showed the Air Force's reluctance to turn all OT&E over to the new Center. Although AFTEC declared full operational capability in October 1974, by the end of its first year, the Center had responsibility to test only 32 OT&E programs, while the major commands continued to conduct OT&E on their programs of interest. AFTEC was limited to monitoring OT&E of smaller acquisition programs at the major commands. Another obstacle arose because AFTEC was such a small organization that it had to rely heavily on the major commands to provide personnel for test teams and funds for OT&E.



In October 1976, Major General Howard W. Leaf assumed command of AFTEC, and gradually implemented changes that enhanced AFTEC's role in OT&E conducted at the major commands. Major General Leaf, promoted to Lieutenant General and reassigned as inspector general of the Air Force, departed AFTEC in May 1980. By that time, he had helped find solutions to AFTEC's budgeting process, forged closer relationships with the major commands, and had established three levels of AFTEC effort for monitoring major command OT&E programs. Like his predecessors and

successors as AFTEC commander, Major General Leaf sought to involve OT&E testers as early as possible in programs identified for OT&E to help ensure system readiness for test and that tests reflected the needs of users of the new systems. Early OT&E also played a role in ensuring the "fix-before-buy" approach had a chance to save resources by finding problems before production, thereby avoiding costly modifications to fielded systems. As a whole, Major General Leaf's time as AFTEC commander stabilized the new organization and made it a more active participant in Air Force OT&E.

### From AFTEC to Air Force Operational Test and Evaluation Center

AFTEC's increasing contributions to Air Force OT&E led the Center to create detachments and operating locations dedicated to conducting AFTEC's OT&E mission. While AFTEC headquarters remained at Kirtland AFB, detachments activated at numerous locations, including Kapaun, Germany, Eglin AFB, Florida, Edwards AFB, California, and Nellis AFB, Nevada. Detachments tended to support relatively broad categories of test—fighter aircraft, large aircraft, and munitions, for example. Operating locations, smaller than the detachments and located throughout the United States, tended to focus on individual systems.

In 1983, the Air Force added "Operational" to the Center's name to more accurately describe its unique mission of evaluating the operational effectiveness and operational suitability of new systems.

Congress, with an increased interest in understanding the operational effectiveness and operational suitability of major Department of Defense acquisition programs, directed the creation of a new position, Director, Operational Test and Evaluation, in the Office of the Secretary of Defense in September 1983. Congress required that the Director, Directorate of Operational Test and Evaluation (DOT&E)





would report directly, without intervening review or approval, to the Secretary of Defense and to Congress. One of the requirements Congress levied on DOT&E was to create, maintain, and update a list of major Department of Defense acquisition programs, and to prepare an annual report to Congress, informing that body about the progress of programs with high interest and visibility in Congress.

## End of the Cold War Brings More Change

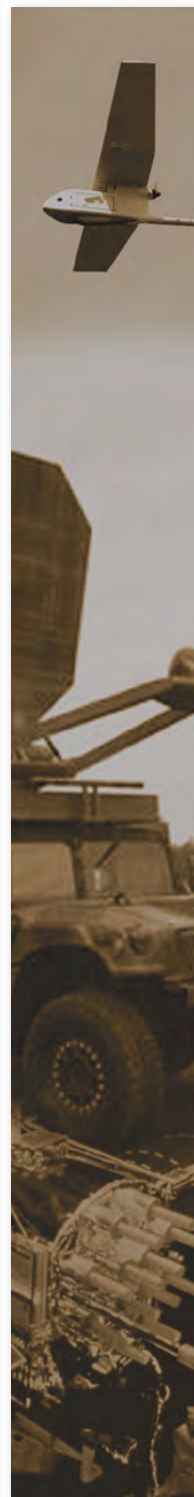
Unrest in Europe in 1989 brought the fall of the Berlin Wall in November of that year, and ultimately the demise of the Soviet Union and the end of the Cold War. The United States began to dramatically reduce the size of its armed services shortly thereafter. Chief of Staff of the Air Force General Merrill A. McPeak announced the consolidation of several Air Force major commands and personnel reductions as part of the overall Department of Defense reductions.

As part of these reductions and reorganization, the Air Force changed its Direct Reporting Units (DRUs) and Separate Operating Agencies (SOAs) to field operating agencies and assigned them to appropriate functional chiefs at Headquarters U.S. Air Force. Because of AFOTEC's charter as an independent test agency that reported directly to the Chief of Staff of the Air Force, the Center became one of only three Direct Reporting Units in the Air Force on 5 February 1991.

Several proposals to consolidate Air Force OT&E at AFOTEC also circulated during broad area reviews associated with reorganizing the Air Force. The U.S. Air Force Scientific Advisory Board, for example, addressed the feasibility of expanding AFOTEC's role and scope of responsibility for the entire test and evaluation process, from the initial statement of need to the last major upgrade of a system. A Department of Defense Inspector General report used a different perspective and criticized the Air Force for not having a single operational test agency.

In September 1991, Secretary of the Air Force Dr. Donald B. Rice and General McPeak created a new office in the Air Staff, the Director of Test and Evaluation. Retired Lieutenant General Howard W. Leaf became the first Director of Test and Evaluation in October 1991, and two months later, proposed consolidating OT&E at AFOTEC. As part of the Air Force reorganization and drawdown, General McPeak directed that the Center not only continue its lead role in multi-service OT&E, but also the consolidation of all initial and qualification OT&E and select follow-on OT&E at AFOTEC by 1 June 1992. By design, this meant General McPeak limited the type and scope of testing the major commands could perform in the future. Overnight, the number of AFOTEC-conducted tests rose first from 47 to 186, and ultimately to more than 200. General McPeak also announced that AFOTEC would receive additional personnel to ensure it could meet its newly expanded mission.

The Center's mission grew again on 1 October 1997 when AFOTEC absorbed the personnel and workload of the Defense Evaluation Support Activity (DESA). DESA, which had experience with rapid test, was heavily involved in testing advanced concept technology demonstrations, which sought out innovative applications for emerging technologies to create prototype systems for examination by operational units.



## COMMON TEST AND EVALUATION TERMS AND DEFINITIONS

**Joint Test and Evaluation (JT&E)** – JT&E candidate programs are nominated by the Services, and directed and funded by OSD. JT&E programs evaluate technical or operational concepts that are applicable to more than one Service. They usually do not result in the acquisition of systems.

**Foreign Comparative Test (FCT)** – An Office of the Secretary of Defense funded program that allows each Service to test foreign-developed systems, components, equipment items, or technologies. The goal is to determine if foreign items meet validated needs and requirements, and if they are viable candidates for a competitive acquisition.

**Initial Test Design (ITD)** – Initial test design is another focus of Early Influence. It is a systematic approach to take the test teams from capability requirements to credible OT&E constructs which, when executed, will yield the final data required by decision-makers to make program decisions. ITD is a process to provide a standardized approach for the corporate allocation of resources among all of the test programs managed by AFOTEC and to identify major test capability requirements and shortfalls.

The following terms provide definitions and explanations of operational testing and are ordered in the sequence of program or system maturity.

**Early Operational Assessment (EOA)** – Conducted to provide insight into progress being made toward operational effectiveness, suitability, and mission capability. The OT&E construct will form the basis for the early operational assessment. The construct used for the EOA may not be the final construct, but it should give insight into the elements that make up effectiveness and suitability for the system under test. EOAs also look into the program's future based on current information and observations to assess readiness for OT&E.

**Operational Assessment (OA)** – Analysis of progress toward operational effectiveness and suitability made by an independent operational test activity, with user support as required, on other than production systems. Additionally, AFOTEC assess progress toward overall mission capability. The focus of an operational assessment is on significant trends noted in development efforts, programmatic voids, areas of risk, adequacy of requirements, and the ability of the program to support adequate operational testing. Operational assessments may be made at any time using technology demonstrators, prototypes, mockups, engineering development models, or simulations, but are substitute for the independent OT&E necessary to support full production decisions. An OA conducted before MS B is referred to as an EOA.

**Operational Utility Assessment (OUA)** – are used to determine operational utility in support of assessments conducted on innovation programs. An OUA is planned, conducted, and reported by adapting the OT&E construct to the technology being assessed.





## COMMON TEST AND EVALUATION TERMS AND DEFINITIONS

The terms below provide definitions and explain the different forms of testing performed within the Department of Defense.

**Test and Evaluation (T&E)** – The term “test” denotes any project or program designed to obtain, verify, and provide data to evaluate, research, and develop; progress in accomplishing development objectives; performance and operational capability of systems, subsystems, and components; and equipment items. The term “evaluation” denotes the review and analysis of data produced during current or previous testing and data obtained from test conducted by other government agencies and contractors, from operation and commercial experience, or combinations thereof.

**Developmental Test and Evaluation (DT&E)** – Conducted to evaluate design approaches, validate analytical models, quantify contract technical performance and manufacturing quality measure progress in system engineering design and development, minimize design risks, predict integrated system operational performance (effectiveness and suitability) in the intended environment, and identify system problems (or deficiencies) to allow for early and timely resolution or correction. Decision-makers use DT&E results to minimize design risk, whereas OT&E evaluates military utility, and system effectiveness and suitability. DT&E includes contractor testing .

**Integrated Developmental Test/Operational Test (Integrated DT/OT)** – An efficient approach to T&E, executed with the deliberate intent and planning to use specific test events and activities for both developmental test and operational test analysis and reporting, when there are clear cost and/or schedule advantages. The high cost or lack of sufficient test articles may provide an overall benefit for DT&E and OT&E teams to share test resources and data. IDT/OT usually ends with a phase of dedicated OT&E. AFOTEC always considers doing IDT/OT for all programs. The restriction for contractor involvement in USC, Title 10 applies only to dedicated OT&E.

**Operational Test and Evaluation (OT&E)** – The field test, under realistic combat conditions, of any item of (or key component of) weapons, equipment, or munitions for the purpose of determining the effectiveness and suitability of the weapons, equipment or munitions for use in combat by typical military users, and the evaluation of the results of such test.

**Force Development Evaluation (FDE)** – Performed by MAJCOM operational test organizations during fielding and sustainment or in support of MAJCOM-managed system acquisition. If AFOTEC conducted OT&E, an FDE is used to evaluate and verify the resolution of previously identified deficiencies or shortfalls that were not rated in the OT&E final report as having a substantial or severe impact on mission operations. If AFOTEC did not conduct OT&E, FDE can be done in lieu of OT&E as needed to support acquisition program decisions.

## Today's AFOTEC

AFOTEC Headquarters at Kirtland AFB, New Mexico, oversees five detachments, three operating locations, and six liaison offices at locations across the United States. AFOTEC continues to test and evaluate new weapon systems and capabilities in operationally realistic environments. AFOTEC offers fact-based, quality data in its test reports to inform decision makers on a range of assessments of effectiveness, suitability, and whether a system is fully, partly, or not mission capable. For more than three decades, AFOTEC has been the focal point for Air Force operational test and evaluation and has significantly contributed to the successful acquisition and operational employment of numerous weapon and support systems for all branches of the armed forces, other government agencies, and our nation's allies.







# COMMANDERS

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## COMMANDERS

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**Major General David J. Eichhorn,**  
22 October 2010 – Present

Major General David J. Eichhorn entered the Air Force as a distinguished graduate through the Reserve Officer Training Corps in 1976. In earlier assignments he served as an experimental test pilot, and his commands include two flight test squadrons, a test group, a test wing, and the Arnold Engineering Development Center, overseeing developmental flight tests on a wide variety of weapon systems. A certified acquisition professional, he served at the Electronic Systems Center as the Vice Commander, where he was previously assigned as Director of Advanced Command, Control and Communications Systems as

well as Director of Advanced Aircraft Systems. He has also served as Director of the Aeronautical Enterprise Program Office, Deputy Director of Plans and Programs at Headquarters Air Force Materiel Command, and Deputy Program Executive Officer for Aircraft at Aeronautical Systems Center. From November 2006 to October 2007, General Eichhorn was the Director of Air, Space and Information Operations, Headquarters Air Force Materiel Command.

In October 2007, General Eichhorn assumed command of the Air Force Flight Test Center, Edwards Air Force Base, California. His area of responsibility included the development, test, and evaluation of manned and unmanned aircraft systems in both experimental and proven aerospace vehicles. He supported the conduct of test and evaluation programs for the Department of Defense, the Defense Advanced Research Project Agency, the National Aeronautics and Space Administration, and the U.S. Air Force, Army, Navy and Marine Corps.

General Eichhorn has flown the B-52D/H, B-1B, F-111 and T-38, serving as an instructor pilot and aircraft commander. He has accumulated more than 6,100 hours in more than 47 aircraft types.

General Eichhorn has received many military awards and decorations, including the Defense Service Medal; Legion of Merit with oak leaf cluster; Meritorious Service Medal with four oak leaf clusters; Air Medal; Aerial Achievement Medal with oak leaf cluster; and the Air Force Commendation Medal with three oak leaf clusters. General Eichhorn was a Distinguished Graduate, undergraduate pilot training; Lt Gen John W. O'Neill Award Winner, Electronic Systems Center; recipient of the 2004 Outstanding Alumnus Award, Cal State University College of Engineering and Computer Science; recipient of the 2010 Outstanding Alumnus Award, University of Illinois College of Electrical and Computer Engineering and is an Associate Fellow, Society of Experimental Test Pilots.



## COMMANDERS

AIR FORCE OPERATIONAL TEST & EVALUATION CENTER



**Major General Robin E. Scott,**  
15 June 2005 – 31 May 2007

Major General Robin Scott was a squadron commander, a wing commander, and held several staff positions that prepared him to lead AFOTEC. He commanded Combined Task Force Operation Northern Watch, US European Command, Incirlik, Turkey. In his assignment prior to assuming command at AFOTEC, he served on the Joint Staff as Deputy Director for Force Application in the Directorate of Force Structure, Resources and Assessment. General Scott flew 70 combat sorties in Operations DESERT STORM and NORTHERN WATCH, and amassed more than 4,200 flight hours in the F-4, A-7, F-117, F-15C, F-15E, T-1 and T-6 aircraft. He retired after his tour at AFOTEC.

Colonel Alison R. Hill (Interim), 1 June 2007 – 11 July 2007



**Major General Stephen T. Sargeant,**  
12 July 2007 – 21 October 2010

Major General Stephen T. Sargeant, an Air Force Academy graduate, was pilot and instructor for the A-10 and F-16, commanded the 8th Fighter Wing at Kunsan AB, South Korea and the 56th Fighter Wing at Luke AFB, Arizona, served as Commandant of the USAF Weapons School, and Deputy Chief of Staff, Strategy, Plans and Assessment, Multi-National Force-Iraq, Baghdad. Before taking command of AFOTEC, General Sargeant served as the Deputy Chief of Staff for the United Nations Command and U.S. Forces Korea at Yongsan Army Garrison, South Korea. He received the 2009 Gen Thomas D. White USAF Space Trophy for his aerospace contributions. A Command Pilot, General Sargeant had more than 3,100 hours in several aircraft, including the A-10/A and the F-16A/B/C/D.

## COMMANDERS

AIR FORCE OPERATIONAL TEST & EVALUATION CENTER



**Major General (later Lt. Gen) John J. Burns,**  
25 February 1974 – 25 August 1974

Major General John Burns was the first Commander of the Air Force Test and Evaluation Center (AFTEC). General Burns was a veteran fighter pilot of three wars: World War II, Korea, and Vietnam. General Burns' service at AFTEC was cut short when he was awarded a third star and given command of the US Support Activities Group and 7th Air Force in Southeast Asia where he directed military operations to evacuate Phnom Penh, Cambodia, and Saigon, Vietnam. He also supervised the recovery of the crew of the S.S. Mayaguez. He retired from the Air Force on 1 March 1979.



**Major General Richard G. Cross, Jr.,**  
26 August 1974 – 31 August 1975

Major General Richard Cross flew combat missions in P-51 Mustangs during World War II, including the Normandy invasion. He shot down two enemy aircraft on one day, earning the Silver Star. An advisor to the Belgian Air Force, he was later Chief, air operations, Military Assistance Command Vietnam. General Cross flew 67 combat missions in F-4 Phantoms during the Vietnam War. He amassed more than 6,000 flying hours during his career before his retirement from the Air Force in September 1975.

Colonel Stephen E. Moore (Interim), 1 September 1975 – 9 November 1975



## COMMANDERS

AIR FORCE OPERATIONAL TEST & EVALUATION CENTER



**Major General Robert A. Rushworth,**  
10 November 1975 – 30 September 1976

Major General Robert Rushworth began his career flying C-47 transports over “the Hump” in the China-Burma-India theater during World War II. He amassed over 6,500 flying hours, including combat missions in Vietnam, in over 50 different aircraft. General Rushworth had a background in test and evaluation and flew more flights in the X-15 test program than any other pilot, becoming the second X-15 pilot to attain an Astronaut rating. Following his service at AFTEC, General Rushworth became the Vice Commander, Aeronautical System Division, Air Force Systems Command. He retired in June 1981.



**Major General (later Lt. Gen.) Howard W. Leaf,**  
1 October 1976 – 31 May 1980

Major General Howard Leaf was the first AFTEC Commander to serve an extended assignment with the Center. Flying combat missions in Korea and Vietnam, General Leaf amassed over 5,600 flying hours in his career, including a total of 321 combat missions in Korea and Vietnam. He brought a scientific background into test and evaluation after working in the Air Force Office of Scientific Research. General Leaf was the 1978 recipient of the prestigious Zuckert Management Award. He was promoted to Lt General and later served as the Air Force Inspector General, Assistant Vice Chief of Staff, Headquarters US Air Force, and US Senior Air Force Representative to the United Nations. General Leaf retired in October 1984. He then worked in industry and was a member of the Air Force Scientific Advisory Board. In 1991 he became the first Director of Test and Evaluation, Headquarters US Air Force.

## COMMANDERS

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**Major General William A. Peck, Jr.,**  
3 March 2000 – 25 February 2003

Major General William Peck was AFOTEC Commander at the dawn of the 21st century. A fighter pilot with combat time in the F-111 and F-15E, he had served as the Director of Requirements for Air Combat Command. Prior to taking command of the Center he was the Vice Commander of 7th Air Force, and Chief of Staff for Air Component Command, Osan Air Base, South Korea. When he retired in April 2003, he had more than 4,000 flying hours.



**Major General Felix Dupré,**  
26 February 2003 – 28 April 2005

Major General Felix Dupré was involved with OT&E early in his career as test manager for the Global Positioning System, the Advanced Medium Range Air-to-Air Missile Field Test, the Advanced Tactical Fighter, and the Cruise Missile Defense programs. He later served as the US Defense Attaché to France, US European Command. General Dupré had more than 4,300 hours of flight time in the F-15 and T-38 when he retired after his tenure as AFOTEC commander.

Colonel Alison R. Hill (Interim), 29 April 2005 – 14 June 2005



## COMMANDERS

AIR FORCE OPERATIONAL TEST & EVALUATION CENTER



**Major General George B. Harrison,**  
13 December 1993 – 22 June 1997

Major General George Harrison experienced operational test early in his career as Commander of a test squadron, a training wing, and the U.S. Air Force Air Warfare Center, Eglin Air Force Base, Florida. His staff duties included Chief, OT&E Division, Headquarters United States Air Force. He logged nearly 5,000 flying hours, with more than 500 of those hours flown in combat missions over Southeast and Southwest Asia. He flew a number of aircraft, including the F-16, F-4, AT-38B, and O-1F. He retired after his service as AFOTEC commander.

Colonel Roger C. Locher (Interim), 11 December 1996 – 18 December 1996



**Major General Jeffrey G. Cliver,**  
23 June 1997 – 2 March 2000

A Vietnam combat pilot and former instructor in the USAF Fighter Weapons School, Major General Jeffrey Cliver assumed command of AFOTEC in mid-1997. He was Deputy Assistant Secretary of Defense for Reserve Affairs in the Office of the Secretary of Defense before assuming command of AFOTEC. General Cliver retired with more than 4,000 flight hours, 530 of which were combat hours, in fixed-wing and rotary wing aircraft including the F-105, F-4, F-15, and F-16.

## COMMANDERS

AIR FORCE OPERATIONAL TEST & EVALUATION CENTER



**Major General Wayne E. Whitlatch,**  
1 June 1980 – 27 May 1982

Vietnam combat experience, time as a commander, and varied staff assignments prepared Major General Wayne E. Whitlatch for his duties as AFTEC Commander. He enlisted in the Air Force, but quickly became an Aviation Cadet who earned his pilot wings and a commission. He served as a fighter pilot in England and Germany early in his career. He later flew A-1E Skyraiders with the 1st Air Commando Squadron at Pleiku Air Base, Republic of Vietnam. He served as the Principal Assistant Director, Test and Evaluation, OSD before coming to AFTEC. A command pilot, he retired from the Air Force after his assignment as AFTEC commander.



**Major General Richard W. Phillips, Jr.,**  
28 May 1982 – 29 August 1985

A USAF Test Pilot School graduate, Major General Richard Phillips had also served as a naval exchange officer who became aircraft carrier qualified in the F-4 and F-8. He also served as chief of the Operational Test and Evaluation Division, Office of the Deputy Director for Operational Test and Evaluation, Directorate of Operations, Headquarters U.S. Air Force. His more than 5,000 flying hours included over 200 combat missions in Vietnam. After completing his tour at AFOTEC, General Phillips commanded the Sheppard Technical Training Center, Sheppard AFB, Texas until his retirement in April 1987.



## COMMANDERS

AIR FORCE OPERATIONAL TEST & EVALUATION CENTER



**Major General Michael D. Hall,**  
30 August 1985 – 29 June 1987

Major General Michael D. Hall, a graduate of the USAF Test Pilot School, gained combat experience in Vietnam as commander for the F-4 "fast-FAC" program. After commanding AFOTEC for two years, General Hall became the Director of Strategic, Special Operations Forces and Airlift Programs, Office of Assistant Secretary of the Air Force for Acquisition. During his career, General Hall logged 6,500 flying hours in more than 50 different types of aircraft, with 170 combat missions in Vietnam. He retired in September 1989.



**Major General Cecil W. Powell,**  
30 June 1987 – 18 January 1990

Major General Cecil Powell, a U.S. Naval Academy graduate, experienced test and evaluation early in his career as a test planner for a joint test and evaluation of new technology for air-to-air missiles. A USAF Test Pilot School graduate, he commanded a test and evaluation squadron. He was Deputy Commander for Research, Development and Acquisition, Armament Division, Eglin Air Force Base, Florida, before coming to AFOTEC. General Powell flew 104 combat missions in Vietnam and logged more than 4,000 hours during his career before he retired in February 1990. He retired following his tenure as AFOTEC commander.

## COMMANDERS

AIR FORCE OPERATIONAL TEST & EVALUATION CENTER



**Major General Peter D. Robinson,**  
19 January 1990 – 18 July 1991

Major General Peter Robinson was a veteran fighter pilot with nearly 3,400 flying hours and 435 combat missions during two tours in Vietnam. Before commanding the Center, General Robinson served on the Headquarters Air Force staff in the Office of the Deputy Chief of Staff for Personnel. Following his service as AFOTEC Commander, General Robinson went on to serve as Commandant of the Air War College and Vice Commander of Air University. He retired from the Air Force in July 1995.



**Major General (later Lt. Gen.)  
Marcus A. Anderson,**  
19 July 1991 – 22 November 1993

Major General Marcus Anderson presided over a major unit reorganization occasioned by the most significant Air Force reorganization since 1947. He flew 240 combat missions in Vietnam and served as an air operations staff officer, tactical division, deputy chief of staff, operations, Headquarters US Air Force. He had also been Commandant of Cadets at the US Air Force Academy. Following his assignment at AFOTEC, General Anderson received a third star and served as Inspector General, United States Air Force. He retired in April 1996.

**Colonel John A. Judd (Interim),** 23 November 1993 – 12 December 1993