497th INTELLIGENCE GROUP

Providing worldwide intelligence infrastructure

The 497th Intelligence Group, a subordinate unit of the Air Intelligence Agency, located at Bolling Air Force Base, Washington, D.C., provides worldwide intelligence infrastructure support, physical and personal security, threat support to weapon systems acquisition and employment, and automation support.

The group also serves as the Washington area focal point for Air Force Intelligence planning, logistics and readiness issues, communications/computer systems support and all military and civilian personnel actions and programs.

HISTORY

The 497th Intelligence Group has the distinction of having a dual track lineage.

One path follows the unit designator which provided operational support to flying units in Europe during the Cold War, while the other more closely follows the current mission — providing broad-based intelligence infrastructure and services focused in the National Capital Region.

Growing from the 497th Reconnaissance Technical Squadron, the 497th Reconnaissance Technical Group stood-up Oct. 1, 1967, and headquartered at Schierstein Administrative Offices in West Germany.

Charged with processing and interpreting reconnaissance imagery, the 497th RTG served under the United States Air Forces Europe providing intelligence to the European Command and the U.S. commander in chief Europe, Allied Command Europe and U.S. intelligence agencies.

At various periods, the 497th RTG had the following subordinate units:

- **7113th Special Activities Squadron**
- **495th RTS**
- **496th RTS**
- **Det. 1, 497th RTG**

July 1, 1991, the unit moved to RAF Molesworth, England, to form the basis of the USEUCOM's Joint Analysis Center. One year later the unit and designator were inactivated.

Across the Atlantic, another part of the unit's history was being written. In 1971, the Secretary of the Air Force directed the realignment of Air Staff operating and support functions to other organizations.

As a means of continuing the original intelligence mission, the Air Force Intelligence Service was established June 27, 1972, as a separate operating agency with headquarters in Washington, D.C., to provide specialized services to the Air Force and its commanders.

In 1988, AFIS became the Air Force Intelligence Agency. In 1991, the agency underwent a large functional reorganization, reflecting changing world situations and budgetary realities. This resulted in a reduced mission, a new name — the Air Force Intelligence Support Agency and a new status as a field operating agency.

The agency was deactivated and its mission was assumed by the newly activated 497th IG, subordinate to AIA, Oct. 1, 1993.

The unit is a multiple recipient of both the Air Force Outstanding Unit Award and the Air Force Organizational Excellence Award.

Home of the 497th Intelligence Group

497th Intelligence Group

Throughout the restructuring, the 497th IG retained its unique role of providing planning, policy implementation and functional management support to the Air Force Director of Intelligence, Surveillance and Reconnaissance, Air Staff offices and other Department of Defense and Joint customers in Washington, D.C., and around the world.

MISSION

Unsurpassed intelligence infrastructure and services ... security, weapon system support, automation, information operations ... to defend community users worldwide.

VISION

A highly motivated and prepared team of professionals providing intelligence infrastructure and services to win in tomorrow's battlespace.

FROM THE INSIDE

The 497th IG is comprised of three major directorates and support staff:

Located at Bolling, the Directorate of Intelligence Systems assists the Air Staff in the acquisition, implementation, development and security certification testing of Intelligence Data Handling Systems worldwide.

IND bridges both national and tactical communities to ensure architectures, policies, standards and systems facilitate the flow of intelligence from national to tactical unit levels. IND advises the Air Force Director of Intelligence, Surveillance and Reconnaissance on programs and policies.

The Operations Applications Directorate, located at the Skyline Office Building Complex in Northern Virginia, provides targeting, threat assessments and forecasts, geospatial support and intelligence infrastructure to weapon system acquisitions.

INO directly influences the numerous moving map displays, mensurated coordinates, vertical obstruction/terrain elevation data, and databases in the realm of mapping, charting, geodesy and targeting.

Located at the Pentagon and Bolling, the Security and Communication Management Directorate manages the Air Force Special Compartmented Intelligence and collateral clearances, conducts all security clearances adjudications for the Air Force, security management, oversight, document dissemination and personal security administration for the Secretary of the Air Force, Air Force Chief of Staff, as well as the automated information systems program.

Personnel, Mission Support and Plans, Programs, and Policy Support Staff, also located at Bolling, provides mission support planning, personnel, and information to over 600 personnel assigned to the Air Force Intelligence community in the NCR.

EMBLEM

Oct. 1, 1996, the 497th IG began its fourth year of existence. Though a relatively young organization, the 497th IG continues to draw upon the rich tradition of the 497th RTG, which directly supported U.S. forces in the European theaters for more than 40 years, providing imagery products and imagery-based intelligence to consumers worldwide.

With the relocation of operations to RAF Molesworth and the assumption of a larger theater-level analysis role, the 497th RTG became the Joint Analysis Center. In order to preserve the proud heritage established by the 497th RTG, the Air Force Intelligence Support Agency was redesignated the 497th IG Oct. 1, 1993.

In the Spring of 1994, a new emblem was presented to the chief of staff of the Air Force for approval, in order to comply with Air Force guidelines on emblem designs, as well as to reflect the mission of the 497th.

The entire 497th IG emblem represents the Group's function in support of United States Air Force Intelligence.

The key represents AIA's efforts to unlock the secrets of protagonists worldwide, with the teeth on the ward representing the various disciplines of intelligence gathering — SIGINT, HUMINT, IMAGERY and MASINT.

The compass, rose and sunburst background are common components of other intelligence agency emblems and indicate that the 497th is part of the larger intelligence community.

The red rose suggests a relationship to warfare, while the rose in mid-bloom suggests the growth, history and future intelligence.

The rose in mid-bloom also represents "sub-rosa," the ancient custom of hanging a rose over a conference table to indicate that all present were sworn to secrecy. Sub-rosa is also identified with clandestine activity and has traditional ties to British and Army intelligence.

The position of the globe, with the compass over-lay signifies the worldwide impact of our mission on the intelligence community. The location of the rose, with the compass providing a sunburst background reflects strength and energy.

Pikes Peak located in Colorado Springs, Colo., is also the home of the 544th IG.

544TH INTELLIGENCE GROUP

The 544th Intelligence Group was reactivated September 1993 at Peterson Air Force Base, Colo.

MISSION

The 544th IG is a team of approximately 500 Air Force members who deliver global, space-related information to national agencies and warfighting commands; provide policy guidance and functional assistance to assigned organizations; and develop mission-based facilities, communications and manpower requirements to improve quality of life.

Undoubtedly, staff support is at the heart of operations at the 544th IG. Recently reorganized into flights to better support the customer, the 544th IG Mission Support Flight and Operations Support Flight has broken many paradigms of a typical staff support function.

With a true "worldwide" mission, offices such as Personnel, Training, Security, Information Systems (formerly IM function), and resources help to keep the group functioning as a cohesive team to complete the Air Force mission.

The Operations Support Flight provides operational support to the group's worldwide units and external space customers.

The Information Operations section is responsible for the group's communications-computer architecture, maintaining the mission information program, and also supports operations integration opportunities for the group.

The Space Operations Support section provides embedded technical and analytic expertise to the Space Warfare Center and the worldwide deployable Air Force Space Support Teams.

Detachment 45, an Air Force Technical Applications Center unit, located at Buckley Air National Guard Base, Aurora, Colo., was activated Sept. 7, 1993. OL-CO is an operating location under Det. 45. The 544th IG provides administrative support to these units.

The 18th Intelligence Squadron, located at Falcon Air Force Base, Colo., was also activated under the 544th on Sept. 7, 1993.

The 18th IS has five detachments:

- **Det. 1, Holloman Air Force Base, N.M.**
- **Det. 2, Osan Air Base, Korea**
- **Det. 3, Misawa Air Base, Japan**

544th Intelligence Group

- **Det. 4, RAF Feltwell, England**
- **Det. 5, RAF Edzell, Scotland**

Det.2, 544th IG, located at Sabana Seca, Puerto Rico; Det. 3, 544th IG, located at Sugar Grove, West Va.; and Det. 4, 544th IG, located at Yakima, Wash., were all activated on Jan. 1, 1995.

Det. 5, 544th IG, located in Washington, D.C., was activated on Dec. 5, 1995.

VISION

The 544th IG's vision is to be "The critical Air Force player in integrating space-based information — shaping and protecting the information domain for coordinated multiforce employment."

There are several key words in this vision that describe where the 544th IG aspires to be.

CRITICAL

The word **critical** means the 544th IG wants to be key players; they aspire to be an essential element in the Air Force mission.

AIR FORCE

Air Force is used to show the 544th IG aspires to be acknowledged as space experts across the Air Force, not just in AIA.

INTEGRATING

Integrating is a very important element in the vision — not only does the 544th IG plan to integrate internally, but with other space organizations and with those organizations that they embed with. Integration will make the 544th IG efficient and effective.

SPACE-BASED INFORMATION

Space-based information defines the arena — the 544th IG wants to be AIA's single space group.

SHAPING AND PROTECTING THE INFORMATION DOMAIN

Shaping and protecting the information domain refers to our combined missions and "coordinated multiforce employment" will serve to remind us of the larger mission we all serve.

The 544th IG envisions a multipolar world political situation with continued multiple contingencies. Economically, the country faces continued budget constraints.

Technologically, the 544th IG sees a space-based future of integrated architecture with a focus on information operations. The 544th IG's vision is modeled after this scenario.

HSITORY

The history of the 544th IG began Nov. 16, 1950, with the activation of the 544th Aerospace Reconnaissance Technical Wing at Bolling Air Force Base, Washington, D.C.

The wing moved to Offutt Air Force Base, Neb., in June 1952, and was redesigned as the 544th Reconnaissance Technical Group July 11, 1958.

After several name changes, it was deactivated June 1, 1992. Sept. 7, 1993, Col. Eric Larson became the commander of the newly reactivated 544th IG at Peterson Air Force Base, Colo.

The group began with 12 subordinate units, detachments and operating locations. Five new detachments have since been added and two other detachments deactivated.

Group staff personnel located at Peterson Air Force Base provide administrative support, guidance and functional assistance to over 400 members of the wing-equivalent group, with 17 stateside and overseas locations delivering global, space-related information to national agencies and warfighting commands.

Prior to deactivation in 1992, the 544th IG was recognized with the Air Force Outstanding Unit Award 13 times. Reorganized under the Air Intelligence Agency in 1993, the group received its 14th Air Force Outstanding Unit Award in 1996.

LOCATION

The 544th IG is located at Peterson Air Force Base, Colo., home of Headquarters North American Aerospace Defense Command, United States Space Command, and Headquarters Air Force Space Command.

Just outside Colorado Springs, Peterson is nestled on a gently rolling plateau 6,035 feet above sea level, sheltered by the towering 14,110 foot-high Pikes Peak.

Combining scenic beauty, pleasant residential areas, cultural activities to satisfy every taste, and attractive military installations, Colorado Springs makes for a perfect assignment.

The city offers a variety of activities, both recreational and cultural. You can ski in the morning, golf in the afternoon, and in the evening, go out on the town.

Some of the area's best attractions are nature's man-made rock garden, Garden of the Gods; Pikes Peak, the United States Air Force Academy, and the Royal Gorge. The area has a little something for everyone young at heart.

DETACHMENT 2

MISSION

Det. 2, 544th IG is integrated with Naval Security Group Activity Sabana

544th Intelligence Group

Seca, Puerto Rico. Its mission is to satisfy national and tactical customer requirements by performing satellite communications processing and forwarding, identifying emerging technologies, maintaining clear communications with Air Force chain of command and key administrative support elements, and supporting the host organization's goals and objectives.

VISION

To integrate with NSGA Sebana Seca to become the premier satellite communications processing and analysis field station in the Department of Defense.

Through a focused effort on the exploitation of emerging technologies, develop an unmatched capability of emerging technologies, develop an unmatched capability to identify variations in a rapidly changing communications environment and apply this resource as an integrated part of Department of Defense information operations into the 21st century.

Right, Staff Sgt. Rick Maldonado shows Senior Airman Dale Newman, both with Det. 2, how to reroute information on the Path Controller Bay.

HISTORY

Detachment 2 was officially activated on Dec. 8, 1995.

DETACHMENT 3

MISSION

Detachment 3, 544th Intelligence Group is a tenant unit and reports operationally to Naval Security Group Activity, located at Sugar Grove, W. Va.

The detachment is administratively controlled by the 544th IG at Peterson Air Force Base, Colo. The 694th IG Mission Support Squadron at Fort Meade, Md., also provides administrative support to the detachment.

Det. 3's mission is to direct satellite communications equipment supporting research and development for multi-service national missions.

Det. 3 provides enhanced intelligence support to Air Force operational commanders and other consumers of COMSAT information collected by Navy-commanded field stations.

This is achieved by embedding personnel into field station operations and by providing a trained cadre of collection system operators, analysts and managers for the Air Intelligence Agency.

VISION

Det. 3's vision is to provide AIA a highly trained cadre of personnel to capitalize on emerging technologies to meet consumer requirements and to establish itself as a leader in the COMSAT environment by remaining on the cutting edge well into the 21st century.

HISTORY

The detachment was established in January 1995, under the command of 1st Lt John Wynn, in concert with Det 2, 544th IG, Yakima Research Station, W. Va. and Det. 4, 544th IG, Sabana Seca, Puerto Rico.

Officially activated in November 1995, the detachment consists of six personnel: one officer and five enlisted.

Detachment personnel are integrated throughout the Operations Department to ensure greater mission exposure and training opportunities.

LOCATION

Detachment personnel live and work side-by-side with U.S. Naval personnel at NSGA Sugar Grove.

The base itself is located about three miles north of Sugar Grove, W. Va.

Situated in the Appalachian Mountains of West Virginia, the base is a forested refuge from the din of civilization. Sugar Grove is nestled between two large national forests, and hunting and fishing opportunities abound. The Potomac Highlands of Pendelton County contain some of the most scenic valleys in the U.S.

A day's drive from the biggest cities on the East Coast, the area has much to offer those assigned. The nearby town of Franklin boasts a small assortment of country stores where one can obtain all the necessities of life.

What one may find lacking in convenience and variety is more than made up for by the friendly attitudes of the local citizens. Activities abound which bring the base and the community together.

AIR FORCE TECHNICAL APPLICATIONS CENTER

Supported Activity

MISSION

Enhance national security: Collect and exploit worldwide technical measurements and deliver timely, accurate information to national authorities and warfighters ... teaming to monitor treaties, counter proliferation of weapons of mass destruction, and achieve information superiority

VISION

Become the nation's premier collector and exploiter of technical signatures ... enabling policy makers and warfighters to achieve information superiority.

Headquartered at Patrick Air Force Base on Florida's east coast, the Air Force Technical Applications Center is the sole Department of Defense agency operating and maintaining a global network of nuclear event detection sensors.

This global network is the U.S. Atomic Energy Detection System. Once the USAEDS senses a disturbance underground, underwater, in space or in the atmosphere, AFTAC's laboratories analyze the event for nuclear identification and report the findings to national command authorities through Headquarters, Air Force.

Long range detection began soon after the end of World War II, when Gen. Dwight D. Eisenhower recognized the need to monitor nuclear programs.

In 1947, he directed the Army Air Corps to be able to "detect atomic explosions anywhere in the world."

In 1949, a sensor aboard a B-29, assigned to AFOAT-1, flying between Alaska and Japan, detected debris from the first Russian atomic test — an event the experts had predicted couldn't happen until the mid- 1950s.

Since then, the Long Range Detection Program, now operated by AFTAC, has evolved into a unique resource that monitors compliance with nuclear treaties, supports our nation's space programs and helps protect everyone during emergencies involving nuclear materials.

AFTAC's nuclear event detection mission is directly linked to its treaty monitoring mission. AFTAC monitors signatory countries' compliance with the 1963 Limited Test Ban Treaty. The treaty prohibits all nuclear testing except underground testing and prohibits the venting of nuclear debris or radiation from those tests into the atmosphere outside the country's national border.

Two other treaties AFTAC monitors are the Threshold Test Ban Treaty of 1974 and the Peaceful Nuclear Explosion Treaty of 1976.

The 1974 treaty limits the size of underground nuclear tests to 150 kilotons, while the 1976 treaty monitors the testing of nuclear devices outside of agreed treaty sites.

Based on the unit's extensive nuclear monitoring experience, AFTAC is the U.S. lead in developing the international cooperative system to monitor the Comprehensive Test Ban Treaty.

This treaty bans all nuclear testing by signatory nations. AFTAC is also the designated U.S. laboratory system responsible for supporting the U.N.'s International Atomic Energy Agency.

The center reports directly to the Deputy Air Force Chief of Staff for Air and Space Operations.

In 1991, reorganization driven by downsizing within the Air Force, placed AFTAC and its subordinate units under the Air Intelligence Agency for administrative support.

These functions included assignments, awards and decorations, as well as general Air Force policy guidance for such programs as safety, security and public affairs.

The officers, noncommissioned officers, airmen and civilians who make up the AFTAC team possess a wide variety of talents which ensures timely detection, analysis and report-

Air Force Technical Applications Center

ing of nuclear events, as well as the development and delivery of state-of-the-art systems.

AFTAC's personnel are highly trained and experienced. Of its nearly 1,000 members:

- **35 have doctorates in nuclear physics, chemistry or other technical fields**
- **145 have master's degrees**
- **142 have bachelor's degrees**
- **193 have associate's degrees**

AFTAC has one major subordinate unit, the Technical Operations Division at McClellan Air Force Base, Calif.

This complex contains the McClellan Central Laboratory, the primary nuclear debris analysis facility.

In addition, there are 10 detachments, four operating locations and more than 70 unmanned equipment locations around the world that support the mission.

LOCATION

Brevard County, where Patrick Air Force Base and Cape Canaveral Air Station are located, is well known as Florida's Space Coast.

Located 10 miles northeast of Melbourne and three miles south of Cocoa Beach on a barrier island.

Patrick is about a one-and-one-half hour drive away from Walt Disney World, Sea World and other Orlando attractions. It is bounded on the west by the Banana River and on the east by the Atlantic Ocean.

Brevard County, 72 miles long and 18 miles wide, is centrally located on Florida's east coast. Twenty-three communities are situated within its borders.

Its population is more than 413,900 people. Five residential areas are plentiful in the vicinity of both Patrick and the Cape.

The Space Coast's climate is moderately warm throughout the year, although freezing temperatures are not unknown, especially during December and January.

Humidity is often a topic of discussion, and some people say it takes a couple of years in Brevard to get used to it, especially during summer.

The list of recreational activities includes fishing in almost every way possible, surfing outside the main gate at Patrick, boating, skiing, swimming, kite flying, nature study, and an abundance of good eating.

EMBLEM

The emblem is symbolic of the unit and the Air Force colors, ultramarine blue and golden yellow, as well as the national colors, are used in the design.

The color blue alludes to the sky, the primary theater of Air Force operations, yellow to the sun and excellence of personnel in assigned tasks.

The globe is indicative of the worldwide mission, locations, and geophysical studies accomplished.

The lightning and cloud depict study on natural phenomena.

The compass points reflect the assigned exploratory task around the world.

The rings around the globe (symbolizing electronic instrument readings) also denote unity of purpose and display electronic measurements accomplished.

The elliptical belt symbolizes study of the atmosphere.

Left, Staff Sgts. Devin Sappington and Theodore Josue, both Special Equipment Operators, see what it is like in the cockpit of the WC-135.

The RADOMES at Buckley Air Force Base, Colo., Det. 45.

DETACHMENT 45

Detachment 45, Air Force Technical Applications Center, is located at Buckley Air National Guard Base, just east of Denver, Colo. It is responsible for detecting and reporting atmospheric nuclear detonations.

The detachment operates the primary leg of the U.S. Nuclear Detonation Detection System and the Integrated Correlation and Display System. ICADS processes data from both the Defense Support Program and Global Positioning System satellite constellations.

The detachment monitors Safeguard (d) of the Limited Test Ban Treaty and it participates in the Space Command's Integrated Tactical Warning and Attack Assessment missions.

MISSION

Det. 45 provides superior analysis and timely assessment of nuclear event data to National Command Authorities.

The mission of Det. 45 is to continually collect, evaluate, and report satellite sensor data as it relates to nuclear event monitoring. The detachment also performs special data collections, including: providing space environment data to Air Force Global Weather, nuclear event notification to NASA, nuclear discrimination for intense infrared signals, fuel air explosives and natural phenomena.

FACILITIES

The detachment is a tenant unit of the 821st Support Group, also at Buckley Air National Guard Base, Colo.

The detachment operates hand in hand with 2nd Space Warning Squadron personnel to ensure an optimum system configuration for data collection. The detachment resides within a secure compound where two on-duty operators continually monitor for nuclear event data. These two operators are responsible not only for event detection and evaluation, they also monitor satellite state of health and system operations, reporting any anomalies to the appropriate authorities.

HiSTORY

Det. 45 traces its roots to February 1972 when prototype equipment was installed by Sandia National Laboratories at Buckley Air National Guard Base, Colo. The site was originally manned by one Sandia representative working eight hours a day.

In 1973, the 1035th Technical Operations Group signed a memorandum of agreement with the Department of Energy defining responsibilities for support and operations. Following this agreement, two Air Force personnel were sent to join the Sandia representative and Operating Location AO was formed.

For the next 12 years, OLA provided satellite data to Headquarters AFTAC when power outages, hurricanes and technical problems rendered the Atomic Energy Detection Center inoperable. The OL assisted with early orbit testing for seven satellites.

In 1984, Air Staff directed OLA be upgraded to detachment strength to support operations 24-hours-a-day. The detachment was officially activated Oct. 8, 1985, by AFTAC Commander Richard O'Lear.

Det. 45 crews interfaced with crews and supported combat mission accomplishment whenever the need arose. Subsequently, Det. 45 was AFTAC's first unit with a direct combat support role.

Today, Det. 45 continues to support both AFTAC and the Air Force Space Command in varied mission roles to include nuclear treaty monitoring and integrated tactical warning and attack assessment.

BELBASI SEISMIC RESEARCH STATION

With the advancement made in detecting nuclear events, sites like the Belbasi Seismic Research Station were created. It was the first active American Forces installation in Turkey, and since opening the doors in 1951, their mission has not changed.

Belbasi Seismic Research Station, Detachment 301, is tasked with monitoring international nuclear treaties and providing comprehensive reporting of seismic events fulfilling national-level requirements as part of the U.S. Atomic Energy Detection System in Europe.

They maintain detection and processing equipment to ensure accurate, timely and reliable seismic data collected in Turkey is transmitted to the Atomic Energy Detection Center, located at Patrick Air Force Base, Fla. Data is also provided to the Turkish government through the Earthquake Research Department.

Left, Turkish Capt. Mehmet Cam assists Senior Airman Dan Webb, Tech. Sgt. Eric Patterson and Senior Airman Mike Roberson on equipment.

LOCATION

The detachment is locally referred to as Belbasi or BSRS. It is located eight miles south of Ankara, Turkey's capital, which boasts more than five million residents. The compound covers 11 acres and is classified as a Defense and Economic Cooperative Agreement installation.

A total of 31 Turkish and American forces are stationed there. The U.S. Air Force contingent numbers 11 people; the commander, superintendent, six maintainers and three support personnel. The Turkish commander leads a team of three noncommissioned officers and 16 guards to provide security. Administrative, nonmission support is provided from Incirlik Air Base, Turkey, and Ramstein Air Base, Germany.

Turkey is a tremendously diverse country with one foot in Europe and the other in the Middle East, boasting a very unusual mix of influences. Ancient ruins abound throughout the country, recalling the ancient Greek, Roman and Ottoman empires. The cuisine is delicious; Iskender on arrival is a must and shopping opportunities are abundant for gold, leather and much more.

The weather there is nearly identical to Denver, Colo. Both cities are at the same latitude and similar elevation. Summers are delightful with day after day of sunny, fair weather, low humidity and temperatures around 80 to 90 degrees. Winter usually arrives in late November, covering the area with a blanket of snow.

UNIT LOGO

The logo consists of an oval field, divided into four quadrants by a representation of a seismic signal. The American and Turkish flags represent the cooperative and international efforts at Belbasi.

The atomic symbol in the upper right signifies the nuclear treaty monitoring capabilities through the U.S. Atomic Energy Detection System. The depiction of the world in the lower left signifies the worldwide scope of operations supported by Belbasi.

DETACHMENT 460

Detachment 460 is located at Eielson Air Force Base, 726 miles southeast of Fairbanks in the heart of the Alaskan interior.

Hosted by the 354th Fighter Wing, Det. 460 is the largest and most varied detachment of its type in the command.

Operationally, Det. 460 is controlled by the Air Force Technical Applications Center and administratively, it is directed by the 692nd Intelligence Group, Hickam Air Force Base, Hawaii.

MISSION

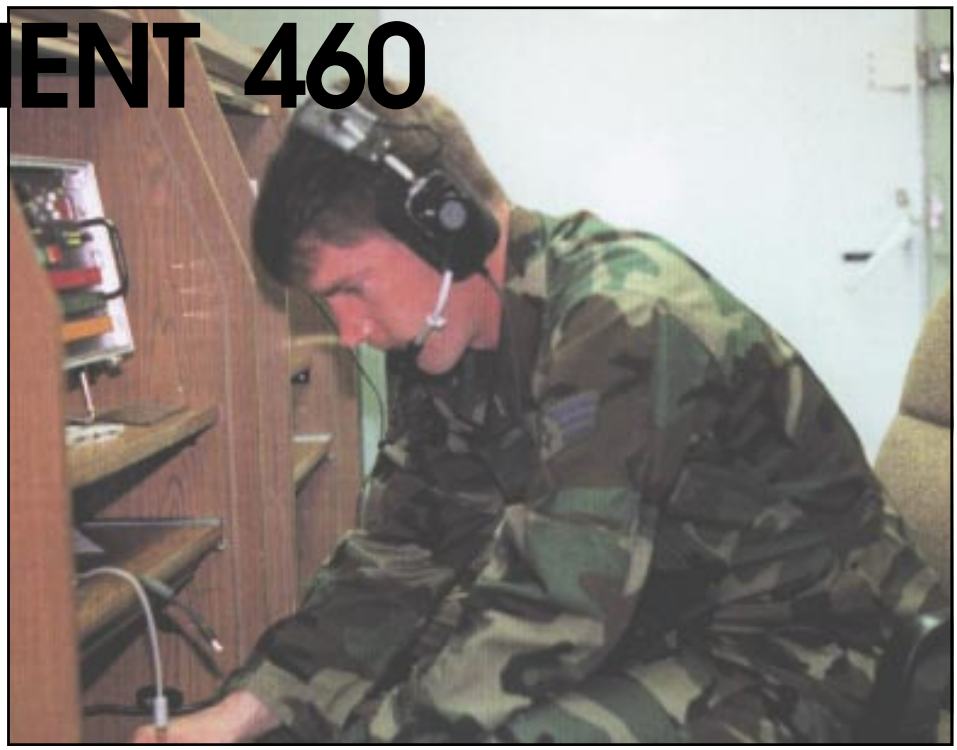
Its overall mission is to conduct nuclear treaty monitoring through seismic and atmospheric data collection and/or analysis for national command authorities and to conduct information warfare operations for U.S. and allied warfighters.

Supporting the most comprehensive seismic facility in the United States Atomic Energy Detection System, Det. 460 maintains a network of gaseous and particulate air sampling units and seismic arrays stretching from above the Arctic Circle to Canada and the farthest Aleutian Island of Attu.

In addition, the unit mission includes an Information Warfare element which conducts telecommunications monitoring and communications exploitation training.

HISTORY

Det. 460 has a long and distinguished history in the service of the United States Atomic Energy Detection System. Its roots are actually derived from several AFOAT-1 and AFTAC detachments which were scattered across the "Last Frontier."



Senior Airman John Tippett performs routine maintenance checks on monitoring equipment in support of COPE THUNDER operations.

During the 1950's, there were six detachments and approximately 200 personnel in Alaska. Air sampling operations conducted in Alaska in the late 1940's provided the first confirmation that the Russians had exploded an atomic bomb.

Daily "surveillance" sampling flights were flown from Eielson for the next 25 years using WB-50, WB-47E, WC-130 and WC-135 aircraft. Also during the 1950's, a field laboratory and an air operations section, Team 202-Western Field Operations, were established at what was then known as "Mile 26," and additional ground system sites were established throughout the state.

Years following, the unit was renamed Detachment 202 and played a key role in operations against Russian atmospheric tests conducted in the late 1950's and early 1960's.

The mid-1960's brought an expansion of Det. 202's mission and deactivation of four other detachments in Alaska Det. 202 began to conduct daily missions flown from Alaska to Europe and into the Far East.

In support of these air operations, the detachment maintained and operated an analytical radiological laboratory and aircraft sample recovery facility for the next 30 years. With nuclear response expertise, Det. 202 was also responsible for six geographically separated ground-based atmospheric sampling units.

During the 1970's, a ground site

Air Force Technical Applications Center

operation was consolidated with Detachment 202's operations. The detachment was renamed Detachment 460 in 1976, with operations remaining constant until 1992 when an Information Warfare mission was incorporated. Laboratory operations were terminated in 1996, following an era of exciting international progress in gaining signatories on worldwide nuclear treaties.

Det. 460 maintains 45 seismic sites in seven arrays across Alaska. The farthest site is located 9,000 miles away. Each site location provides a valuable geological view of the worldwide seismic activity, but also presents unique challenges in transportation and personal protection.

The geological data gathered is the largest single combined data feed to the USAEDS. This data is also shared with the University of Alaska at Fairbanks, a close relationship extending even beyond the seismic mission boundaries.

Det. 460 seismic technicians also maintain six geographically separated ground-based atmospheric sampling units. Two automatic cryogenic rectifiers collect gaseous samples; ground filter units collect particulate samples. They also conduct very limited support of TC-135 operations.

The Information Warfare Securities office primarily supports the 354th FW and Pacific Air Force's Aerial Combat Exercise COPE THUNDER. Providing CET and Communications Security/Operations Security information, the detachment's people train aircrews and support personnel on wartime threats and countermeasures.

MISSION

The operational environment presents unique challenges. Snowfall begins in early October and remains until the end of May. The temperature during this time varies from above 40 to negative 65 degrees Fahrenheit, offering multiple challenges to personal protection.

Long underwear, parkas and mukluks are daily necessities. With daylight declining through Dec. 21, the detachment has approximately 30 minutes of daylight in the deep winter.

During the summer, Alaska becomes the "land of the midnight sun." Gaining daylight until June 21, midnight looks like 1 p.m. in the continental United States. The mosquitoes, casually referred to as the state bird, are ever-present.

The unique challenges at Detachment 460 create an environment of opportunities. The detachment looks forward to meeting each one head-on with the motto that symbolizes their Information Warfare mission: "In God we trust. All others we monitor, jam, or deceive."

Front, Senior Airman John Stephens, Staff Sgt. Sean Otoupalik and Staff Sgt. Cooper perform Communications Exploitation Training out of a bunker on the Yukon Range at Eielson Air Force Base.

Front, Airman 1st Classes Clayton Besse and Lester Eckman, and Staff Sgt. Brian Ancil perform monitoring operations in support of a Pacific Air Force Inspector General inspection at Eielson Air Force Base.

TECHNICAL OPERATIONS DIVISION

The Technical Operations Division is the second largest associate unit on McClellan Air Force Base, Calif., and the largest subordinate unit of the Air Force Technical Applications Center at Patrick Air Force Base, Fla.

VISION

TOD's vision is to be the lead global organization performing nuclear and environmental trace minerals analysis and systems support while conducting an effective transition.

MISSION

Their mission is to provide timely, accurate products and services for nuclear and environmental materials collection and analysis to enhance U.S. military preparedness, national policy making and treaty monitoring while planning and implementing transition activities.

The unit also supports all material collection functions of the U.S. Atomic Energy Detection System.

TOD is comprised of three directorates:

- **McClellan Central Laboratory**
- **Mission Resources and Systems**
- **Logistics and Engineering**

The McClellan Central Laboratory provides trace-level analyses of nuclear and environmental samples.

The Mission Resources and Systems Directorate manages the communication and computer operations, contracting, facilities, budget management, security and information management support functions.

In the Logistics and Engineering Directorate, personnel conduct engineering, maintenance and supply operations for the laboratory systems and the sampling equipment in the worldwide U.S. Atomic Energy Detection System. They also manage the base closure-related transition planning team.

The unit's support functions include environmental protection, radiation safety, ground safety, training, manpower, personnel, information and facilities management and first sergeant involvement to ensure successful operations and compliance with regulations.

Staff Sgt. Todd Wooddy operates the gamma detector.

Although TOD's main customer is AFTAC, other customers include the worldwide detachments, Department of Energy laboratories, the Department of Commerce National Institute of Standards and Technology, the Office of the Secretary of Defense, the International Atomic Energy Agency, the United Nations and Great Britian's Atomic Weapons Establishment.

The unit will be transformed by the July 1995 Base Realignment and Closure Commission decision to close McClellan Air Force Base by July 2001.

Although timetables and transition details are still being developed, TOD will continue to provide quality products and services while effectively transitioning the process and equipment that AFTAC needs to continue its treaty monitoring missions.

Air Force Technical Applications Center

HISTORY

TOD mission operations began in 1948 with the 1009th Special Weapons Squadron and established to detect nuclear weapon tests worldwide. Between 1948 and 1950, the 1009th sent personnel on temporary duty to McClellan Air Force Base to work with the 55th Weather Reconnaissance Squadron on airborne sampling missions using WB-29 and WB-50 aircraft. This was the beginning of TOD's worldwide aerial sampling operations.

In 1950, the Western Field Office, a permanent branch of the 1009th SES, was created at McClellan Air Force Base to conduct laboratory analysis of airborne debris. During the 1960's, the growing worldwide mission of the 1009th was transferred to the 1035th U.S. Air Force Field Activities Group.

Airman 1st Class Chris Stratford works on a mass spectrometer.

The Limited Test Ban Treaty in 1963 resulted in an enormous expansion of workload, and WFO, renamed the 1155th Technical Operations Squadron in 1960, reached its peak strength of 1,500 people.

By the late 1970's, technology and a reduced workload enabled the 1155th to streamline operations and eliminate redundant systems; manpower decreased to approximately 500 personnel. Major modernization programs were undertaken to exploit modern, sophisticated instrumentation and lab techniques. Recognizing the increasing complexity and importance of the unit's mission, the Air Force upgraded the unit to a division in 1984 and named it the Technical Operations Division.

In 1988, the Russell Building was dedicated as a modern facility to house the McClellan Central Laboratory and the Operations, Computer-Communications Systems, Logistics and Executive Support directorates. The $18 million building won an award for architectural design for building aesthetics in the Air Force's annual new building facility design competition.

For nearly half a century, TOD has sustained a reputation for producing world class results. Notable among its many accomplishments was the division's participation in sampling and analysis of debris from the Chernobyl Nuclear Reactor accident.

COMMUNITY

The division has been a dedicated member of McClellan Air Force Base and the Sacramento community. For over 28 years, TOD people have sponsored Child-A-Smile, a program which helps physically and mentally challenged children in Sacramento schools. TOD's blood drives have received awards form Sacramento county officials and the Adopt-A-School mentoring program enables the unit's highly trained and educated members to share their knowledge and enthusiasm with community youth.

Acknowledging these efforts, Sacramento civic leaders presented TOD with the Sacramento Volunteer Activist Award, the first time the award was given to an Air Force unit.

Today, the 309-member unit continues to provide logistics support for complex systems around the world, laboratory analysis to support treaty monitoring commitments and worldwide atmospheric sampling support.

DETACHMENT 452

VISION

Leading the way in providing a full spectrum of information utilizing state-of-the-art systems with the highest capability, reliability, and maintainability in the world. Benchmarking the resources necessary to accomplish the mission while providing the highest quality of life for our people.

MISSION

The mission of Detachment 452 is to provide the highest quality data collection and reporting for monitoring nuclear treaties on a continuous basis to the Air Force Technical Applications Center and the Korea Institute of Geology, Mining and Materials through commitment to excellence and teamwork.

Det. 452 operates the U.S. Air Force's second-largest seismic array as part of a world-wide seismic monitoring network. The detachment assists AFTAC in monitoring compliance with the 1963 Safequard (d) Limited Test Ban Treaty, 1974 Threshold Test Ban Treaty and the 1976 Peaceful Nuclear Explosions Treaty.

To perform the detachment's mission, two seismic arrays are laid out over a 600-square-mile area in north central South Korea. A short period array consisting of 19 instruments detects vertical particle motion used for wave energy measurements.

It also provides the azimuthal direction to the seismic wavefront's source. A long period array made up of six seismic instruments measures both vertical and horizontal earth particle motions, and provides data for event discrimination and wave energy measurements. Both systems are used to refine seismic magnitude calculations.

In addition to the arrays, the unit operates one broadband instrument to measure vertical and horizontal ground motion through a wider frequency range.

Currently, the detachment is operated by a commander, superintendent, maintenance chief with five technicians, and one-deep positions for supply, vehicle maintenance, and information/personnel management. Manning is expected to decrease in the future. Assignments average one year and are unaccompanied.

HISTORY

The detachment was established in 1966 near Chunchon, about 40 miles north of today's location.

The "array," three surface instruments, was operated from make-shift trailers and data was recorded by pen and ink helicorders. When a more permanent installation was required in 1968, land was purchased near Wonju, adjoining Camp Long.

The short period array was installed in 1972, the long period array in 1977. The detachment operated 24 hours per day with 35 Air Force personnel. Data was recorded on 16 millimeter film from develocorders and analyzed using a metric rule.

In 1991, with seismic technological advances, data analysis responsibility shifted from the detachment to the AFTAC headquarters. In July 1995, this trend towards automation continued with the installation of the AFTAC Distributed Subsurface Network at detachments worldwide.

Data is now transmitted directly into the AFTAC Operations Center, where AFTAC operators analyze it using state-of-the-art workstations.

Detachment 452's contributions to nuclear explosion monitoring include the following:

- **1984 - Last large Russian underground explosion**
- **1988 - Great Russian earthquake in Armenia**
- **1989 - San Fransisco earthquake**
- **1994 - Los Angeles earthquake**
- **1994 - Undersea earthquakes near Japan**
- **1995 - Chinese underground nuclear explosion**

Additionally, the detachment has served as a test bed for new systems development, from TRIAX long period instruments in the 1970's to today's ADSN. Ten major system modifications were installed, refined, and proven at Det. 452 prior to implementation worldwide.

UNIT LOGO

The detachment unit logo was founded many years ago by the detachment personnel. The radio tower and mountain top are indicative of the work they do every day. The atom symbol represents their ties to the US Atomic Energy Detection System. The red and blue background (the Yin/Yang-type symbol) represents Korea itself.

"Wizards" was a name bestowed upon them by their old headquarters, because they were always able to complete the mission, as if by magic, no matter the problems encountered. The waves on the sides represent seismic signals.

Master Sgt. Jack Swartz, center, discusses new administrative procedures with Senior Airman Lisa Cella, left, and Staff Sgt. Michelle Hicks.

AIR FORCE CENTER FOR CRYPTOLOGIC OPERATIONS

The Air Force Center for Cryptologic Operations is the authoritative representative of the Air Force and the commander of the Air Intelligence Agency for developing cryptologic plans, policies and programs; supporting technology integration and cryptologic system acquisition; and articulating Air Force and Service Cryptologic Element operational requirements for cryptologic support.

AFCCO is collocated with the National Security Agency/Central Security Service at Fort Meade, Md. It is AIA's primary organization interfacing with NSA/CSS on all cryptologic mission areas.

AFCCO coordinates Air Force cryptologic policies, plans and programs with the United States Cryptologic System; assists in validating and prioritizing Air Force operational requirements for cryptologic support; sponsors analyst-to-analyst and other exchanges between AFCCO, NSA/CSS and other elements; and serves as principle resident AF/AIA representative to NSA/CSS.

The 67th Intelligence Wing works closely with AFCCO and supports its efforts to develop cryptologic plans and programs for future training, technologies and requirements. The wing carries out operation in accordance with plans and programs as developed by AFCCO and validated by the AIA commander. With the commander's guidance, the AIA headquarters staff integrates and prioritizes AFCCO's plans and programs, efforts and initiatives and resource and personnel needs with those of other AIA units.

The AFCCO's Plans Division is responsible for developing policy, doctrine, architecture and long-range plans to support AIA long range planning. AFCCO also provides AIA and Air Force perspective in cryptologic research and development, procurement, military construction and operations and maintenance funding.

The Operations Division identifies areas in which AIA can interface with NSA/CSS on existing programs and resources including HUMINT, MASINT, information protect and force protection. It acts as program manager for AIA participation in selected SIGINT special access programs and ensures cryptologic operations are consistent with AIA long-range planning and recommends course of action to AIA and the 67th when needed.

Also, the division develops cryptologic training requirements, identifies training opportunities and represents Air Force needs at cryptologic training forums. It acts as programs manager for the Air Force Exportable Language Training Program and for Air Force participation in cryptologic intern programs.

The Space and Technical Activities Division investigates and identifies areas where national cryptologic space and technical systems can support Air Force operations. It develops space and technical training requirements, identifies training opportunities, represents Air Force needs at space and technical cryptologic training fora and acts as program manager for AIA participation in selected space and technical special access programs.

The Communications and Information Division ensures Air Force doctrine on information operations is incorporated in NSA activities and issues. It performs AIA cryptologic information systems acquisition support and coordinates with Air Force major commands and Air Staff to ensure interpretability among cryptologic telecommunications and intelligence support systems used to accomplish AIA operational missions.

It represents AIA requirements to NSA/CSS and other appropriate agencies to ensure Air Force community access to cryptologic information systems products and services.

The Logistics Division supports development of Air Force cryptologic policies, plans, programs and related acquisition processes. It guides cryptologic acquisition activities to ensure Air Force needs are met and represents AIA at cryptologic acquisition and logistics fora Minimum Essential Integrated Logistic Support Requirements, conferences and system test and evaluations.

Within NSA/CSS, it advocates Air Force cryptologic requirements associated with tactical/airborne systems, to include systems integration.