

## MEMORANDUM FOR RECORD

**SUBJECT: PROCEEDINGS — AIR FORCE WESTERN PACIFIC REGION AIRSPACE/RANGE COUNCIL — MANAGEMENT SESSION**

**.A GENERAL** – The Air Force Western Pacific Region Airspace/Range Council — Management Session began at 1:00 pm. on 10 January 2007 in Phoenix, Arizona. The Arizona Air National Guard hosted the meeting at the 161st Air Refueling Wing, Sky Harbor Airport, and provided excellent support.

### **.B COUNCIL PROCEEDINGS FOR JANUARY 10, 2007**

- .1 Remarks/Objectives/Introductions – Brigadier General Holland** (New Mexico Air National Guard / Chief of Joint Staff) opened the Management session and welcomed everyone to Phoenix and the Council meeting. He expressed appreciation for the excellent level of attendance and wanted everyone to realize that we all desire to use the same limited airspace and must work together.
- .2 National Overview – Brigadier General Akey** (Commander of the Massachusetts Air National Guard and Co-Chairman of the National Airspace/Range Executive Council) welcomed everyone and then gave an overview of how/why this process began. He stressed that these meetings are designed to be problem solving forums. **Colonel Wickman** also encouraged the attendees to ask questions and seek out individuals to have an open exchange of dialogue and ideas. He stated that people should not hesitate to ask a question and if you don't know who to go to, start with Colonel Wickman.
- .3 Warfighter Brief – Lt Col Tek (162 FW, Arizona ANG)**, a member of the 162 Fighter Wing, Arizona Air National Guard, recently deployed to Balad Air Base in Iraq.
  - The mission was to support ground commanders' intent and troops on the ground. Close Air Support (CAS), Non-Traditional ISR (intelligence, surveillance and reconnaissance), Show-of-Force, and rapid support and convoy escort.
    - The Theater – IRAQ – is divided into kill boxes: half a degree N-S and E-W that create 30 nm by 24 nm airspace segments further divided into nine “keypad” blocks that are approximately 10 X 8 nm.
    - F-16 standards for daily operations
      - Weapons: 1 – GBU-38 (Guided Bomb Unit – GPS guided), 1 – GBU-12 (Glide Bomb Unit – laser guided), 20 mm HEI (High Explosive Incendiary), expendable countermeasures, targeting pod with video link capability, self defense AAM's (Air-to-Air Missile).
      - Single laser code for all weapons to allow two-ship buddy laser operations in single-ship shooter-cover operations.
      - Joint Direct Attack Munitions (JDAMs) could be used with simultaneous drops, however single deliveries were standard.
      - F-16 mission computers stored every keypad point, airfield, tanker track and other points.

- Typical pilot aircrew schedule was a nighttime takeoff between midnight and 3:30 am and 4-6 hours missions. Pilots stepped to the aircraft at least 1 hour prior to takeoff to allow for cockpit setup and all systems checks.
  - Use of NVGs (Night Vision Goggles) and targeting pods for 5 hours at night is challenging!
  - Pilots flew about every other day, sometimes every day, and the squadron ran 24/7.
  - Non-flying days were occupied with squadron duties. Brief, fly, debrief, paperwork, workout, eat, mail, sleep, and start over, with no days off.
- Communications
  - Secure Voice radios were the most important piece of gear. It obviated the need for paper authenticators, but they still carried them for back-up situations
  - Never received a complete 9-line CAS (Close Air Support of Ground Troops) briefing, typically just coordinates with a talk on from a labeled graphic. The laser spot was used to get target confirmation
  - When they really need you – there are distractions of gunfire, explosions, individual excitement, etc.
  - Final “CLEARED HOT” was absolutely essential.

#### **.4 Unit Operations Briefings –**

- **162 FW, Tucson AZ** – Colonel Salinas (162 Fighter Wing OG/CC).
  - Mission: Provide US and Allied Nations with training in the F-16.
    - The unit is a traditional ANG unit (the largest) training U.S. Foreign Military Sales pilots since 1989 with over 600 trained to date.
    - They fly the “newest” F-16s as well as the “oldest” F-16s
    - The unit provides support to the ANG/AFRC Test Center, which is co-located on their facilities
  - Mission Elements
    - F-16 Fighter Training – ANG/AFRC/USAF/USN: Mission types include basic flight training, takeoff and landing and tactical training for air to air and air to surface employment.
    - Homeland Defense – Air Sovereignty Alert
    - Air and Space Expeditionary Force
    - Operation Snowbird – Units deploy to Tucson to train on Barry Goldwater Range.
    - Joint Counter Narcotics Task Force – Unit’s aircraft support mission
  - Airspace and Ranges: Barry Goldwater Range and Special Use Airspace (SUA) along southern boarder with Mexico.
  - Concerns: DHS Predator operations in joint use SUA and the ability to use NGVs with true lights out requirements.
- **Travis AFB, CA** – Captain Roberts (60 AMW Airspace Manager)
  - Mission is to provide rapid global mobility with airlift and air refueling assets to deliver military aircraft, people and equipment wherever and whenever they are needed.
  - Special Needs for local training includes air refueling routes, low level routes and airfields for tactical training.
  - Airspace:
    - Aerial Refueling Routes, AR 1-East, 1-West, 2-West, 3-H East, 3-H West, 5-High, 5-Low, 6, 7-A, 7-B, 8-A, 8-B, 255-H, 255-L, and 462.
    - MTRs, SR/IR 300-301, IR 264, 275, 280, 281, 282.
  - C-5 – worldwide missions, but no local airspace concerns
  - KC-10

- Airspace issues with AR8BA – AR8C. The Dolphin MOA has an ATCAA above that, when activated, affects the AR8BA refueling track. Scheduling conflicts are currently in work with the MOA owners and the FAA to re-design/re-locate the track to minimize these conflicts
- C-17 Globemaster
  - Attempting to revise a current SR route to an IR route. The TTSNS has been completed and the environmental is in work
- **150 FW – Albuquerque NM – Brig Gen Holland** (HQ NMANG / Chief of Joint Staff). The unit is flying the Block 30 F-16 multi-role aircraft.
  - Airspace - Three major airspace areas: White Sands Missile range, Pecos-Melrose ATCAA and MOAs and the Cato MOA (controlled by the 150 FW)
    - Airspace users include the F-117 and German Tornados based at Holloman, Special Operations at Cannon AFB, the Dyess AFB B-1s and several other F-16 units.
    - The Cato MOA floor is 13,000’ MSL – there is a training initiative in process to develop the Smitty MOA to allow operations underneath the Cato MOA, which if approved, will include a floor varying from 500’ to 1600’ AGL with a 2,000’ “bubble” over defined critical habitat areas.
    - The New Mexico Training Range Initiative will modify the Pecos-Melrose airspace to improve the utilization and create an airspace bridge to allow greatly expanded long range operations.
  - Issues for New Mexico
    - F-22 and all future weapons systems require much larger airspace, even with fewer assets. Airspace must be used more efficiently. **General Akey** added that all units must be engaged with State Legislative staff and keep them involved and aware of the problems.
    - SADL/Link 16 Data Link Coverage and required Frequency Deconfliction
    - Bridging Reserve MOA to Cato MOA for large air-to-air exercises
    - Operational impacts between unit and Eclipse Aviation – 2500+ jets being built at ABQ in the next four years, all requiring production test flights.
    - The State of New Mexico and the ANG would benefit if additional UAS platforms were available for border security missions.
- **Navy FACSAC (Fleet Area Control and Surveillance Facility) - Captain Bob Rutherford** (Commander, FACSAC San Diego) briefed that the Navy has changed the way tactical air assets are deployed and how they are training at home. The Navy no longer stands down the air units when they complete a cruise, and now Navy units maintain C2 Combat Readiness Status (High level of Readiness) during home basing. Home-based training is at a much higher level to maintain readiness and rapid redeployment capability. Two Pacific-based carriers are on duty and four are maintained ready to deploy.
- **ANG/AFRC Test Center, Tucson AZ – Major Ford** (ANG AFRC Test Center)
  - A number of munitions being tested require larger ranges than available in most local flying areas. This will require units to deploy to other locations for training. When fielded, these new munitions will affect future range considerations for dry and hot deliveries.
    - Small Diameter Bomb
    - AIM-9 in a surface attack mode
    - Joint Programmable Fuse
    - Targeting maneuvers related to attacking moving targets
  - Data Link feeds are limited to “line of sight,” so there should be transmitter nodes on ranges and within airspace to improve data link communications capabilities.

- They use targeting pods to downlink information; however frequency issues sometimes preclude use of these training assets. Considerations on how to use when deployed should be addressed.

**.5 National Park Service – Ms. Vicki McCusker (Military Liaison), Natural Sounds Program**

- Located in Ft Collins, CO as a Washington HQ Support Office of the National Park Service
- The Natural Sounds Program works to protect natural sounds and visitor experience from noise intrusions in National Park units.
- Noise intrusions include aircraft, personal watercraft, snowmobiles, NPS maintenance activities, etc.
- Natural sounds are indicators of the ecosystem and essential to the visitor’s experience. Visitors are being surveyed to evaluate their visit.
- Current Program activities include;
  - Acoustic data collection, inventory and analysis
  - Park technical assistance requests
  - Air Tour Management Plans exist at nine parks and expected to increase to 100.
  - Soundscape Management Planning
  - Liaison with military on overflight issues
- AF/NPS Western Pacific Regional Sourcebook contains the following information:
  - History of AF, NPS
  - Types of airspace and ranges, NPS units
  - Decision making process
  - Developing relationships/problem solving
  - Available at <http://www.nature.nps.gov/naturalsounds/issues/>  
<http://www.hqafcee.brooks.af.mil/products/ranges/sustainment.asp>  
<http://www.fs.fed.us/r6/fire/aviation/airspace/web/coord/index.html>
- Current Issues:
  - Low altitude flights over parks including the C-17 Low level navigation training impacts on Kaloko-Honokohau National Historical Park. The purpose of the park is to preserve, interpret, and perpetuate traditional native Hawaiian activities, values, and culture. The area was once a thriving Hawaiian settlement. The NPS received notice of the training only when the FONSI was published for the Short Austere Airfield at Kona International Airport.
  - Working with Grand Canyon Park and the FAA on an Overflight EIS for future allowable operations.
  - Discussion pointed out the need for all overflight problems to be recorded accurately including the day and time of the overflight incident.

**.6 Yosemite National Park – Mr. Meyer (Yosemite N. P., Resource Mgt & Science Division)**

- 3.5 to 4 million visitors per year to park, up to 25,000 people per day (including employees) in the summer in Yosemite Valley
- 95% of Yosemite is congressionally-designated wilderness
- Overflight Noise Impacts
  - With “box canyon” formations such as Yosemite Valley, the sound bounces back/forth and causes significant noise impacts
  - Above 8000’, the park is mostly bare granite and significant noise is propagated long distances.

- Yosemite is on a major east-west commercial air route and experiences a lot of airplane noise, effectively “consuming” the noise budget.
- The park’s major concern is low-level (i.e. below 2000’) overflights of small jets, presumably fighter planes.

**.7 Forest Service** – Ms. Julie Stewart (BLM/USFS (Fire and Aviation). The fire fighting aviation program is often referred to as “the second largest Air Force” with more than 2000 aircraft engaged in fire fighting and disaster relief flying.

- 2006 Fire Season kicked off strong in January
  - 96,375 fires for 9.8million acres, 140% of average
  - 612 “large” fires, (100+ acres of timber or 300+ acres to grass)
  - 2006 was the warmest summer on record.
- Airspace Program started in 1980s to prevent midair collisions near fire fighting activities.
  - Aviation risks are high surrounding fire activity
  - A wide variety of fixed wing and rotary aircraft operate in the fire traffic
  - National Fire Fighting Transponder Code 1255 is the “Lights and Siren” for fire fighting assets.
- Interagency Airspace Coordination Guide is an Interagency response to airspace coordination and is available online at the Interagency Airspace Website: [www.fw.fed.us/r6/fire/aviation/airspace](http://www.fw.fed.us/r6/fire/aviation/airspace)
- The Department of Defense/US NOTAM office maintains a website for DOD flight crews for flight planning which can be viewed through the Defense Internet NOTAM (Notices to Airmen) Service (DINS) at <https://www.notams.jcs.mil>
  - For increased safety the US Forest Service has automated flight following (AFF) of many of their aviation assets through a satellite transponder system, with the data available through the internet which can be layered in 3D on Google Earth showing the location of fire, fire aircraft, TFRs and SUAs.
  - There are five types of aviation activities allowed in a disaster relief (91.137 (a) 2) TFR:
    - Disaster Relief Aircraft
    - VFR Airport Traffic
    - IFR Traffic
    - Law Enforcement
    - Media
  - Fire Traffic Areas (FTAs) is a communication scheme around a TFR dimensions which often extends up to 2,500 feet above the fire level and out to 12 nm from the fire for the initial contact ring.
  - DoD Flight Crews in accordance with AP 1 (Ch 3 Hazards) must avoid areas with smoke by at least 5 nm whether NOTAM’d or not. Debris from Eastern Washington fires went as high as 35,000 feet, so be very cautious of flying near a wildfire.
- Mexican and Canadian Border Operations are coordinated with the Air and Marine Operations Center (AMOC) to insure safe operations
- Airspace Coordinators provide an interface between the fire operations and the FAA, military operations and GA activities surrounding the fire area. They coordinate TFRs for complex fire operations.
- Fire Hazard Posters (jpgs) for DOD Flight Crews were distributed during fire season 2006 by the AFReps, NAVReps and DARRs.
- Fire applications of UAS

- USFS/NASA-Ames AltAir UAS flew a 16-hour mission on the Esperanza fire in 2006. Future UAS capability studies include IR imaging and mapping as well as radio and wireless network relay capabilities.

## **.8 State Aviation Officials**

- **Arizona – Mr. Stevens** (Arizona DOT, Aeronautics Division) welcomed the council to Arizona. He said they have a good relationship with the military airspace users in the state and appreciate the opportunity to be a part of these forums. The major responsibility of his office is the education of the General Aviation community within the state.
- **California – Mr. Cathey** (California DOT, Division of Aeronautics (MS40)) mentioned that this was the first time a CA DOT representative had attended one of these meetings, but they really appreciate the opportunity to have an open dialogue with California-based DoD users. The military operations are valued activities in California. Potential incompatible land use development around airfields is a major concern and attempts are on going to ensure the only compatible development occurs so as to preserve the utility and viability of both civilian airports and military bases. Currently, California does not have laws that expressly protect military airfields from surrounding encroachment. However, the California Airport Land Use Planning Handbook does provide guidance to ensure compatible development, but with few exceptions it is advisory only.

**.C Breakout Sessions for tomorrow** – Brig Gen Holland asked everyone to get together with people that can help resolve any issues they may have and be ready to join breakout sessions on these subjects to contribute to or gain information.

**.D January 10<sup>th</sup> Session Adjourned:** Brig Gen Holland adjourned the day's session at 4:20 pm.

## **.E Council Proceedings for January 11, 2007**

**.1 Opening Remarks – Brig Gen Holland** called the meeting to order and welcome those that had not been to the proceeding day's session.

### **.2 Military Reps to the FAA – Perspectives/Issues**

- **USAF Representative to the FAA – Lt Col Sampson** (FAA Western Service Area AFREP)
  - **Mission** is to represent Air Force within the National Airspace System (NAS) and provide liaison to the FAA.
  - **Strategy** is to promote continuous, multi-faceted engagement and communication at the local, regional and national levels by encouraging FAA and DOD participation in relevant forums. The Phoenix Airspace Users Group and the Arizona Military Users Group are excellent examples of the effort to improved airspace utilization.
  - **AFREP Offices** have been consolidated from seven to three to match the new FAA Service areas. The Western Service Area is located in Seattle with branch offices in Los Angeles and Anchorage.
  - **UAS Challenges**
    - UAS present the biggest problem currently being addressed by the Western Region AFReps working with DHS – Customs and Border Protection (CBP) concerning increasing UAS operations on the southern border. Last year's CBP TFR has not been renewed and operations are now taking place within Restricted Airspace and Positive Controlled (Class A) Airspace above 18,000 feet.

- The DoD and FAA are working together to determine how to integrate UAS operations within the NAS to allow UAS operations to co-exist with all other types of aviation activity.
- The new UAS Certificate of Authorization (COA) online request has been implemented to reduce the time required to process a request. There are some security concerns about the use of un-secure internet connections for the applications.
- Discussion included mentioning that the FAA has a concern about how to operate an airport traffic area with a mix of a single UAS and manned aircraft and how to operate multiple UAS in an airport traffic area. The FAA has not written guidance on those procedures. The major problem is the current “Lost Link” request to shut down the airfield to accommodate the UAS recovery.
- **FAA – Unmanned Aircraft Systems in the National Airspace System – Ms. Trindle (FAA)**
  - **UAS – Unmanned Aircraft Systems** include systems previously known as Drones, ROA, UAV, and model RC Aircraft. A UAS includes the Unmanned Aircraft (UA), the Aircraft Control Station, and the Command & Control Link/s and operated or flown by a “pilot”.
  - **UAS Policy Guidance** is still being developed through meetings with other Government Executives to baseline UAS responsibilities and develop UAS operations policy, conditions and limitations.
  - The FAA has an “**Unmanned Aircraft Programs Office,**” and they are getting up to speed.
  - See and Avoid is not an ATC Function; radar does not depict everything in the NAS, such as balloons and para gliders that are non-reflective or aircraft that do not carry transponders or radios.
  - **COA Process Activities** - The process is cumbersome and the FAA is working to streamline it by establishing requirements, standardizing the process and reducing the “Equivalent Level of Safety” shortfalls. Improvements have included automated, web based application process, controller training, disaster relief support and the development of “COA Templates” for specific groups of operations.
  - **Disaster Relief Certificate of Waiver or Authorization**
    - Issued to Joint Air Commander (ground-breaking change of FAA policy)
    - Must have FAA 91.137 A 1 TFR in place
    - COA issued within hours not days or weeks
    - It is not a blanket approval for UAS operations
    - Cannot be used by other DoD organizations or exercises or expanded to other aircraft.
  - **Customs and Border Protection** – Predator B operations have been suspended since 25 April 2006 and were to resume in Jan 07 along the Southern Border. Northern Border operations are also in the planning stage.
  - **Program Office Activities**
    - Build a roadmap for integration
    - Harmonize a certification structure
    - Small UAS guidance
    - Building a Safety Database to support standards
    - Lead the International Effort to integrate UAS.
  - **UAS Challenges.** DoD use is “non-recreational,” so other guidance on small RC systems does not apply even for the smallest UAS devices similar to RC systems.
    - FAA must develop standards, procedures and separation standards for an industry already in operation.

- The FAA is attempting to support the increasing role of UAS in national defense
- The FAA will continue to work to develop appropriate solutions for COA requests for access to the U.S. NAS.

**.3 U.S. Customs and Border Protection – Unmanned Aircraft System Update – Mr. McNall** (Deputy Director CBP UAS Southwest Region) provided an update on the CBP UAS program currently operating from Libby Army Airfield on the U.S. Army Fort Huachuca military reservation southeast of Tucson, AZ.

- **Background**

- November 2003 – 14-day Test and Evaluation with a Predator B from Gila Bend Air Force Auxiliary Field.
- June 2004 – Arizona Border Control Initiative; a four month operational test with a Hermes 450 from Libby Army Airfield.
- November 2004, a four-month operational test with a Hunter.
- September 2005 – Predator B (CBP101) delivered to CBP and commenced operations within Restricted area 2303 and then the Southern Border TFR from Libby Army Airfield.
- April 2006 – CBP101 destroyed due to pilot error (according to a preliminary NTSB report) after accumulating 959 hours.
- September 2006 – Predator B (CBP104) delivered with 47.6 total hours at the time of this meeting.

- **Present Operations**

- One Predator B at Libby Army Airfield
- Limited to R2303 airspace and only when Libby is open; flight Monday – Thursday, 1700L-0800L and Friday, 1700L-2300L.
- COA in effect to transit Libby Class D airspace for launch and recovery with an FAA NOTAM to have Libby Class D airspace sanitized of all manned aircraft.

- **Predator B Mission Video – Nov 06** consisted of using their IR sensor to locate, track and then point out the location of five illegals captured through coordination with CBP crew from a UH-60

- **Planned Operations**

- One Predator B at Libby with operations along the entire Arizona – Mexico border from New Mexico to 125 nm west due to operations control limitations with the elimination of the requirement to sanitize the Libby Class D airspace.
  - By the end of FY 07, operate three additional Predator B aircraft at Libby Army Airfield and operations beginning along the northern border..

- **Strategic Vision**

- Operation including up to 18 total Predator B's based at several tactical field locations nation-wide, controlled from the Predator Operations Center located at the Air and Marine Operations Center in Riverside, CA.
- Major problem is the training of Predator pilots.
- **BG Holland** added that another problem is the unlawful use of active duty assigned military (Title 10) for surveillance. At present, only CBP, Guard, or other civilian personnel can be utilized for this mission.

**.4 U.S. Customs and Border Protection – Air and Marine – Mr. Vaughan** (CBP Director of Air Operations, Tucson Sector). They are the largest law enforcement agency in the world and the focal point for any issue with air resources in the Tucson sector.

- **Mission** is to control the Arizona border 24/7 through the use of 16 manned aircraft based at Davis-Monthan AFB, 12 manned aircraft based at Tucson International Airport, two aircraft at Williams Gateway Airport in Chandler, and five manned aircraft plus a single UAS at Libby Army Airfield.
  - Flight Operations total more than 20 per day for more than 80 hours of flight time. Illegal apprehensions of groups of 30 to 80 at a time and drug seizures are extremely high and rescues of dying illegals have been reduced due to higher initial apprehensions and the reductions in crossing attempts.
  - Predator operations are covert and allow passive monitoring of the border and smuggling operations.
  - Operation Halcon utilizes the capabilities of the C-550 Citation to extend CBP drug enforcement operations beyond the northern and southern border. This operation has been successful in many arrests and the capturing thousands of pounds of marijuana, aircraft, vehicles and vessels.
  - Support to Immigration and Customs Enforcement (ICE) and other Agencies
- **UAS Operations** restarted 29 Sep 2006 and were again suspended 16 Nov 2006 due to a camera failure. During the 27.4 hours of operation the Predator was instrumental in the arrest of 31 illegals and the seizure of 634 pounds of Marijuana. The total flight hours to date since 1 Oct 2006 has been 4,306 hours leading to 9,622 arrests, 35,170 pounds of marijuana, 300 pounds of cocaine, 46 vehicles and 6 firearms.
- **Helicopter Missions** average about 80 per day and are very productive in deterring crossings, but current trends are the crossers are becoming more aggressive. They are much more organized with spotters aiding the crosses and determining when they should attempt a crossing. Since the Guard has begun to augment the Border Patrol with surveillance of the border crossings, the cost of crossing paid to the “coyotes” has risen more than three-fold.

**.5 Raven Ops – Mr. Steve Vonderheide, BGen (Ret), C2 Associates.** Currently, the major problem with SUAS operations is the separation from other air traffic, and night operations in the NAS. The Raven is the US Army’s SUAS “Contract of Choice,” and is being fielded in the National Guard. The Raven UAS is a very small unmanned aircraft (4.5 lbs) that can provide local area surveillance at an altitude of 500 feet AGL or below, with a tactical radius of approximately 10 km, and a max speed of 30-50 mph. A “Ground Control Unit” controls the Raven. It is a hand launched vehicle, and has the capability of flying on GPS-guided autopilot (pre-programmed) or in a manual mode, utilizing the EO/IR sensors for visual guidance. The GCU receives data from the Raven that includes the Lat/Longs (position), altitude, airspeed, heading, and “streaming video” from the sensors. In the event of “loss-link” the Raven automatically returns to the point of origin (launch site) by a pre-programmed flight plan, controlled by GPS input. Landing is conducted in a deep-stall Auto land Mode that allows safe landings in even small areas.

- **Tactical Operations:** There are over 3,500 Raven aircraft in Iraq and Afghanistan, logging in excess of 25,000 combat flight hours, in close tactical situations and all without incident. There is a difference with “Tactical” versus “Strategic” UAS operations and the Raven is suited for direct border surveillance of small, high threat crossing areas and for SAR (Search and Rescue).
- **Coordinated Support:** By coordinating mission support within the CBP/CN Sector, Raven teams will surveil known and suspected areas and routes for illegal activities and cue agents to intercept positions. The ability to search high ground and difficult terrain quickly and efficiently will deny those areas and will permit rapid scan of large areas without the hazards of potentially dangerous and time consuming off-road time.

- **Communications:** A communication “network” can be established to incorporate Raven within the “Net,” thus allowing the operator to communicate directly with their counterparts and other agencies choosing to operate in the designated areas of interest. Everyone will be on the same page and airborne assets can de-conflict, as needed.
- **Concept of Operations** would be to use NOTAMs for notification of possible “Tactical” UAS operations at 500’ and below within 3 miles of the border. That would offer operational flexibility without alerting the crossers to precise employment locations to be avoided.
  - Could identify corridors of use and authorize hand-launch of systems within the designated corridors.
  - Would restrict flying to unpopulated areas and avoid towns, airports and recreational areas
  - This designated airspace should not ordinarily be utilized by any legal aircraft operations, with the exception of other agencies on a pre-coordinated effort
  - Suggestion that this could be accomplished without having to establish TFRs
- **Unmanned National Industry Team – Mr. Ted Wierzbowski (AeroVironment)** added that the UAS industry is trying to identify ways to get small UAS operations out from under current FAA restrictions of the large and higher altitude UAS.
  - **Military Small UAS Capabilities/Attributes**
    - All kinds of systems in use daily around the globe
    - Many attributes and capabilities – these are **not** recreational RC aircraft
    - The Raven – the most deployed/used UAS in the world. Over 2,000 folks trained to fly this system
    - The system can provide Electro-Optical (EO) and Infra-red (IR) imagery for day and night operations.

#### **.6 Other Background on UAS Operations – Colonel Wickman**

- The initial premise of using radar for safety “See and Avoid” was flawed but only recently identified; now the DoD and FAA, along with Industry are working hard to resolve this limitation.
- These systems were developed by Industry apart from the normal military certification process and therefore did not receive airworthiness from the DoD nor a civilian airworthiness certification.
- In addition to aircraft certification, we must determine how pilot operators are certified.
- “Sense and Avoid” is the critical factor in accepting UAS in the NAS and what limitations/restrictions should be placed on systems unable to meet the “Sense and Avoid” minimum requirement.
- There was no intention for the Predator to fly in the NAS, but with the utility of use for firefighting, surveillance, etc., it is driving the need to figure out how to use the Predator within NAS.
- There are instances where getting standards defined and concepts of operation in place has taken longer than anticipated, but there are a lot of “high level” folks with the DoD and the FAA working these issues.

#### **.7 Global Area Reference System (GARS) – Colonel Wickman**

- Meant to be “shorthand” for designating blocks of airspace for area operations such as Combat Air Patrol Airspace, Air Refueling Tracks, Orbit/Holding Airspace and Flexible Training Airspace.

- GARS technology can be used to define airspace segments similar to “Tetris”-shaped blocks. Pilots can easily identify an airspace segment with 7 alpha-numeric characters that define an area as small as 5 miles by 5 miles
- Strategy for Achieving Dynamic/Predictable Airspace using GARS
  - Subdivide existing airspace using GARS to focus exercise operations in a certain area or preclude a portion of the airspace to allow other uses (such as range clean-up, etc.)
  - By using the GARS as the standard, possibly FAA sectors could grow or shrink based on differing usage patterns
  - 1<sup>st</sup> Air Force is now using this system for disaster relief operations.
  - Overlays are already available and this concept is in use today.

**.8 Action Item Recap - Mr. Rose (Apogen Technologies)**

- **ACTION ITEM:** Check feasibility of getting Air Force Representative’s web site materials on a DoD web site. They currently reside on an FAA site that does not have public access. There is a concern that this info will be able to reside on a DoD site because Colonel Mixon’s office currently does not have access to a DoD Web Site.
  - OPR: National AFREP Office, HQ FAA/AJR-01 – Mr. Eric Lautenschlager, the current webmaster for the AFREP site in Colonel Mixon's office.
- **ACTION ITEM:** Look at existing memorandum of agreement between DoD and Forest Service for self separation of aircraft from those two agencies. Determine if anything may be used from that document in the new MOA between DoD and DHS for self separation between DoD aircraft and DHS UAS in SUA.
  - OPR: National AFREP Office, HQ FAA/AJR-01

**.9 Breakout Summaries** – no summaries were presented. Breakout sessions convened after the council meeting was adjourned.

**.10 Closing Remarks** – **Brig Gen Holland** concluded with a request that any potential noise/overflight issue be presented to the Military Representatives at the FAA to ensure the right unit and pilot can be located to avoid further violations, or if there was no violation an acceptable fix can be developed. **Brig Gen Akey** thanked everyone for participating in this forum, especially considering limited travel budgets. While working issues can be frustrating, good communication is most helpful. The issues from this meeting will be addressed in the Executive Meetings and high levels within the DoD and the FAA. General Akey mentioned that Colonel Wickman does a great job of moving issues to be solved. Environmental issues have been the major topic for the past few years but now it is UAS operations outside of Restricted Airspace. He also made mention of the Western Regional Partnership and the move of Utah to the Western Pacific Region based on airspace and range utilization.

**.F Next Meeting** – A Management Council meeting will be held in January 2008 on a date and at a location to be determined.

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**.G Meeting Adjourn:** Brig Gen Holland adjourned the Management Session at 11:30 am.

**.H Approved:**

// Signed //

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MARTIN K. HOLLAND, Brigadier  
General, USAF  
HQ Arizona Air National Guard  
Co-Chairman, Western Pacific Region Airspace/Range  
Council

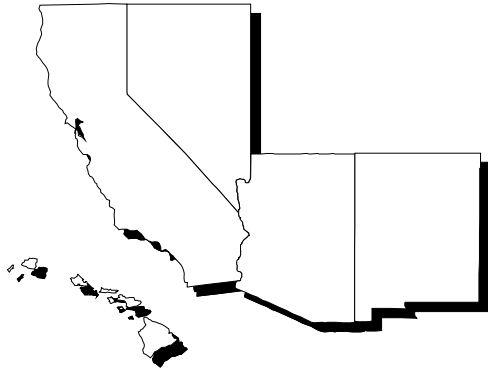
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Attachments:

1. Agenda
2. List of Attendees

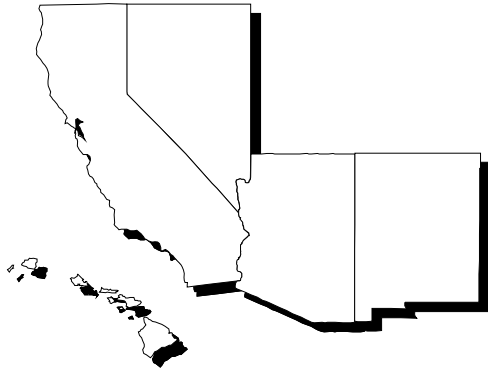


**Air Force Western Pacific Region  
Airspace/Range Council  
Phoenix, AZ  
10-11 January 2006**

**10 January Management Session**

1:00	Welcoming Remarks	Brig Gen Holland
1:15	National Overview	Brig Gen Akey Colonel Wickman
1:45	Warfighter Brief	Lt Col Tek
2:15	Unit Operations Briefings - Aircraft - Airspace - Problems and Issues Being Worked or Recently Solved	Colonel Jergensen
	(Opportunity for other agencies to identify issues)	
2:45	Break	
3:15	National Park Service	Ms. McCusker
3:35	BLM/Forest Service	Ms. Stewart
4:00	State Aviation Officials	TBD
4:15	Breakout Sessions for Tomorrow?	Colonel Jergensen
4:30	Session Wrap Up	Brig Gen Holland

( over )



**Air Force Western Pacific Region  
Airspace/Range Council  
Phoenix, AZ  
10-11 January 2006**

11 January Management Session

8:00	Opening Remarks	Brig Gen Holland
8:05	Military Reps to the FAA — Perspectives/Issues - NAVRep - DARR	Lt Col Sampson
8:30	FAA Perspectives - UAS Ops	
9:10	BREAK	
9:40	CBP – Air & Marine Ops	Mr. McNall
10:10	Raven Ops	Mr. Clark
10:25	Breakout Sessions	Colonel Jergensen
11:30	Breakout Summaries	
11:45	Action Item Recap	Mr. Rose
11:50	Wrap-up & Adjourn	Brig Gen Holland Colonel Wickman

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