

412TW-PA-19267



**Air Force Test Center (AFTC)
Year in Review:
1 October 2017-31 December 2018**

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3 June 2019

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**AIR FORCE TEST CENTER
EDWARDS AIR FORCE BASE, CALIFORNIA
AIR FORCE MATERIEL COMMAND
UNITED STATES AIR FORCE**

(U) Year in Review, Air Force Test Center

By Dr. Stephanie Smith

(U) Concerns across the Air Force Test Center in FY2018 included the posturing of the test enterprise for the future in terms of the domains of air, space, and cyberspace with reorganizations and plans for increases in capability and for new facilities to accommodate these mission sets. An FY2017 spectrum sell-off by the Department of Defense to commercial communications companies resulted in \$350 million between FY15 and FY25, with over \$40 million for FY2018 as the test center's share of the proceeds. The test center would program the use of these funds in FY2018 and beyond to both offset the loss of spectrum, project and build robust future capabilities, and work to avoid future spectrum relocation.⁹⁷

(U) Personnel of the Air Force Test Center's Civilian Personnel Directorate continued an effort from FY2017 to provide career development opportunities to the workforce of the Air Force Test Center's enterprise personnel by organizing a Civilian Developmental Education Roadshow again in FY2018. Center senior functionals participated by visiting each site under the Air Force Test Center, including Eglin, Edwards, and Arnold, as well as Holloman AFB, New Mexico, Hill AFB, Utah, and Air Force Plant 42 in Palmdale, California. Each presentation provided the workforce of the test center with career field-specific training and education opportunities.⁹⁸

(U) The Air Force Test Center Inspector General's office overhauled its Self-Assessment Program (SAP) in FY2018. The change involved handing leadership of the regular program meetings over to the test center's unit self-assessment program managers. SAP managers now hosted and facilitated SAP meetings focused on the issues facing their units. This resulted in an increase of 222 percent in the level of self-identified deficiencies across the test center command and staff, as unit SAP managers responded by taking ownership of the program.⁹⁹

(U) The Air Force Test Center's Small Business Office, in close cooperation with the Air Force Test Center, wing, and complex contracting offices, had succeeded in raising the percentage of small business execution each year since FY2015. The office had awarded 29.17 percent of contracts in the test center to small business in FY2015, 32

⁹⁷ (U) CFA (U), AFTC, (U) Interview transcripts, audio/video (research and oral history) Conducted during the Reporting Period, 28 Feb 2019, CF 0200, see 28 Sep 2018; CFA (U), AFTC Mission Briefs, Commander's Calls, and Wingman Day Briefings, 4 Mar 2019, CF 1400, see briefing 22 Jul 2018.

⁹⁸ (U) CFA (U), AFTC Mission Briefs, Commander's Calls, and Wingman Day Briefings, 4 Mar 2019, CF 1400, see briefing 22 Jul 2018.

⁹⁹ (U) CFA (U), AFTC Mission Briefs, Commander's Calls, and Wingman Day Briefings, 4 Mar 2019, CF 1400, see briefing 22 Jul 2018.

percent in FY2016, and 45.5 percent in FY2017. Higher headquarters set the AFTC's goal for small business execution in FY2018 at 22.17 percent. The Small Business Office and Contracting Directorate achieved final execution of over double that goal, with 45.77 percent of dollars contracted in FY2018 going to small businesses.¹⁰⁰

(U) The test center completed a merger of the Air Force Test Center Joint Range Technical Services Contract (AFTC/JT) and Air Force Test Center Engineering and Technical Services Directorate (AFTC/EZ) into the Air Force Test Center Strategic Services Directorate (AFTC/AZ) as of 1 October 2017. Thereafter, the Strategic Services Directorate along with the enterprise team at Arnold, Eglin and Edwards completed source selection and successful contract award without a protest of the J-Tech II contract. This enterprise-wide follow-on from the original J-Tech contract included a 15-year period of performance for engineering and technical services. Contracted personnel under J-Tech II would provide developmental test and evaluation, training, and support services. Contract execution commenced 16 July 2018.¹⁰¹

(U) The Contracting Directorate of the Air Force Test Center worked closely with the AFTC/AZ and enterprise team on the J-Tech II contract award, as well as with other interested parties to the award, including HQ AFMC, Air Combat Command (ACC), and U.S. Navy personnel. The test center's contracting operating location at Hill AFB (AFTC/PZ4), awarded the over \$3 billion J-Tech contract to the JT4 Limited Liability Corporation (LLC) on 6 April 2018. Contract performance commenced 16 April 2018.¹⁰²

(U) The J-Tech II contract provided multi-service, multi-range technical personnel and services to the Nevada Test and Training Range, the Colorado Space Test and Training Range, the Utah Test and Training Range, the Edwards AFB Test Range, the Naval Air Warfare Center Weapons Division at China Lake, and the Point Mugu Naval Sea Test Range. Together these entities made up the Western Test Range.¹⁰³

(U) The Air Force Test Center Judge Advocate maintained a high operations tempo during 2018 while consistently remaining approximately two-thirds manned due to deployments. Personnel deployed to Guantanamo Bay, Cuba and Washington D.C. in

¹⁰⁰ (U) CFA (U), AFTC Mission Briefs, Commander's Calls, and Wingman Day Briefings, 4 Mar 2019, CF 1400, see briefing 22 Jul 2018; CFA (U//FOUO) AFTC Council Documents, 4 Mar 2019, CF 1000, see "Small Business Execution," 20 Feb 2018.

¹⁰¹ (U) CFA (U), AFTC Mission Briefs, Commander's Calls, and Wingman Day Briefings, 4 Mar 2019, CF 1400, see briefing 22 Jul 2018.

¹⁰² (U) CFA (U), AFTC Mission Briefs, Commander's Calls, and Wingman Day Briefings, 4 Mar 2019, CF 1400, see briefing 22 Jul 2018.

¹⁰³ (U) CFA (U), AFTC Mission Briefs, Commander's Calls, and Wingman Day Briefings, 4 Mar 2019, CF 1400, see briefing 22 Jul 2018.

support of Operation ENDURING FREEDOM, and to Afghanistan in support of Operation FREEDOM'S SENTINEL.¹⁰⁴

(U) The Plans and Programs Directorate continued to manage the strategic planning program on behalf of the Air Force Test Center, including the strategic off-site, final strategic plan each fiscal year, and the management and oversight of strategic action plans meant to capture actions supporting the strategic plan that increased efficiency, oversight, or cooperation between sites under the test center. Plans and programs personnel also managed the glut of required plans for the test enterprise. The team significantly streamlined the Continuity of Operations Plan for the Air Force Test Center from over 180 to 53 pages as of July 2018.¹⁰⁵

(U) The Air Force Test Center faced a number of challenges as of 1 November 2017. Test center operations continued to experience challenges with the size and capacity of the test fleet versus requirements, particularly in the realms of tanker and F-16 airframes, particularly those sufficient to support flight test at the 412th Test Wing. The test center also suffered from overall manpower shortages, and aging infrastructure. A significant, unexpected repair bill for fire damage to the McKinley Climatic Laboratory at Arnold Engineering Development Complex at Eglin AFB, incurred in the summer of 2017 further complicated the funding of infrastructure improvements.¹⁰⁶

(U) By November 2017 the Air Force Test Center test enterprise had completed 19,000 flying hours and supported 6, 300 test programs. In calendar year 2017 (CY2017), the testers of the center had identified over 3,000 deficiencies reported to customers. These represented issues or problems with the systems under test, the identification of which had benefited from the expertise of the test center before deployment to the warfighter.¹⁰⁷

(U) The 461st Flight Test Squadron and Joint Strike Fighter Integrated Test Force's completed work on the System Development and Demonstration phase of the developmental test of all three variants of the F-35 Joint Strike Fighter as of December 2017. The 461st and Joint Strike Fighter Integrated Test Force proceeded to transition to Continuous Capability Development and Delivery (C2D2), a follow-on modernization model unique to the F-35 for the delivery of Block 4 aircraft, while the operational test phase of the F-35 began under the auspices of the Air Force Operational Test and Evaluation Center (AFOTEC). With Boeing having completed KC-46 Phase I, the program proceeded to Phase II and III testing with the 418th Flight Test Squadron and Global Reach

¹⁰⁴ (U) CFA (U), AFTC Mission Briefs, Commander's Calls, and Wingman Day Briefings, 4 Mar 2019, CF 1400, see briefing 22 Jul 2018.

¹⁰⁵ (U) CFA (U), AFTC Mission Briefs, Commander's Calls, and Wingman Day Briefings, 4 Mar 2019, CF 1400, see briefing 22 Jul 2018.

¹⁰⁶ (U) CFA (U), AFTC, "(U) Press Articles," 1 Mar 2019, see 1 Nov 2017, CF 0190.

¹⁰⁷ (U) CFA (U) AFTC Press Articles, 1 Mar 2019, see 1 Nov 2017, CF 0190.

Combined Test Force. With the decision to place the developmental test and evaluation of the forthcoming Northrop B-21 next generation bomber under the Air Force Test Center at Edwards AFB, the 419th Flight Test Squadron and Global Power Bomber Combined Test Force had begun both site and test preparations. The Edwards-based Trainer-X (T-X) team continued to work with the Air Force Test Center and T-X System Program Office (SPO) to establish test locations, schedule, and resource requirements, particularly as the T-X contractor intended to commence formal developmental test approximately a year earlier than scheduled with prototype aircraft.¹⁰⁸

(U) The Air Force had approved the activation of the 96th Cyberspace Test Group and three constitutive squadrons under the 96th Test Wing, Eglin AFB for the conduct of U.S. Air Force (USAF) cyber test and vulnerability testing. The cyber test group thereupon became actively involved in ensuring cyber security in systems of systems.¹⁰⁹

(U) The Air Force Test Center continued planning for a future Joint Simulation Environment in FY2018. The Joint Simulation Environment would constitute a \$466 million facility for the creation of virtual environments using advanced flight simulators for the collection of test data at Edwards AFB. The AFTC had also begun posturing the Arnold Engineering Development Complex, Arnold AFB for the conduct of hypersonic tests of new weapons and engines intended to reach speeds of Mach 7 and beyond, with \$225 million dollars in new funding.¹¹⁰

(U) Noteworthy projects and accomplishments in test and evaluation from around the Air Force Test Center included the Air Force's approval of the KC-46 for Milestone-C, low-rate initial production (LRIP). In addition, the F-15SA had seen combat following completion under the 412th Test Wing at Air Force Plant 42 of the largest Foreign Military Sales (FMS) program in USAF history at \$29 billion. The Emerging Technologies Combined Test Force continued their test and evaluation of a series of associated technologies for the Medusa Counter Small Unmanned Aerial Systems (sUAS), a system of systems for detecting, identifying, tracking, and defeating sUAS systems, which had begun in August 2017. The project supported joint emerging or urgent operational

¹⁰⁸ (U) CFA (U) AFTC Press Articles, 1 Mar 2019, CF 0190, see 1 Nov 2017; CFA (U) AFTC, "(U) AFTC Mission Briefs, Commander's Calls, and Wingman Day Briefings," 4 Mar 2019, CF 1400, see 13 Nov 2017; CFA (U) AFTC, "(U) AFTC Monthly Activity Reports," 11 Mar 2019, CF 1300, see December 2018 MAR, 28 Dec 2018.

¹⁰⁹ (U) CFA (U) AFTC Press Articles, 1 Mar 2019, CF 0190, see 1 Nov 2017; CFA (U) AFTC, "(U) AFTC Mission Briefs, Commander's Calls, and Wingman Day Briefings," 4 Mar 2019, CF 1400, see 13 Nov 2017; CFA (U) AFTC, "(U) AFTC Monthly Activity Reports," 11 Mar 2019, CF 1300, see December 2018 MAR, 28 Dec 2018.

¹¹⁰ (U) CFA (U) AFTC Press Articles, 1 Mar 2019, CF 0190, see 1 Nov 2017; CFA (U) AFTC, "(U) AFTC Mission Briefs, Commander's Calls, and Wingman Day Briefings," 4 Mar 2019, CF 1400, see 13 Nov 2017.

(JEON/JUON) needs for the warfighter for the United States Strategic Command (STRATCOM), United States Central Command (CENTCOM), and United States European Command (EUCOM), and the Emerging Technologies CTF entered Phase II of the test program 20 August 2018.¹¹¹

(U) The 704th Test Group at Holloman AFB completed the execution of flight operations in the Light Attack II experiment with AT-6 flights undertaken at the contractor's facility in August 2018 and delivered the final reports in September 2018. This completed the operational phase of the Light Attack II experiment. The personnel of AEDC's McKinley Climatic Lab also completed test and evaluation of the Army Gray Eagle Unmanned Aerial System (UAS) in September. The Gray Eagle had been in the laboratory at the time of the 2017 mishap. The AEDC team also awarded the \$212 million Hypersonic Test Capability Improvement contract for the Project Phoenix test facility. They awarded an integration contract Integration Innovation, Inc. (i3) with AeroSystems Engineering (ASE) and Northrop Grumman Innovation Systems (NGIS) acting as primary subcontractors.¹¹²

(U) As of December 2018, the personnel of the 96th Test Wing had carried out ongoing support for F-22 operations relocated from Tyndall AFB, Florida, since landfall of a Category 4 storm, Hurricane Michael at 1330L, Wednesday, 10 October 2018. As of 20 December 2018, Eglin AFB had 22 F-22s and 16 T-38s on station, for which the 96th Test Wing provided facilities and all required base operating mission support for over 750 Air Combat Command operations and maintenance personnel now working on Eglin. The 96 TW had surged to support the increased workload, but could not sustain the current operations tempo without increased manpower.¹¹³

(U) Planning for future test projects to take place at or under the aegis of the Air Force Test Center included hypersonic aircraft and/or weapons, autonomous systems, modernization of global strike weapons systems, space systems, and a return to developmental test and evaluation of directed energy weapons.¹¹⁴

¹¹¹ (U) CFA (U), AFTC Mission Briefs, Commander's Calls, and Wingman Day Briefings, 4 Mar 2019, CF 1400, see briefing 22 Jul 2018; CFA (U) AFTC, (U) Organizational Staff Meeting Slides and Notes, 4 Mar 2019, CF 0140, see 31 Oct 2017; CFA (U) "(U) AFTC Monthly Activity Reports," 11 Mar 2019, CF 1300, see 4 Sep 2018.

¹¹² (U) CFA (U) "(U) AFTC Monthly Activity Reports," 11 Mar 2019, CF 1300, see 4 Sep 2018, 12 Oct 2018.

¹¹³ (U) CFA (U) "(U) AFTC Monthly Activity Reports," 11 Mar 2019, CF 1300, see 28 Dec 2018.

¹¹⁴ (U) CFA (U), AFTC Mission Briefs, Commander's Calls, and Wingman Day Briefings, 4 Mar 2019, CF 1400, see briefing 22 Jul 2018.

REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing this collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports (0704-0188), 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. **PLEASE DO NOT RETURN YOUR FORM TO THE ABOVE ADDRESS.**

1. REPORT DATE (DD-MM-YYYY) 03-06-2019			2. REPORT TYPE Paper		3. DATES COVERED (From - To) 1 Oct 2017-31 Dec 2018	
4. TITLE AND SUBTITLE Air Force Test Center (AFTC) Year in Review, 2018					5a. CONTRACT NUMBER	
					5b. GRANT NUMBER	
					5c. PROGRAM ELEMENT NUMBER	
6. AUTHOR(S) Stephanie M. Smith					5d. PROJECT NUMBER	
					5e. TASK NUMBER	
					5f. WORK UNIT NUMBER	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) AND ADDRESS(ES) AFTC/HO 305 E. Popson Avenue Edwards AFB, Ca 93524					8. PERFORMING ORGANIZATION REPORT NUMBER 412TW-PA-19267	
9. SPONSORING / MONITORING AGENCY NAME(S) AND ADDRESS(ES) AFTC/HO 305 E. Popson Avenue Edwards AFB, Ca 93524					10. SPONSOR/MONITOR'S ACRONYM(S) N/A	
					11. SPONSOR/MONITOR'S REPORT NUMBER(S)	
12. DISTRIBUTION / AVAILABILITY STATEMENT Approved for public release A: distribution is unlimited.						
13. SUPPLEMENTARY NOTES						
14. ABSTRACT The accomplishments of the Air Force Test Center (AFTC) and constitutive units at Edwards AFB, Eglin AFB, and Arnold AFB for the period 1 October 2017 through 31 December 2018 included revamping workforce development and self-assessment programs, letting the J-Tech II contract; completion of System Design and Development for the F-35; completion of Phase 1 of KC-46; announcement that the B-21 would undergo developmental test and evaluation at Edwards AFB; planning on the part of the AFTC and Edwards AFB for the possible future test of the Trainer-X (T-X), completion of the F-15SA; test by the Emerging Technologies Combined Test Force (CTF) of the Medusa Counter Small Unmanned Aerial Systems; completion of the Light Attack II experiment; activation of the 96th Cyber Test Group at Eglin AFB, and the relocation of F-22 operations from Tyndall AFB, damaged severely by Hurricane Michael, to Eglin AFB.						
15. SUBJECT TERMS Air Force Test Center; AFTC; Edwards Air Force Base; Eglin Air Force Base; Arnold Air Force Base; developmental test and evaluation; workforce development; Self-Assessment Program; Small Business; Contracting Directorate; J-Tech II; Judge Advocate Office; F-35; KC-46; B-21; Trainer-X; T-X; cyber; 96th Cyberspace Test Group; Joint Simulation Environment; F-15SA; Medusa Counter Small Unmanned Aerial Systems; Light Attack II; F-22; Tyndall AFB; Hurricane Michael;						
16. SECURITY CLASSIFICATION OF: Unclassified			17. LIMITATION OF ABSTRACT		18. NUMBER OF PAGES	19a. NAME OF RESPONSIBLE PERSON
a. REPORT Unclassified	b. ABSTRACT Unclassified	c. THIS PAGE Unclassified	None		7	412 TENG/EN (Tech Pubs)
						19b. TELEPHONE NUMBER (include area code) 661-277-8615