THE MOBILITY FORUM

THE MAGAZINE OF AIR MOBILITY COMMAND | FALL 2019

Gen Maryanne Miller Discusses a Changing World: How Mobility Airmen Must Adapt

MAFFS Airmen Get Ready to Roll When Wildfire Season Heats Up

Major General Gordy, Expeditionary Center Commander, Talks Full Spectrum Readiness

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ON THE COVER

Photo, top: An RC-135 Rivet Joint receives fuel from a KC-135 Stratotanker during a mission within the USAF Central Command area of responsibility. USAF photo by MSgt Russ Scalf

Bottom left: SrA Jared Nye, 779 EAS Loadmaster, unloads a pallet of ammunition from a C-130 Hercules. USAF photo by TSgt Michael Mason

Bottom center: Airmen assigned to 60 APS participate in a readiness exercise at Travis AFB, CA. USAF photo by Louis Briscese

Lower right: Capt Robert Isley, a C-17 Globemaster III pilot assigned to 3 AS, Dover AFB, DE, navigates low-level points enroute to MacDill AFB, FL. USAF photo by TSgt Laura Beckley

Volume 28, No. 3
Fall 2019

The Mobility Forum (TMF) is published four times a year by the Director of Safety, Air Mobility Command, Scott AFB, IL. The contents are informative and not regulatory or directive. Viewpoints expressed are those of the authors and do not necessarily reflect the policy of AMC, USAF, or any DoD agency.

Contributions: Please email articles and photos to info@schatzpublishing.com, fax to (580) 628-2011, or mail to Schatz Publishing, 11950 W. Highland Ave., Blackwell, OK 74631. For questions call (580) 628-4607. TMF editors reserve the right to make editorial changes to manuscripts.

(DE) denotes digitally enhanced photo.

Subscriptions: GPO U.S. Government Publishing Office: 2019-645-110/10017. For sale by the Superintendent of Documents, U.S. Government Publishing Office. Internet: bookstore.gpo.gov. Phone: toll free (866) 512-1800; DC area (202) 512-1800. Fax: (202) 512-2104. Mail: Stop IDCC, Washington, DC 20402-0001.

AMC RP 91-2. Dist: X

ISSN 1559-159X

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FROM THE TOP

Gen Maryanne Miller Discusses a Changing World: How Mobility Airmen Must Adapt

Gen Maryanne Miller, AMC Commander

As I traveled the globe visiting Mobility Airmen in their 'foxholes' over the past year, I emphasized how the changing global security environment signifies challenges across every operating domain. The way we have conducted operations for the past 18 years is no longer sufficient to meet the challenges of the contested domains of the future. To be successful in this new environment, every individual Airman must shift their mindset and commit to developing new skillsets to recognize, understand, and overcome these operational challenges.

Although large-scale changes take time, some challenges can be confronted immediately. First, each of us must take stock of how we think about our daily jobs and reorient our mindset. Sun Tzu counsels us, "If you know your enemy and know yourself, you need not fear the result of a hundred battles."

We have become accustomed to conducting our business without contest. The threat rings have historically shown us the airspace to avoid, but these rings have expanded. They still exist on the two-dimensional chart, but they have become unbounded as the cyber and space domains draw additional threat rings around the entire globe in every dimension. We can no longer afford the luxury of projecting airpower from outside these domains. We need to operate within them.

Our current thoughts about basing must also change. Air Force strategy documents emphasize that bases are no longer sanctuaries from which to project power, but positions from which to engage the fight. Our future operational presence must evolve beyond historic basing models in order to achieve the operational agility needed for this environment.[1] No base is exempt. Even the homeland is not beyond the reach of space and cyber effects.

Every wing, group, and squadron, down to the individual Airman, must exercise their Observe-Orient-Decide-Act (OODA) loop. Following Sun Tzu's advice, we must ready our minds to run toward the sound of guns. We must be ready to fight our way in, complete our mission, and then fight our way back out of the battle.

Second, we will need to acquire new skills to win. This necessity is true institutionally and individually. The 2018 National Defense Strategy

Following Sun Tzu's advice, we must ready our minds to run toward the sound of guns. We must be ready to fight our way in, complete our mission, and then fight our way back out of the battle.

[1] See Air Force Future Operating Concept 2015 and Air Force Strategic Master Plan for more on these concepts.

identifies *strategic mobility* as a core component of a Global Operating Model. For Air Mobility Command (AMC), global operations are not new; they are business as normal. What is new is the manner by which we will dynamically employ our assets to increase operational agility across the entire joint force. This pivot will drive a parallel need for dynamic command and control (C2).

Competition in cyber and space means we must be prepared to continue the fight even if C2 is challenged. The development of mission-type orders is a new skillset we must acquire as an institution. This challenge represents a mentality shift for both commanders and Airmen, because we have grown familiar with a highly centralized C2 model. This past spring, I asked wing commanders from across the Mobility Air Force—active, reserve, and guard—to examine what mission command looks like for our core missions sets. The way forward is under development, but it is clear that maintaining operational agility necessitates new C2 skillsets.

As I alluded to previously, the threat rings have grown. Although most of the contested environment for mobility looks like degradations in cyber and space, it will also look like conducting the mission very close to kinetic threat ranges. Combining the skills needed to mitigate physical, cyber, and space effects is a daunting task. This summer we released new training guidance as part of the *Ready Aircrew Program* (RAP), which defines training standards for crewmembers across the airlift, tanker, and aeromedical evacuation mission areas.

Crafted through the lens of Full Spectrum Readiness, these requirements are the direct result of lessons learned during Exercise MOBILITY GUARDIAN 2017. In a few short weeks, MOBILITY GUARDIAN '19 will test our progress and make us even better. Contested Domain Operations (CDO) are baked into each scenario and touch each mission area. This exercise is our command's premier opportunity to cultivate new skillsets and build muscle around areas where we may be weak, both as an institution and as individuals.

The command is working hard. Across each wing and staff directorate, we have begun to shift our focus in the direction needed for our future. We will continue to leverage the stalwart tools of the command—PHOENIX Rally, MAF WEPTAC, PHOENIX Spark, MOBILITY GUARDIAN—to adapt at the institutional level. It must go beyond this commitment, however. We need saturation at the individual level.

The command is working hard. Across each wing and staff directorate, we have begun to shift our focus in the direction needed for our future. We will continue to leverage the stalwart tools of the command—PHOENIX Rally, MAF WEPTAC, PHOENIX Spark, MOBILITY GUARDIAN—to adapt at the institutional level. It must go beyond this commitment, however. We need saturation at the individual level.

The challenges our adversaries pose are significant and we will aggressively continue to overcome them. I am confident we will not lack adequate preparation. As long as we each reorient our thinking to align with the challenges we face, and pursue the skills we need, we will assure future preparedness. It is up to each of us. It is up to all of us.

Let's get after it!

Gen Maryanne Miller and CMSgt Terrence Greene with First Sergeants from the 62d Airlift Wing, Joint Base Lewis-McChord, WA.

FROM THE TOP

Major General Gordy, Expeditionary Center Commander, Talks Full Spectrum Readiness

BY MS. BRITTANY OLSON, STAFF WRITER


Maj Gen John Gordy

In August of 2018, Maj Gen John Gordy was assigned as Commander of the U.S. Air Force Expeditionary Center (USAF EC) at Joint Base McGuire-Dix-Lakehurst, NJ. Gordy is a master navigator with more than 4,700 flying hours in the C-130 E/H and T-43 aircraft. Prior to his assignment at the USAF EC, he served as the Senior Defense Official and Defense Attaché to Turkey and as a wing and numbered Air Force vice commander.

The USAF EC is the U.S. Air Force's center of excellence for Rapid Global Mobility and expeditionary Agile Combat Support training and education. The center has administrative control of five wings and two groups within the Air Mobility Command (AMC) and oversees the entire Global Air Mobility Support System (GAMSS). The USAF EC's Expeditionary Operations School (EOS) graduates more than 40,000 Airmen annually and is often the final step in preparation for deployment.

The USAF EC plays a pivotal role in Full Spectrum Readiness for AMC, the U.S. Transportation Command, and all U.S. Air Force general purpose forces. Gordy defined Full Spectrum Readiness as "both a mindset and focus that the U.S. Air Force must maintain to ensure we are always ready to provide Rapid Global Mobility across the full range of military operations." USAF Airmen are constantly exposed to unpredictable, ever-changing environments and it is the USAF EC's responsibility to equip personnel with the training, skillsets, and knowledge necessary to complete the most demanding missions against any peer level threat.

"Everything we do contributes to the readiness of not just AMC, but to every Combatant Command and our bilateral and coalition partners. We provide direct oversight for the Global Air Mobility Support System, which provides our Nation with a truly worldwide, force-accelerating, power projection platform from which to respond. Our Contingency Response Forces are always ready to execute as AMC's 9-1-1 on-call force, and our building partnership capacity mission sets enable readiness and interoperability with allied and partner nations," explained Gordy.

Force Readiness drives AMC's core mission of Rapid Global Mobility, and the USAF EC acts as the foundation of Rapid Global Mobility efforts as the center is responsible for training and developing America's present and future Airmen. "Readiness is at the core of Rapid Global Mobility.

The training and mission support services provided by the USAF EC directly affect U.S. national security efforts and our nation's ability to shape events around the world.

The enterprise of assets and Airmen that AMC provides is designed and organized to project the right forces, anywhere in the world, at a time of our country's choosing. In order to accomplish that mission, the USAF EC provides Airpower from the ground up," said Gordy.

The training and mission support services provided by the USAF EC directly affect U.S. national security efforts and our nation's ability to shape events around the world. The National Defense Strategy's three priorities of 1) building a more lethal force, 2) strengthening alliances and attracting new partners, and 3) reforming the Department of Defense for greater performance and affordability all begin with the USAF EC's training curriculum and mission support services. "Through the training we conduct for the Air Force, the Expeditionary

CMSgt Terrence Greene, AMC Command Chief, wears a virtual reality headset to view a training scenario created by TSgt Luis Gomez, 423d Mobility Training Squadron Aerial Port Expeditor (APEX) Course Director (left), at the Air Force Expeditionary Center at Joint Base McGuire-Dix-Lakehurst, NJ, June 18, 2019. Gomez created the VR scenario to allow APEX students more time to practice aircraft loading functions.

USAF photo by TSgt Ashley Hyatt

Center helps build a more lethal force that can survive and operate in hostile regions. We also strengthen alliances and help form new partnerships through our Air Advisors who provide support in the SOUTHCOM [Southern Command] and AFRICOM [Africa Command] AORs [areas of responsibility],” stated Gordy.

The future of the USAF EC is driven by full spectrum readiness, which can only be achieved through continuous innovation and advanced training that prepares Airmen for the forthcoming fight. As a result, the EOS’s curriculum is constantly evolving to address new threats and optimize training effectiveness and relevancy for AMC and the Air Force. Future courses in the pipeline include the Advanced Logistics Readiness Officer Course, the RAVEN Program Manager Course, the Air Mobility Squadron Leadership Course, and the Landing Zone Safety Officer Course. From an innovation standpoint, the USAF EC is experimenting with new technologies to offer a more hands-on learning experience and make training as realistic to actual missions as possible. Currently, the EOS is gradually integrating virtual reality into its training curriculum, which will provide students with more flexibility and decrease the necessity for available aircraft or equipment. The USAF EC is also at the forefront of creating unparalleled, next-generation simulation devices to elevate the training experience for Air Combat and Global Strike Airmen. “Recently, the EOS partnered with Air Force Global Strike Command to benchmark AMC’s Mobility Air Force Maintenance Supervision and Production Course and developed the first-ever Global Strike Command [Bomber/E-4B] Aircraft Maintenance Supervision and Production Course. This was done using the EOS’s Aircraft Maintenance Production Simulator, and now the EOS is currently developing Fighter Aircraft and Missile/ICBM courses that will increase readiness for Air Combat Command and Global Strike Command Airmen,” said Gordy.

U.S.–Australia New C-17 Maintenance Arrangement Enhances Readiness, Cooperation

Maintainers from 15th Maintenance Group and members from the 36th Squadron from Royal Australian AFB Amberley, perform maintenance on a C-17 Globemaster on JB Pearl Harbor-Hickam, HI.

USAF photo by TSgt Heather Redman

BY AIR MOBILITY COMMAND PUBLIC AFFAIRS

U.S. Air Force and Royal Australian Air Force officials implemented a new maintenance arrangement for the C-17 that will improve strategic airlift efficiency and fleet readiness.

The C-17 Aircraft Repair and Maintenance Services Implementing Arrangement (ARMS IA) advances U.S. and Australian interoperability. Previously, United States and Australian Airmen could only assist one another with C-17 aircraft repairs. Now, Airmen from either nation are able to perform full, interoperable cross-maintenance on U.S. or Australian C-17s at mission critical times on a global scale, improving aircraft availability and decreasing aircraft maintenance downtime and maintenance recovery expenses.

"Partnerships are vital in the mobility enterprise," said Brig Gen Steve Bleymaier, Air Mobility Command Director of Logistics, Engineering and Force Protection. "Mobility Airmen are always ready to deliver strength and hope anywhere in the world at any time, and we are most successful when we work with valued partners like our Australian counterparts."

The arrangement increases the C-17's strategic readiness, vital to executing the global mobility mission and absolutely critical in the vast Indo-Asia-Pacific region. Strategic airlift assets like the C-17 are vital to ensuring the United States can operate rapidly in and overcome the challenges associated with operating in a region known for its 'tyranny of distance.'

"This maintenance arrangement strengthens the alliance between the United States and Australia. The ability to conduct maintenance, a level of interoperability not previously achievable on each other's C-17s, provides opportunities to share maintenance best practices," said Jim Silva, Deputy Director for Headquarters Pacific Air Forces (HQ PACAF) Logistics, Engineering, and Force Protection. "Bottom line: this action improves operational resiliency, capability, and cooperation. Even in Australia, this arrangement is held up as the example of the benefits of common support logistics arrangements and how they enhance operational capability."

New opportunities may be realized as well, including establishing combined and integrated C-17 maintenance organizations in deployed environments and the potential for integrating the capability into our new adaptive and agile basing concepts.

"This level of aircraft maintenance interoperability is unprecedented and opens the door for a new strategic mindset," Bleymaier said.

The C-17 ARMS IA signals our continued commitment to interoperability with the Royal Australian Air Force (RAAF) under the U.S. and Australian Enhanced Air Cooperation Agreement. Air Vice-Marshal Steve Roberton, Air Commander Australia, said the arrangement would provide much-needed flexibility during joint operations.

"Our C-17A workforce regularly shares a tarmac with American C-17As, whether we are on exercise together at home, or deployed across the globe," Air Vice-Marshal Roberton said.

"Whilst a USAF C-17A is no different from a RAAF C-17A, our air forces have different maintenance workforce structures, which is what makes an arrangement like this essential."

"By making it easier to help one another, this arrangement provides flexibility and mission assuredness for USAF and RAAF C-17A missions."

The RAAF operates a fleet of eight C-17As from RAAF Base Amberley in Queensland, Australia.

The C-17 IA is the first, with a high potential of adding additional airframes to the ARMS arrangement construct between the United States and one of our chief allies in the Indo-Asia-Pacific region.

Future IAs involving the mobility fleet may include the C-130J Hercules. The United States and Australia—partners in the Joint Strike Fighter program—also have potential plans to develop an arrangement for F-35 Lightning II maintenance in the future.

Aviation Operational Risk Management (AvORM)

BY MR. KEVIN SLUSS, CSP, HQ AMC
FLIGHT SAFETY AvORM ADMINISTRATOR

BY ORDER OF THE COMMANDER
AIR MOBILITY COMMAND

AIR MOBILITY COMMAND
INSTRUCTION 90-903

2 JULY 2018
CERTIFIED CURRENT 04 APRIL 2019

Special Management

AVIATION OPERATIONAL RISK MANAGEMENT (AVORM) PROGRAM

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

ACCESSIBILITY: Publications and forms are available for downloading or ordering on the e-Publishing website at http://www.e-publishing.af.mil

RELEASABILITY: There are no releasability restrictions on this publication.

OPR: HQ AMC/SEF
Certified by: HQ AMC/SEF
(Lt Col Jason P. Pavelchak)

Supersedes: AMCI 90-903, 17 August 2016
Pages: 25

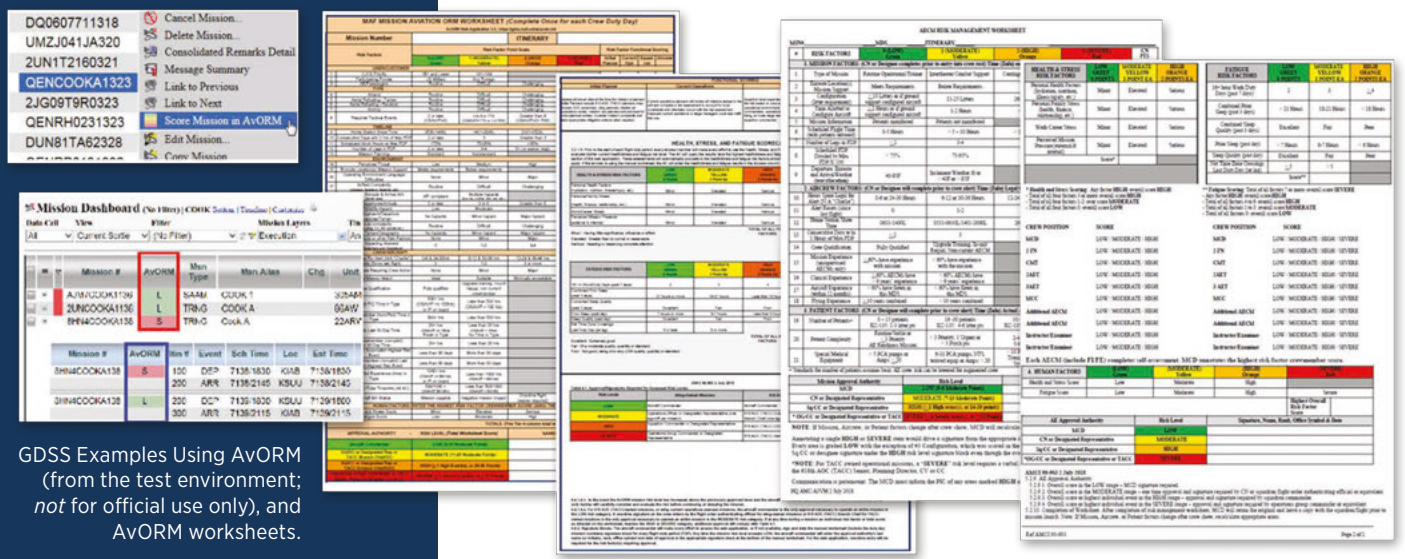
This instruction implements AFI 90-802, *Risk Management*. It establishes the Air Mobility Command (AMC) Aviation Operational Risk Management (AvORM) Program to quickly and simply assess the risk of our flying missions, and provide guidance for completion of AvORM and AMC Aeromedical Evacuation Crew Member (AECM) risk management worksheets. This instruction applies to AMC, Air Force Reserve Command (AFRC) and Air National Guard (ANG) aircraft and personnel when performing airlift and/or air refueling missions under the control of the 618th Air and Space Operations Center/Tanker Airlift Control Center (618 AOC (TACC)). This AMCI may be supplemented at wing level, but all supplements that directly implement this publication must be routed to HQ AMC/SEF for consideration prior to certification and approval. Refer recommended changes and questions about this publication to the Office of Primary Responsibility (OPR) using the AF Form 847, *Recommendation for Change of Publication*; route AF Form 847s from the field through the appropriate functional chain of command. The authorities to waive wing/unit level requirements in this publication are identified with a Tier ("T-0, T-1, T-2, T-3") number following the compliance statement. See AFI 33-360, Publications and Forms Management, for a description of the authorities associated with the Tier numbers. Submit requests for waivers through the chain of command to the appropriate Tier waiver approval authority, or alternately, to the Publication OPR for non-tiered compliance items. Ensure that all records created as a result of processes prescribed in this publication are maintained in accordance with (IAW) Air Force Manual (AFMAN) 33-363, *Management of Records*, and disposed of IAW Air Force Records Information Management System (AFRIMS) Records Disposition Schedule

Air Mobility Command Instruction (AMCI) 90-903

Risk is inherent in all missions, operations, and activities, both on- and off-duty. Air Mobility Command's Aviation Operational Risk Management (AvORM) provides a formal decision-making system that identifies risks and encourages mitigation strategies. The appropriate level of supervision balances risk and benefits. AvORM does not replace sound judgment or restrict safety-of-flight decisions by the aircraft commander or leadership. At no time does an accepted level of risk waiver preclude the aircraft commander from declaring safety-of-flight anytime during mission execution if it is determined the crew is not capable of safely accomplishing the mission.

The standardized AMC AvORM program was launched in 2007 with the accompanying manual worksheet and the Air Mobility Command Instruction (AMCI) 90-903. Recently, AMC Flight Safety published an updated version in December 2018. AMC Flight Safety also hosts the Aeromedical Evacuation Crewmember (AECM) risk management worksheet (last updated July 2, 2018) on its Air Force Portal page.

AMC's command and control software for aviation operations, Global Decision Support System (GDSS), included the electronic version of the AvORM worksheet in 2008. Advantages of the electronic worksheet include automatic entry of a mission itinerary. This permits any GDSS user to make inputs for each flight duty period and for each sortie. The system records these inputs and stores them electronically,



GDSS Examples Using AvORM (from the test environment; *not* for official use only), and AvORM worksheets.

In 2019, AMC added AvORM as an app on the Electronic Flight Bag (EFB). The current version of the app is a stand-alone tool that does not require connection to GDSS.

eliminating the need for paper records on those missions. Over the years, the electronic worksheet incorporated automatic inputs when feasible. These inputs now include airfield/enroute complexity from remarks in the Airfield Suitability and Restrictions (ASRR) report and flight hours information from the Aviation Resource Management System (ARMS).

AMC Safety began studies on incorporating fatigue management software in 2009. In 2013, GDSS added the mission effectiveness (ME) graph feature, commonly known as the "fatigue graph." The graph depicts a mission itinerary against a cognitive effectiveness reference scale. It depicts an aircrew's current circadian rhythm alignment, planned flight duty period duration, and mission flight and ground times. Current fatigue research does not support the graph as a stand-alone Go/No-Go decisionmaker, but it is a vital component of a multidimensional, comprehensive risk management process. Its cognitive effectiveness estimate assumes the need for eight hours of good quality sleep per 24 hours to maintain optimal effectiveness. Individual effectiveness varies based on individual workloads, in-flight rest periods if available, and sleep cycles.

GDSS automatically generates an ME graph for each mission number that contains a validated itinerary. The program assumes rest periods working around the takeoff and landing times.

The graph depicts 100 percent effectiveness at the top, with the "green" zone extending down to 77.5 percent. The "yellow" zone ranges from 77.5 percent to 70 percent, and the "orange" zones encompass effectiveness below the 70-percent level. Research studies developed these thresholds based on historical accident probability. Another way to view the zone would be to consider 77.5 percent as equivalent to a blood alcohol content (BAC) of .05 percent and the 70 percent line equivalent to a BAC of .08 percent. Each electronic graph contains a legend menu, but line colors follow this pattern: duty periods are blue, non-sleep recovery periods are gray, and sleep periods are black. When GDSS assigns an augmented crew to the mission, a second line appears on the graph in a slightly lighter color. The augmented line includes an assumption of an inflight nap recovery per flight duty period, resulting in a depiction of higher effectiveness.

In 2015, GDSS users gained the mission linking capability, which can combine ME graphs from separate missions into one graph. This improves accuracy for aircrews who complete one mission and then accept another adjacent mission that starts at the same location with the same aircraft. Without linking, the graph would depict effectiveness for the new mission as if the crew was leaving from their home station.

In 2017, GDSS users gained the auto-populate entry feature. From certain fields in GDSS, you can right-click the mission number and then left-click the pop-up menu item "Score Mission in AvORM." GDSS will then open the AvORM application window and auto-populate the mission number, removing the need to type it in. Users can also add the AvORM column to the mission dashboard. Additionally, aircrews, by scoring the fatigue risk factor in the electronic system, can reduce the recovery period prior to a flight duty period by 10 percent for each point added in that risk factor. So, for each risk level (moderate-high-severe), the graph recovery will reduce by 48 minutes on a standard eight-hour recovery.

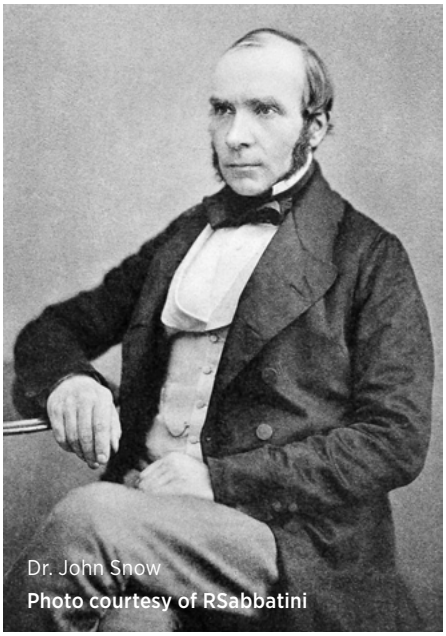
In 2019, AMC added AvORM as an app on the Electronic Flight Bag (EFB). The current version of the app is a stand-alone tool that does not require connection to GDSS. Planning an itinerary requires manual input of mission name, aircraft, crew composition (basic or augmented), airports (by International Civil Aviation Organization [ICAO] designation), drop zones or air refueling as applicable, and departure/landing times. The app does not calculate enroute times. The app mimics the capability of the AvORM online worksheet in GDSS. Help within the app provides further instructions. AMC has plans to introduce an upgrade to the app in the future that will provide the capability to connect to GDSS and upload an existing itinerary into the app, removing the need for manual input.

Look for current AvORM documents at:
https://www.my.af.mil/gcss-af/USAF/content/currentavorm

Find more information on AvORM at the AMC Flight Safety page:
https://www.my.af.mil/gcss-af/USAF/site/AMC/SE/SEF

Send inquiries to: **orm.amc.se@us.af.mil** or call **DSN 779-0930 / (618) 229-0930**.

What Would John Snow Do?


Dr. John Snow
Photo courtesy of RSabbatini

BY LT COL STEPHEN FREEDMAN, 89 AW FLIGHT SAFETY OFFICER

Ask yourself: What would John Snow do? Are you thinking of befriending the Free Folk, riding dragons, and uniting the North? Well, not that Jon Snow, King of the North. I am talking about Dr. John Snow, a 19th-century English doctor who is credited with proving that cholera, a deadly infection that attacks the small intestine, actually spreads through contaminated water and not by "bad air" as was generally believed at the time (germ theory was not yet discovered). He is often described as the father of epidemiology and pioneered the use of what we would now call a "heat map."

How does an 1854 outbreak of cholera in London and a well pump handle relate to safety in 2019?

Let me try to paint the picture. For a decade prior to the outbreak, the London government started the unprecedented process of publicly releasing all the mortality reports in the city, which included age, gender, where they lived, and cause of death. Although unprecedented, the government hoped that publicly releasing data would help to identify a pattern. Dr. Snow, along with the help of Reverend Henry Whitehead, mapped all the cholera cases in London. Rev. Whitehead interviewed many of the families and victims to get further information beyond what the data showed. Dr. Snow was not a very social person, so the interviews from the socially connected Rev. Whitehead proved invaluable to fill the gaps left in the data. This multi-disciplinary effort of combining social science, interviewing, and data analysis was also a novel approach in the mid-19th-century.

After plotting all the illnesses and deaths on a map, Dr. Snow made two conclusions: first, the rate of mortality was higher near the Broad Street well pump, and, second, between the companies that supplied the water, one had a significantly higher mortality rate than the other. Dr. Snow used this pattern recognition to isolate the outbreak to a water pump on Broad Street, which astonishingly, was associated with a 10 percent mortality of the residents who lived near the water pump.

Dr. Snow's map assigned a dot for each death, and the cluster was focused around the Broad Street well pump. Based on interviews, Dr. Snow and Rev. Whitehead also found deaths in houses farther away from the Broad Street well were related, because some of the families preferred to drink that well water or the children went to school near the well.

Dr. Snow took his findings to local officials and convinced them to take the handle off the pump, making it impossible to draw water from it. Shortly after removing the well handle, the outbreak came to an end.

Researchers later discovered that the public well from which the pump drew water was dug only a few feet from a cesspit. The cloth diaper of a baby, who had contracted cholera from another source, had been washed into this cesspit and was the point source of the outbreak.

I view safety somewhat like the epidemiological science—one where we must use pattern recognition and data along with a healthy dose

Under-reporting is one of the biggest threats to an effective safety management system.

of intuition to target our proactive safety efforts. Epidemiology is the cornerstone of public health, shaping policy decisions and evidence-based practices by identifying risk factors for disease and targets for preventive healthcare. That sounds a lot like our Safety Management System (SMS) pillars: "Policy and leadership, risk management, assurance, and promotion and education."

Like the London Government in 1854 and Snow and Whitehead, we have a wealth of open source data not only from the Department of Defense/U.S. Air Force (DoD/USAF) but also from the Federal Aviation Administration (FAA), the National Aeronautics and Space Administration (NASA), and industry partners. Our efforts must not be isolated to the office and crunching numbers, however; we must be out in the field observing behaviors and talking with Airmen out on the line. This data source is one of the most important aspects of our safety profession—to fly the flag of safety, to be out on the line, and to be available and observant. We must carry out spot inspections 24/7/365, not only the Monday through Friday day shift. All shifts deserve the same level of observation.

What do you think are our biggest threats and hazards? What is your next mishap? How do we prevent it? Let us investigate those areas and begin a targeted, proactive campaign to stop it. Part of the back story on Dr. Snow is that he was theorizing the water-borne transmission of cholera for a few years before the 1854 outbreak. In the end, change only favors minds that are diligently looking and preparing for discovery.

Some of the trends I have seen over the years are maintenance induced failures (MIF) or maintenance (MX) related mishaps. For a long time, the biggest hazard was the airplane and the pilot on the flight deck. Over the years, the low hanging fruit was to put safety devices in airplanes, produce more reliable engines, and to focus on crew resource management. Those efforts have yielded a nearly asymptotically low mishap rate. While the USAF experienced a recent uptick in mishaps in 2018, and civil aviation is mourning the deaths from three recent accidents, 2017 had zero fatalities in Air Mobility Command and the world did not have even one commercial fatal flight. Astonishing!

However, the rate of MIF or MX related mishaps remains steady. I believe that is because we have not placed the same level of proactive safety and human factors in the maintenance career field. Additionally, the concept of Just Culture and confidential reporting is novel to maintenance career fields.

Under-reporting is one of the biggest threats to an effective safety management system. I believe in a multi-pronged attack against threats and hazards. That attack happens with three reporting mechanisms available: AMC Form 97, Airman Safety Action Program (ASAP), and Air Force Technical Order (AFTO) Form 781s, while Line Observation Safety Audit (LOSA) and Military Flight Operations Quality Assurance (MFOQA) are convening in the flanks.

Safety is one of the few careers where we can have a truly lasting positive impact on our operations. I want you to take pride in the fact that the recommendations and improvements we write in our reports will prevent mishaps. Like Dr. Snow, we need to identify the trends, embrace multidisciplinary collaboration, have the fortitude to stand-up for our theories, and find ways to implement the recommendations that are a win-win for the Airmen out on the line.

After all, sometimes a life-saving recommendation can be as simple as removing a pump handle.

SAFETY CULTURE

618th Air Operations Center Creates Chief of Safety Position

BY MS. BRITTANY OLSON, STAFF WRITER

The 618th AIR OPERATIONS CENTER (AOC) is responsible for planning, tasking, executing, and assessing Air Mobility Command operations across 42 enroute locations and providing support to all nine combatant commands. Team members stand ready 24/7, 365 days a year to provide agile global air command and control for Mobility Air Forces. The unit's 800 personnel consist of Active Duty, Air National Guard (ANG), Air Force Reserve, and civilians who plan, task, execute, and assess approximately 500 contingency and distribution missions each day and direct a fleet of 1,100 mobility aircraft.

A recent safety innovation implemented by the 618 AOC was the creation of the Chief of Safety position. "That was something we never had in the AOC in its 27 years of existence. This position is the first of its kind. Now we have a way to pull in all those different reports and programs and essentially synthesize it into a way that creates a bigger safety impact for the Mobility Air Forces," explained Brig Gen Jimmy R. Canlas, Commander of the 618 AOC.

The 2014 Safety Program Evaluation and a 2015 C-17 Line Observation Safety Audit recommended specific areas for improvement and proposed changes in the 618 AOC that led to the need for and creation of the Chief of Safety position. The majority of flight planners are active duty or retired pilots and navigators, and until 2017, performing a risk assessment was at the discretion of the flight planners. They relied heavily on their personal experience and training as pilots or navigators to incorporate safety protocols or tools. Consequently, formalized risk assessments were not the norm.

Both evaluations revealed that the 618 AOC lacked a robust safety management program, including Aviation Operational Risk Management (AvORM) and mission effective fatigue modeling. Additionally, each recommended the creation of a 618 AOC Chief of Safety position, similar to a Wing Chief of Safety, who would report directly to the commander and facilitate risk management processes.

In 2016, the 618 AOC acknowledged the need for a Chief of Safety position and leadership took a strategic view in how the role was structured, because long-term continuity of its operational safety program is paramount. Originally, to comply with the job requirements of Wing Chief of Safety roles within the Air Force, only officers with previous squadron commander, director of operations, or chief of safety experience, and civilians with similar qualifications were eligible for the Chief of Safety position. Because active duty military members frequently rotate assignments, however, it was determined that the Chief of Safety role was better suited to civil service to ensure continuity and maintain the position long-term.

Initially, in the spring of 2017, an Air National Guard member who met the qualifications was put on mandays and assigned to the 618 AOC for six months as interim Chief of Safety, to validate the necessity of the role. In the fall of 2018, Jennifer Yates, a former Air Force navigator and civilian flight safety employee for AMC, was hired as Chief of Safety for the 618 AOC.

Yates' priority for her first year is to learn the intricacies of flight planner and flight manager roles within each of the AOC's three planning divisions. By understanding the daily challenges faced by individuals, crews, and divisions, Yates will identify the needs of planning personnel and determine where AvORM protocols, tools, and training should be implemented across each division.

The second area of focus for Yates is establishing baselines for the Airman Safety Action Program (ASAP),

Yates' vision for the 618 AOC's operational safety program is the implementation of proactive safety measures that will increase operational safety and reduce the number of annual ASAPs and safety of flight calls.

and collecting, analyzing, and disseminating the information derived from AvORM programs, ASAPs, flight duty period waivers, and safety of flight calls. Of the 79 reported safety of flight calls from 2014 to 2018, the primary cause was crew rest and lodging, followed by mission delays, legal for alert, and maintenance. "I am examining and reporting quarterly [the] statistics of flight duty period waivers, ASAPs, and safety of flight calls, and once I start finding trends, I will reach out to my contacts to say, 'Here is what I am seeing. What can we do to change this?'" said Yates.

Through the analyzation of every single ASAP and safety of flight call, Yates has uncovered the root cause and common denominator between several reports. She disseminates that information to respective partners and leverages the data to effect change and resolve the underlying factors responsible for multiple safety of flight calls. For example, between 2013 and 2014, 18 safety of flight calls were attributed to various lodging issues at overseas locations. Yates can now see when changes were implemented at several of these locations through the decrease in safety of flight calls. Some locations are still a work in progress, but judging by the overall drop in ASAPs, the policies implemented at different locations are making lodging better.

Yates' vision for the 618 AOC's operational safety program is the implementation of proactive safety measures that will increase operational safety and reduce the number of annual ASAPs and safety of flight calls. Prospective safety tools include random spot inspections and quarterly or biannual AvORM refresher training.

One of the greatest challenges the 618 AOC faces in its mission planning is inaccurate cargo weights. Flight planners are often provided incorrect weights from the users, which can result in significant operational inefficiencies and delays. "Cargo planning and loading causes discrepancies in planning missions, because flight planners will develop a mission based on the specific weight and dimensions provided for the cargo load, but then the actual cargo arrives to the aircraft and it is vastly different than the plan. Additionally, the planners create a great flight plan, but when they finally receive accurate cargo weights it disrupts the entire plan because the cargo difference may drive the need to make a fuel stop at an additional base, potentially in an overseas location, which affects flight duty periods, follow-on legs, and renders all of the fatigue graphs obsolete," said Yates. Her long-term goal as Chief of Safety is to collaborate with leadership and determine the best approach for streamlining the cargo planning process for clients and the 618 AOC alike, and avoiding inaccurate cargo weights altogether.

"It's an evolving but enduring position. I still have a lot to learn but the good news is, it's an evolving, clean slate, and I can change gears quickly, and I have the support to initiate a different course of action if I find more efficient methods than tracking ASAPs and flight duty period waivers," explained Yates.

The 60th Aerial Port Squadron obtained two approval certifications for specialized loads, and 618 AOC Bookies sourced and planned the cargo on two C-5 Galaxies and one C-17 Globemaster III from the 60th Air Mobility Wing, Travis AFB, CA.

Courtesy photo

THE 89th AIRLIFT WING (89 AW) at Joint Base Andrews, Maryland, is a special-duty assignment designated as the Special Air Mission (SAM), an experienced force of more than 1,100 Airmen and civilians responsible for delivering worldwide VIP airlift, logistics, communications, and aerial port for the U.S. President, Vice President, cabinet members, elected leaders, and senior military, including combatant commanders. The 89 AW also operates the Executive Airlift Training Center and Government Network Operation Center.

AMC NEWS

89th Mission Operations Team at Joint Base Andrews

BY MS. BRITTANY OLSON, STAFF WRITER

The 89th Mission Operations team consists of five civilian mission planners and a one-week rotation of 24/7 on-call duty officers responsible for detailed worldwide mission coordination. This includes airfield suitability, operations research, flight planning/route validation, diplomatic clearances, aircraft logistical requests, and mission package building. Planners are engaged from initial tasking throughout mission termination for all Outside the Continental United States (OCONUS) notional (suitability), tentative (tail and crew allocation, mission packages), and confirmed (officially releasable for worldwide coordination) phases of client missions aboard 89 AW's Boeing C-32A and C-40B, and the Gulfstream C-37A/B fleet. Mission planning responsibilities are balanced among planners as they are tasked.

Planning processes at 89 AW are unique from other Air Force units, because mission requests are efficiently tasked directly from the Pentagon to the 89th. This is especially relevant with regard to missions with a high rate of itinerary changes. The 89th Mission Operations team is not solely responsible for planning and releasing confirmed missions. Rather, the team of six must also juggle planning missions while notional and tentative, which can require just as much time and preparation as confirmed missions. Furthermore, the majority of missions planned by 89 AW entail landing at commercial airports instead of military bases, because the passengers are primarily civilian government officials.

"Mission planning means different things to different units insofar as processes go. The 89th model has planners involved in all phases start-to-finish. The familiarity planners have with early versions of itineraries are helpful as missions change and serve as a continuity benefit, not only as the mission progresses, but also in odd-hour calls," explained Joe Flynn, Manager of the 89th Mission Operations team.

"Mission planning also doesn't necessarily come down as mission tasking, it comes down in a stovepipe from the Pentagon to the mission planner, and they will ask if we can get them into a specific field on a specific aircraft," added John Bly, a recently retired mission planner of the 89 AW Mission Operations team.

In the notional phase of a mission, 89 AW planners must research the

An official greeting party stands by on the flightline as the President, First Lady, and their family depart on Air Force One from Joint Base Andrews, MD.

USAF photo by TSgt Robert Cloys

feasibility of the travel needs of the Pentagon's requestors. The notional phase is research-intensive and time-consuming because planners must determine airport hours of operations, if waivers will be required, and if runways, taxiways, and ramps can bear the weight of the aircraft–basically looking for showstoppers and finding a way to meet customer travel needs.

When the 89 AW is tasked with a mission in the tentative phase, the Pentagon has validated the travel, allocated an aircraft tail while tasking the mission in a software tool called AviSource, and manually enters the party's itinerary. The 89 AW planners are tasked with assembling the operations plan and identifying every granular logistical element of the mission. The planning process includes referencing source documents, among them the Foreign Clearance Guide, which outlines the particulars of how business should be conducted while flying over each country's airspace and into airports enroute. Planners must accommodate the preferred routes and airports of clients and determine if the airports enroute will be open, are operable, and if they have the appropriate instrument procedures for the pilots to land and depart. For missions transiting European, African, or Mideast airspace, planes must travel through a high-density funnel point in Europe managed by the Central Flow Management Unit (CFMU) and have specific route approval to maintain safe separation between a high volume of aircraft.

"A lot of aircraft are trying to access many different destinations in very condensed airspace that is traveled day after day by commercial airliners flying for profit. One big priority of the commercials is fuel efficiency, so they're always searching for the most optimal route for fuel burn, which is driven by wind patterns. The flow control changes every day and CFMU is not going to let you just fly through that airspace wherever you want, so planners are meticulous in ensuring they get CFMU-validated routes." said Flynn.

Once a mission has been confirmed, the team is authorized to communicate the travel plans and secure all necessary clearances with respective embassies whose airspace, airports, and countries are on the itinerary. If the aircraft is flying within 12 nautical miles of a country's sovereign landmass, planners must request a clearance unless one is already blanketed. If the aircraft is flying outside of the 12-nautical-mile boundary, it is considered international airspace and clearance is not necessary. Planners request an overflight for each country enroute and provide embassy officials with the requested information, which often includes the itinerary, flight route, entry/exit points, and altitude. The pilots assigned to the mission are provided with an electronic mission package, which contains flight plans, clearances, and current source documentation required for entering each airspace, airport, and country on the itinerary, which assists pilots in accomplishing their own mission study.

"U.S. Defense Attaché offices are located in embassies and they have personnel who are responsible for assisting entering crews. It is not uncommon for a flight to pass over 20 or 30 countries for just one mission, and sometimes many more. That amounts to a lot of countries, a lot of coordination, a lot of clearances, and a great deal of diligence by the planners. In addition to asking for the overflight and landing clearance at each location, we are also requesting logistical support to meet the needs of the aircraft crew and passengers such as security, hotel reservations, transportation to and from the hotel, fuel, lavatory service, conveyor belts, power carts, and air conditioners or heaters," stated Flynn.

Over the next two years, the 89 AW will gradually increase its fleet between 40 and 67 percent, from 12 to 17, or possibly even 20 aircraft, and additions will include two Boeing C-40s and up to six additional C-37s.

MR. JOHN BLY RETIRES AFTER 28 YEARS OF ACTIVE DUTY AND 17 YEARS AS AN AIR FORCE CIVILIAN

Before joining the 89 AW Mission Operations team, John Bly entered the Air Force as a navigator and served for 28 years. In May of 1975 he was assigned to Dyess Air Force Base as a navigator in C-130s, and reassigned in 1981 to Joint Base Andrews where he navigated VC-135s and VC-137s, and the VC-25 until retiring from the Air Force in 2002 as an officer with more than 10,000 flying hours. Bly flew missions to 120 different countries and his passengers have included Presidents Gerald Ford, Jimmy Carter, Ronald Reagan, George H.W. Bush, Bill Clinton, and George W. Bush. Five weeks after retiring from the Air Force, Bly began a civilian career as a flight planner with the United States Army Priority Air Transport (USAPAT) at Joint Base Andrews. In 2006, Bly transitioned to 89 AW as a civilian planner and retired May 31, 2019.

Throughout his 17-year Air Force civilian career, Bly worked with a team of planners who were directly involved with 10,433 missions having 32,451 legs into 180 countries. The team logged 81,024 hours, 39 minutes of flight hours over 36,644,659 nautical miles of distance!

He reflected on his more than 45 years. "I've been so fortunate to have worked with the people I have worked with. I turned 68 in May and I had no intention of working that long, but I enjoyed the job and the people I worked with. I have been blessed to be around good people. I got a chance to see things most people will never get to see, no matter how wealthy they are. We got to be part of history in a lot of cases."

RECOLLECTIONS OF WWII FROM A LEGENDARY HUMP PILOT

BY MS. BRITTANY OLSON, STAFF WRITER


George Kilbride

Mr. George Kilbride truly embodies the defining characteristics of America's Greatest Generation: humility, personal responsibility, an unrivaled work ethic, and heroic dedication to fight and sacrifice for his country; not for fame or recognition but because it is "the right thing and the only thing to do."

Kilbride had a profound sense of obligation to his country, and immediately following his 18th birthday in 1942 he enlisted in the Army Air Corp to support U.S. WWII defense efforts. After just six months of flight training on PG-19s, BT-13s, and C-47s, the New Jersey teen was certified ready for war and deployed to Bengal, India, as a pilot of the 12th Cargo Combat Squadron. At that time, Japanese troops strategically entered Burma to occupy the Burma Road. The Burma Road was a group of three truck-convoy ground transportation systems that were utilized to transport substantial quantities of British and American cargo into western China to support the Chinese Revolutionary Army's war campaigns against Japanese forces. The Japanese had previously annexed China's last railway connection with the Soviet Union and the Port of Rangoon, China's last controlled port. The only transportation route remaining was airborne over the eastern part of the Himalayan Mountains from India to Kunming, China, where the cargo was then trucked to Chungking and dispersed to troops from there.

On April 8, 1942, the United States Army Air Corps partnered with Allied forces on its first mission to transport fuel, weaponry, and other war supplies to the Chinese by navigating the deadly 1,000-mile-long route over the Himalayan Mountains referred to by Allied pilots as "The Hump." The task was initially assigned to the U.S. 10th Army Air Corps and then reassigned to the Air Transport Command.

The development of an airlift operation of this magnitude presented a formidable challenge for the U.S. Army Air Corps and Allied forces, especially given the treacherous terrain and unpredictable weather conditions. The Army Air Corps was not trained or equipped to transport thousands of pounds of cargo a day, and there were no airfields in the China-Burma-India Theater capable of accommodating the number of transport aircraft required for a successful operation. To make matters worse, pilots were forced to fly blind into enemy lines without reliable charts, radio navigation aids, or weather equipment while navigating the mountain range's infamous series of tight switchback turns called 24-Turns. As a consequence, these brave men had to depend on their intuition and straight-up luck for safe travels to the other side of the mountains.

The Hump airlift ended in August 1945 and was responsible for the successful delivery of 650,000 tons of cargo to Chinese troops in just 42 months. The operation was supported by 84,000 military personnel and remains one of the most complex logistical operations ever attempted and achieved by any country in history, but success did not come without paying the ultimate price. An estimated 700 Allied planes crashed or were shot down in the Himalayas and over 1,200 Airmen lost their lives. The Hump route was so dangerous and challenging with a one in three chance of surviving that each cargo mission was classified as a combat mission. "We went over with a squadron of 28 and we lost 20 in the first couple of weeks," recalls Kilbride. The WWII Veteran was awarded eight Air Medals, four Flying Cross medals, and a medal from the Chinese government honoring his support of the country's war efforts. During his

yearlong assignment in India, Kilbride flew 229 combat cargo missions to transport supplies and passengers over The Hump and survived multiple crashes and ejections.

Kilbride flew The Hump nearly every single day during his deployment in India and his aviation routes over the Himalayas spanned an average of one to one-and-a-half hours. Navigating the Himalayas was so difficult because planes were unable to climb to a high enough altitude to bypass the peaks altogether, and pilots were forced to weave through the mountains using a printed map, airspeed, and a clock to navigate.

"There was me, a copilot, and a radio operator. The copilot and radio operator had to calculate how fast we were going and time it to plot our way through the mountains with a map as we flew through the valleys. The challenge was we were flying strictly on rudimentary instruments because most of the time the weather was so bad, you couldn't see anything. That's why we lost so many planes because crews thought they were in one place when they were in another part of the Himalayas and would fly straight into a mountain," explained Kilbride.

The veteran pilot recounted several close encounters with death. His crew crashed into a ditch on a landing strip in Burma that was partially occupied by Japanese troops. "The Japanese had one end of the strip so when we landed at the other end, we had to open fire to keep them from firing on us."

During another mission, Kilbride's copilot sheared the landing gear off the plane while attempting to land on a runway cut into the side of a mountain. "If you were too low, you would hit the mountain instead of the runway. The copilot wasn't low enough to hit the mountain, but he was low enough to shear off the landing gear and we skidded down the strip on the belly of the plane. We survived but the plane was unsalvageable."

His crew was forced to jump from their plane on one occasion. "We had a 6x6 truck that was cut in pieces and put in the back of our plane. It took a lot of manipulating to make all the pieces fit. We lost an engine and couldn't hold the altitude unless we dropped some cargo weight, but there was no way we could get the cargo out in flight, so we had no choice but to bail out. We parachuted into the jungle of the Naga Hills on the border of India and Burma. It took us 11 days to find our way out and we had to steer clear of the headhunters searching for Allied crewmembers that had survived crashes. We mostly ate pineapples that were growing wild."

Aside from delivering cargo, Kilbride also had the pleasure of transporting distinguished generals and celebrities. "I transported the General of the Chinese First Army. I didn't even know he was on the airplane. One time, I flew the tennis star Alice Marble, and famous actors Ava Gardner and Pat O'Brien to Burma," he recalled.

Kilbride returned home from the war at 20 years of age and within just two weeks, he pursued his dream of becoming a professional pitcher for the New York Yankees. He visited his former high school baseball coach and was invited to attend a Major League Baseball (MLB) tryout at Ruppert Stadium in Newark, New Jersey, for the most promising amateurs from across the country. "I pitched three innings, struck out eight [batters] and the Yankees head scout came running over and wanted to take me up to the office to sign a contract," stated Kilbride. He played for the Wellsville Yankees and Mayfield Clothiers Minor League Baseball teams for three years all while earning a Bachelor of Science in chemical engineering. At 23, Kilbride left the Minor Leagues to pursue a career as a chemical engineer with the Standard Oil Company in New Jersey.

This year, Kilbride, a decorated WWII Vet, semi-pro baseball player, chemical engineer, and loving father and husband celebrated his 50th wedding anniversary.

Mr. George Kilbride enjoys time with family and sharing his remarkable life story.

The KC-46 Provides Modernization and Fortification to AMC's Fleet

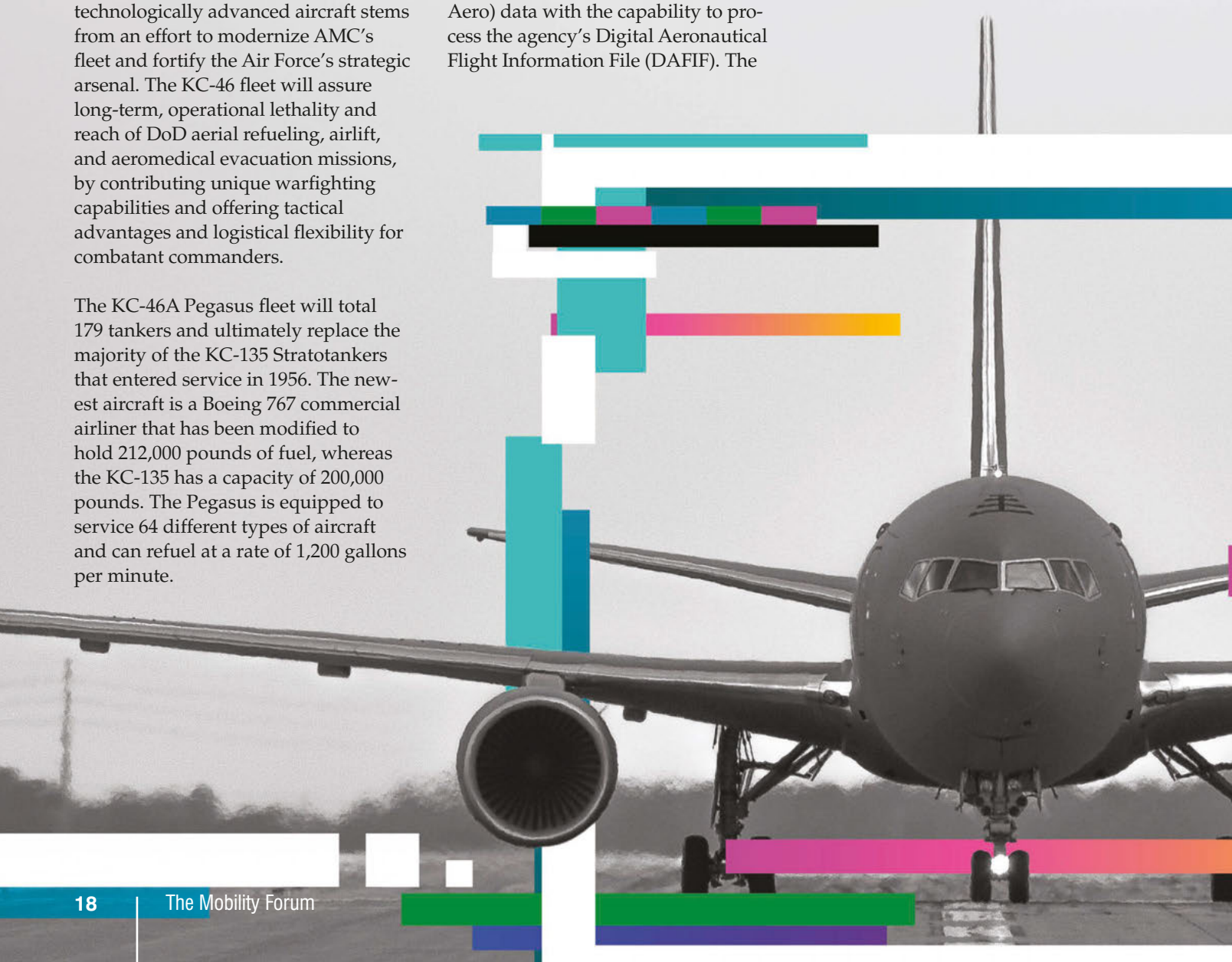
BY MS. BRITTANY OLSON, STAFF WRITER

On January 25, 2019, the 22d Air Refueling Wing and 931st Air Refueling Wing of McConnell Air Force Base marshalled in the first two KC-46A Pegasus aircraft; the Air Force's newest refueler addition since the KC-10 Extender entered service in 1979. The development of the technologically advanced aircraft stems from an effort to modernize AMC's fleet and fortify the Air Force's strategic arsenal. The KC-46 fleet will assure long-term, operational lethality and reach of DoD aerial refueling, airlift, and aeromedical evacuation missions, by contributing unique warfighting capabilities and offering tactical advantages and logistical flexibility for combatant commanders.

The KC-46A Pegasus fleet will total 179 tankers and ultimately replace the majority of the KC-135 Stratotankers that entered service in 1956. The newest aircraft is a Boeing 767 commercial airliner that has been modified to hold 212,000 pounds of fuel, whereas the KC-135 has a capacity of 200,000 pounds. The Pegasus is equipped to service 64 different types of aircraft and can refuel at a rate of 1,200 gallons per minute.

From a technology standpoint, the KC-46 is superior to preceding refueling aircraft fleets and will limit aircrew dependence on analog techniques and reduce response times to in-flight emergencies. The KC-46 will operate exclusively from National Geospatial-Intelligence Agency Aeronautical (NGA Aero) data with the capability to process the agency's Digital Aeronautical Flight Information File (DAFIF). The aircraft is also performance-based navigation (PBN)-enabled and compatible with future digital, data-centric NGA Aero products.

The long-awaited arrival of the Pegasus involved years of infrastructural construction including



three new maintenance hangars, technical training facilities and dormitories, and an air traffic control tower. Since the program's inception, every single Airman transferring to the KC-46 program has been hand-selected based on merit and qualifications to guarantee the establishment of an accomplished, versatile team capable of overcoming any project challenge.

On February 26, 2019, 344th and 924th Air Refueling Squadron crews executed the very first in-flight training mission on the Pegasus and successfully refueled a C-17 Globemaster III. The aircraft will not be fully operational for months as Airmen prepare for operational readiness during a familiarization and initial operations testing and evaluation period. The familiarization phase consists of extensive aircrew ground and in-flight procedures including acceptance checklists; egress, fire suppression, and evacuation training; cargo, fueling and towing training; multiple engine starts; and taxi checklists. Training exercises include regular cargo rodeos, in which KC-46 boom operators of the 344th, 349th and 350th Air Refueling Squadrons participate in simulated loading scenarios with planted mistakes that crews are responsible for catching.

"I'm humbled and honored to be part of something that happens once in a generation. I'm excited to be part of the team that will set the precedence on how this new weapons system will be employed in the future."

– Capt Andrew Kim

"It is kind of a crawl, walk, run for us in this familiarization period as we lead up to the initial operations test," said Maj Chris Markley, 931 ARW Program Integration Chief and 18 ARS pilot.

"So, we're going to fly a couple times a week initially and then we'll really start turning all five of these airplanes and get them all airborne," explained Capt Andrew Kim, 344 ARS pilot.

The KC-46A Pegasus Training Facility at McConnell Air Force Base is responsible for developing the curriculum and administering training to the entire KC-46 enterprise, including international allies. The facility opened its doors in April of 2019 to Airmen from the 22d Maintenance Group for the start of KC-46 training courses. Airman with 5- and 7-level maintenance skills and prior KC-135 Stratotanker experience will gradually transition to the KC-46 after mastering operational checks and new systems on the aircraft.

The training curriculum for KC-46 maintenance Airmen entails rigorous hands-on experience of in-flight deck/avionics, landing gear, flight control, fuel system, aerial refueling and engine/auxiliary power unit, and advanced wiring and electrical repair wiring. Boeing is currently developing 3D-simulation courseware to augment and accelerate the classroom and hands-on education. The courseware will enable students to open and close doors, remove panels, and complete operational check procedures straight from their desktop, before physically performing the task on an actual aircraft.

"I'm humbled and honored to be part of something that happens once in a generation. I'm excited to be part of the team that will set the precedence on how this new weapons system will be employed in the future," said Kim.

A KC-46A Pegasus lands at McConnell AFB, KS.
USAF photo illustration by A1C Alexi Myrick

SAFETY CULTURE

AIR TRANSPORTATION STANDARDIZATION AND EVALUATION PROGRAM EVOLVES FOR EXCELLENCE

BY MS. KIM KNIGHT,
STAFF WRITER

Most of us know the old saying, "If it's not broke, don't fix it." Just because an object or process is not broken, however, does not mean there is not room for improvement or updates. That was the case with the recently restructured Air Transportation Standardization and Evaluation Program (ATSEP) for the Aerial Port and Transportation Management career fields taught at the Expeditionary Center, Joint Base (JB) McGuire-Dix-Lakehurst, NJ.

"About two years ago, AMC [Air Mobility Command] kicked off the ATSEP program, which is a revamped and modernized system of quality assurance that we have within our career field," said MSgt Ryan Vanterpool, Course Director. "In conjunction with our stakeholders, AMC wanted a formal three-day course to capture base training through discussions, capstones, and scenarios. It is meant to give new program managers, evaluators, and augmenters standardized training before going back to the unit and hitting other prerequisites or doing unsupervised evaluations."

It took approximately 15 months to plan and develop the course curriculum before the first class began in April 2019. It includes five lessons and begins with an overview of the program and discussion about the quality assurance in the Aerial Port and Transportation Management career fields from the past to the present day. "The second lesson is rules, responsibilities, and lessons of how each cog fits into the machine and how we all operate together," said Vanterpool. "The third lesson is reporting and going over spreadsheets, including the way we report information and to who, when, and how. The last two lessons are evaluations and methods. In the evaluation process, we go over deficiencies. We have video scenarios we work in and there is a great deal of discussion."

The participants of the first class included seasoned as well as brand new ATSEP managers, which generated positive crosstalk about the refined processes. Vanterpool said,

As humans, we all make mistakes, but it's not about showcasing issues or pointing fingers. It is about examining areas that can be improved and identifying trends.

An Aerial Porter with the 35th Aerial Port Squadron, 514th Air Mobility Wing, marshals a Humvee onto a C-17 Globemaster III during a joint mobility exercise with the 851st Transportation Detachment, U.S. Army Reserve, at Joint Base McGuire-Dix-Lakehurst, NJ.

USAF photo by MSgt Mark C. Olsen

"It's now a better alliance to the Air Force Inspection System when we talk about deficiencies and constantly evolving evaluations. From this, we have more of a wingtip approach, which is the basis of the ATSEP where you picture yourself looking at a wingtip. It is the same concept when evaluating ramp services, loading an aircraft, or passenger services loading processes. If the evaluator, or fully qualified subject matter expert, notices something, he or she can zoom into a more focused approach and [focus on] the task steps. Whereas, [in] the old ATSEP, certain tasks may have only been inspected once a month. This one, it is continual like at three, four, or even more looks per each line item, each month."

The shift to continual monitoring has reduced deficiencies. Vanterpool said, as humans, we all make mistakes, but it is not about showcasing issues or pointing fingers. It is about examining areas that can be improved and identifying trends. For instance, if a trend is identified in a unit, AMC should be made aware so reports received from all aerial porters, Air Mobility Squadrons, and Contingency Response Groups can be reviewed and changes made in on-the-job training records if needed.

Since the initial class, changes are being made to the course from feedback provided by participants. The lesson plans will receive a few tweaks and time management will be ironed out to accommodate crosstalk. "We might shorten the capstone because it is pretty extensive. We are going to simplify it so we can capture simple, and direct, to-the-point information. And we are going to refilm some videos to make sure we are literally going total force and including our TMO [Traffic Management Office] so that they are onboard with the same thing. You have to figure this ATSEP program stemmed from an aerial port mindset, so we want to make sure we cover that grey area and not lose our TMO brothers and sisters as they come to the class. We are going to make sure everyone who walks out of the class is on the same page," Vanterpool said.

MSgt Ronald Weaver

AMC NEWS

From Rebellious Youth to Award-Winning Airman: **MSgt Ronald Weaver, 921st Contingency Response Squadron (CRS), Travis AFB, CA**

BY MR. MATT LIPTAK, STAFF WRITER

As a young man, MSgt Ronald Weaver had found himself traveling a dead-end path after deciding to leave high school before graduation. He was spending too much time with the wrong people and knew he needed a change of direction. Weaver said, "I wanted to get out before it was too late."

Fortunately for Weaver, history was on his side. His family roots in the military went back four generations. His dad had been in the Army and Weaver lived in Panama and Germany while his dad was stationed there. As he considered his options, the Marines seemed like an appealing choice, but his father steered him in the direction of the Air Force.

Before he could enlist, however, he had to qualify to get in the Air Force by restarting his education. He signed up for a boot camp-type program named the Youth Challenge Academy in Fort Gordon, GA. He enrolled in the Delayed Enlistment Program for the Air Force in 2001, while undergoing the Fort Gordon training.

"It's a boot camp for youth where you can get your high school diploma and GED through six months of military-style training," Weaver said. "Once I went through there, I took my Armed Services Vocational Aptitude Battery test [ASVAB]. My recruiter/supervisor was a security forces member and he talked to me a little bit about it, and I got accepted for some other jobs, but with the path I was heading, I needed something to get me out of the town I was from as soon as possible. Security forces gave me that option as well. I liked the opportunities of light infantry work, weapons instructor, and K-9."

Joining the security forces opened up a new world to Weaver and was perhaps the best choice he could have made.

With the Air Force, his life was on a new trajectory where the sky was the limit. It was a journey that has taken him around the world and deep into learning many aspects of the security field.

Weaver's initial role in security forces was to provide security for Air Combat Command nuclear forces.

Weaver said "It was an eye-opener." Becoming a parent was part of the reason he decided to stay long-term in the Air Force. After his daughter was born he reenlisted, going to Aviano Air Base in Italy for four years. His work involved checking out fellow Airmen on their knowledge of the base and areas of operations, weapons, and tactics.

In 2007, Weaver was stationed at sometimes frigid Minot Air Force Base in North Dakota. It was there he was taught combat arms and immediately turned that knowledge towards training others on the use of small arms weaponry.

A year later, he was sent on to Edwards Air Force Base, CA. He was also deployed overseas on multiple occasions. While he was based out of Aviano, he was deployed to Iraq for two months. He was one of 30 sent from that base along with 70 other service members from other bases.

Weaver's duty was unremarkable, but his service there turned out to be notable. His major daily task was to prepare Conex shipping containers for transport on vessels. He was also detailed to patrol the area, keeping a close eye out for thieves.

Mortar fire was a common occurrence, he said. "At first, I would react, but after a while, I would not even get out of my cot," he confided to the *Daily Republic*. During his time in Iraq, he helped to chase down a young thief who had stolen a truck. Another time he reported back on a suspected ambush that was being set up by hostile forces.

That deployment helped earn him an achievement award. He later found himself stationed in Kadena Air Base in Okinawa in 2010 and then to Osan Air Base in Korea. While in Kadena he was deployed to Qatar as a police officer. It was in Kadena where he gained more in depth knowledge on how to be a weapons instructor. It was in Osan that he learned how to take charge on the spot, he told the *Daily Republic*.

His current station, however, has been perhaps the most enlightening one. He is assigned to the 621st Contingency Response Wing and runs a team of 26 Airmen who specialize in air base defense.

"[With] the Contingency Response Wing [CRW], what I have gained most from being here is just making decisions," he said. "You are put in situations at times and there may not be a checklist to go off of … for example, if you have a gate runner you may have to have the lowest ranking Airmen make a split second decision where someone['s] life can depend on it. You don't get that in the traditional security forces unit. It pushes you to do things at a level you never do from the lowest ranking Airmen to myself as a MSgt."

Weaver said that daily duty allows you to make major decisions at an earlier age and thus better grooms Airmen for future assignments. Airmen learn to make sound decisions, which is a big piece of being a security forces member, he said.

Weaver must have learned his security forces lessons well. In 2017, he was the Air Mobility Command nominee for the Lance P. Sijan Leadership Award and won the Air Force Outstanding Security Forces Support Staff award. These awards recognize the accomplishments of officers and enlisted Airmen who demonstrate the highest qualities of leadership in the performance of their duties and conduct of their lives.

"The CRW not only taught me how to make decisions, but working with so many other career fields within our wing has also allowed me to grow in so many ways," he said. "It has allowed me to see the Air Force from a different lens and given me the opportunity to see the entire Air Force mission, not just that of Security Forces."

Perhaps a more impactful reward of Weaver's service, however, has been the ability to help guide Airmen under him. He knows that his life course has not always been a straight line to success and he wants to be there for other Airmen who face obstacles in their careers. He strongly believes a little extra input can be the fuel they need to take them to new heights.

"l look at my background and understand that I was a late bloomer in the Air Force and was kind of hard-headed coming in," he said. "It took a few people to see past that and understand there was more [to me] than what I was showing. I want to be able to return what was taught to me to other people. I have been fortunate enough to have mentored a few [Airmen] and have watched them grow in their careers. It [was] rewarding because, at the end of the day, when my time is done and I retire, those memories will hold more than anything else. It will be the impact I have had on peoples' lives that matters the most to me."

PHOENIX SPARK: Innovation for Tomorrow's Warfighters, Today

BY MS. ARYN KITCHELL, STAFF WRITER

Phoenix Spark got its start in February 2016 as the Travis Air Force Base Innovation Office and was developed to leverage Airmen's ideas to deliver rapid innovation to the Warfighter. They developed a culture to solve base-level issues, discover opportunities for growth, and to partner with experts in industry and academia. In April 2017, former AMC Commander General Carlton Everhart officially signed a charter cementing Phoenix Spark as AMC's innovation office.

Today, there are over 30 bases with Phoenix Spark cells, according to Capt Kris Fernandez of the 60th Air Mobility Wing's Phoenix Spark Hub at Travis AFB, CA. Since the creation of the Travis cell, AFWERX, an Air Force team of innovators, has helped establish Spark cells at other bases not just in the United States, but across the world with the addition of Shogun Spark at Kadena Air Base, Japan.

At Travis AFB, the Phoenix Spark team hosts a weekly Spark Rally where Airmen come to pitch their ideas or their pain points. "Then the team helps them work through the problem," said Fernandez. Of course, Airmen can also contact the Phoenix Spark team through email, phone calls, and on their website at **www.travisSPARK.org**.

Fernandez described Phoenix Spark as a day-to-day grind of Airmen innovating from the bottom up. Airmen throughout the base have ideas for solutions to their daily pain points and the Phoenix Spark team takes those ideas, embraces them, and develops ways to turn them into reality.

In the last year, Phoenix Spark at Travis AFB has completed 45 projects, with another 72 suggestions in the queue, according to Fernandez.

One of Phoenix Spark's successes began in 2017 when they developed, in-house, an aircraft-mounted electronic flight bag holder for the C-17 Globemaster III. "An identical EFB mount has now proliferated throughout the C-5 community and is now installed on every aircraft," said Fernandez.

Another pain point brought to the attention of the Phoenix Spark team was the working environment for loadmasters during combat operations in C-5M Super Galaxies. The loadmaster's flight safety duties frequently involve being in the cargo compartment of the airplane during critical phases of flight in combat with no harness support for an extended period of time. This is not an ideal situation safety-wise, particularly while the aircraft banks and possibly performs quick, evasive maneuvers.

To avoid standing during operations, some loadmasters had taken matters into their own hands and hooked cargo straps, not intended for human use, onto parts of the airplane that were not meant to be latched on to, said Fernandez. This misuse resulted in injuries.

In response to the loadmaster's need for safe physical support, Phoenix Spark had loadmasters from the 22d Airlift Squadron work with the Air Force Research Laboratory's Junior Force Warfighters Operations in RX, or JFWORX, to prototype the sling. According to Fernandez, the prototype has been completed.

Even though Phoenix Spark usually churns out physical tools to solve pain points, Fernandez thinks of the initiative not as just a tool builder but as a critical thinker. "Spark exists for things more than just developing tools. We're here to help people think through problems," said Fernandez.

To increase flight safety, Phoenix Spark is hoping to improve ground training. They want to do this by pushing into the augmented, virtual, and mixed reality realms, explained Fernandez. These solutions could augment existing training methods while lowering risk, increasing overall training availability, and mitigating

Professionals from across industry, academia and government tour a C-5M Super Galaxy during a base visit as part of a Phoenix Collider event at Travis AFB, CA, Aug. 1, 2017.

USAF photo by SSgt Charles Rivezzo

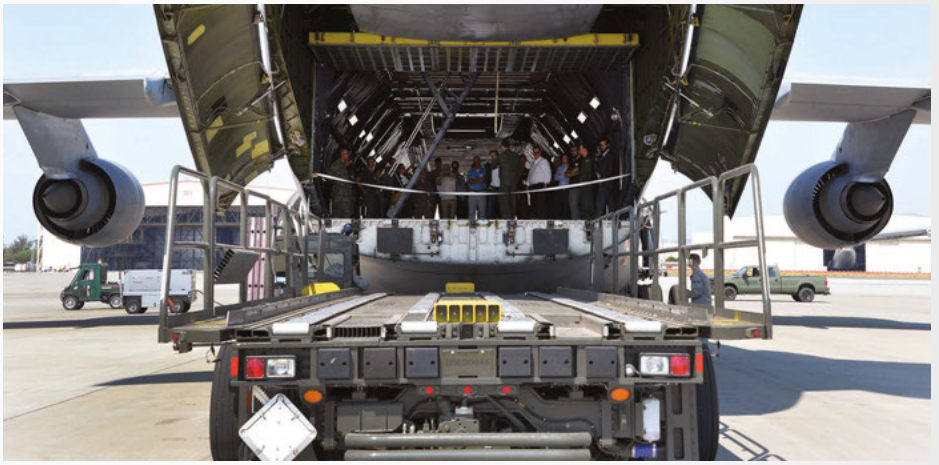
Photo below, left: TSgt Zachary George, 60 AMW Phoenix Spark Lab Noncommissioned Officer in Charge, works with computer animation software to design a safe at Travis AFB, CA. George designed a plate that will securely attach a GSA-approved safe to the floor of a KC-10 Extender, allowing aircrew members to store weapons and other sensitive materials on the aircraft.

USAF photo by Louis Briscese

the high cost of operating real-world aircraft, all while keeping safety as a top priority.

While Phoenix Spark is the day-to-day innovation grind happening at Travis, AFWERX is an Air Force-wide program that creates a network of innovation with numerous bases during their yearly event called Spark Collider. This July at the AFWERX Fusion Xperience in Las Vegas, AFWERX and the Air Force utilized grants under the Small Business Innovation Research program (SBIR) to partner pain points with startup companies that can prototype a solution relatively rapidly. Companies can receive up to $1.875 million from the SBIR office after funds matching to develop prototype solutions to Warfighter problems. From there, the companies have to prove the feasibility of their proposed solution before they are approved to move on to phase three. "The point of the program is to rapidly iterate with a fail forward type of mentality that ultimately brings out the solution the Warfighter wants," said Fernandez.

Phoenix Spark and its partnering programs provide innovation so our Air Force can continue to be one step ahead of the rest of the world, and our Airmen can have their voices heard and their tools and ideas implemented.



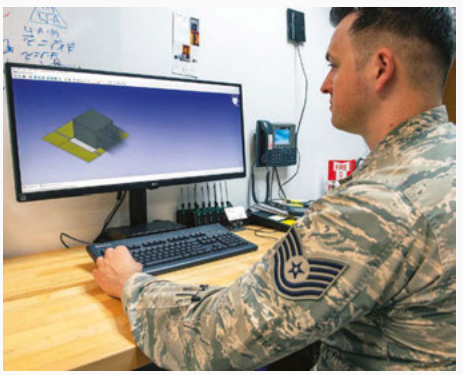


Photo above: Jeffrey Bruns, 60th Maintenance Squadron sheet metal shop template maker, cuts holes into a plate at Travis AFB, CA.

USAF photo by Louis Briscese

Photo left: Lt Col Karen Landale, 773d Enterprise Sourcing Squadron Commander, tests a virtual reality simulator.

USAF photo by Armando Perez

Finalists from the Air Force Installation and Mission Support Center's inaugural Innovation Rodeo toured AFWERX's Austin, TX hub. The finalists experienced a virtual reality lab and practiced their pitches to different companies. The top three finalists receive $200,000 to get their ideas to prototype via AFWERX and other tech accelerators. The hub is located in the Capital Factory, an incubator for tech start-ups and entrepreneurs.

USAF photo by Armando Perez

AMC NEWS

MAFFS AIRMEN GET READY TO ROLL WHEN WILDFIRE SEASON HEATS UP

BY MR. MATT LIPTAK, STAFF WRITER

The U.S. Forest Service reports that extended fire seasons, larger fires, and more area burned each year has led to more extreme fires. This unfortunate combination has led to a stronger firefighting response, including the use of the Modular Airborne Firefighting System (MAFFS) in C-130s to augment fire suppression efforts.

MAFFS is a critical asset to firefighters because it is able to disperse up to 3,000 gallons of fire retardant in just 10 seconds or less over a quarter-mile front. The remarkable system fits into the back of a C-130. Fire retardant is released through a nozzle on the rear left side of the aircraft.

The 302d Airlift Wing, Peterson AFB, CO, is the single Air Force Reserve unit assigned to the MAFFS mission. The three Air National Guard wings tasked to carry out MAFFS missions are the 146th Airlift Wing from Channel Islands, California, 152d Airlift Wing from Reno, Nevada, and the 153d Airlift Wing from Cheyenne, Wyoming.

These units are expected to keep busy over the coming fire seasons. The trend of larger and more frequent fires is expected to continue for decades. *USA Today* reported the National Climate Assessment expects the area burned by wildfires will double nationwide as global warming leads to even longer wildfire seasons and more frequent droughts until at least 2044.

In a U.S. Senate hearing this past June, Jeff Rupert, Director of the Office of Wildland Fire for the Interior Department, told Congress that this year's fire season could be as bad as last year's, which included the Camp Fire, the most expensive and deadliest fire in California's history. Last season also included the Mendocino Complex Fire, which charred more than 700 square miles in California.

"It's hard to imagine a repeat of this experience, but this is the potential reality that we face again this year," Rupert said. "So it's difficult for me to sit here this morning and say that a challenging year is ahead of us, because the wildfires that we're now experiencing are consistently more destructive than they've ever been," Rupert warned.

In such trying times the benefit of the MAFFS system and the Airmen who

A C-130 from 302 AW equipped with a USDA Forest Service Modular Airborne Fire Fighting System (MAFFS II) drops water as part of MAFFS training and recertification at Grand Canyon Hills, CO, May 6, 2019.

USANG photo by SSgt Jon Alderman

Safety is a critical element to successfully carrying out any MAFFS mission.

use it is easy to see. The system is built by the United Aeronautical and Blue Aerospace companies. On the MAFFS website, they herald the system as the only C-130 roll-on/roll-off retardant delivery system. It is designed in close coordination with U.S. Forest Service, U.S. Air Force, and Lockheed Martin. The pressurized tank allows untethered operations and it installs/uninstalls in less than an hour. According to the website, the trailer and necessary ground support equipment are included for storage and installation.

Although the technology sounds straightforward and streamlined, that is not always the case for the actual missions. Like much of the work Airmen do, risk is part of the job. Courage is not optional. In July of 2012, four Airmen died while on a MAFFS mission in South Dakota when a microburst of turbulent air out of a thunderstorm caused them to crash. Two Airmen survived, but Lt Col Paul K. Mikeal, Maj Joseph McCormick, Maj Ryan S. David, and SMSgt Robert S. Cannon lost their lives in the crash.

This past June four buildings at the North Carolina Air National Guard Base at the Charlotte Douglas International Airport were dedicated to the men. As reported by North Carolina Air National Guard Public Affairs, Maj Joel Kingdon, 156th Airlift Squadron, commemorated the Airmen's sacrifice by saying "These Airmen selflessly gave their lives executing our C-130 Modular Airborne Fire Fighting System mission while fighting the White Draw Fire in South Dakota. Today we say thank you to the Families for their sacrifice, and we forever memorialize our fallen heroes by dedicating these buildings to serve as a lasting tribute of their service to our country."

The investigation that followed the crash indicated that communication between the lead plane and the C-130 that crashed played a role in the tragedy. As with all Air Force missions, training plays a key role in keeping future accidents from occurring. Safety is a critical element to successfully carrying out any MAFFS mission.

As such, Airmen and their civilian counterparts are always training and certifying for MAFFS missions. In May of this year, they were already gearing up for the new fire season by going through training. Nearly three hundred people from the Air National Guard, U.S. Forest Service, and other firefighting departments undertook a week's worth of aerial wildland firefighting training and certification directed by the Air Force Reserve's 302d Airlift Wing.

Col James DeVere, 302d Airlift Wing Commander, said that training is vital to the mission. "We are able to battle wildfires as one seamless interagency team working with the U.S. Forest Service because of the training we do together," he said.

Knowing how to properly use the MAFFS is an integral part of that mission. "Wildland fire management agencies have relied on MAFFS for more than 40 years to provide a surge capacity when commercial air tankers are fully committed or not readily available, as they frequently are during periods of high wildfire activity," said Kim Christensen, Deputy Assistant Director for Operations for the U.S. Forest Service. "Training that includes all of the military and civilian personnel who work together when MAFFS are mobilized is critical to ensure that military aircraft fly safely and effectively and that they can be seamlessly integrated into wildfire suppression operations."

With the growing threat of wildfires from a changing climate, Airmen are sure to be busy with their C-130s and MAFFS well into the future. When their country calls, Airmen answer. In executing a successful mission, safety must be kept as a high priority. Proper training leads to effective safety standard operating procedures. By keeping Airmen safer, those threatened by wildfire can also be made safer until that final ember is extinguished.

Tackling TURBULENCE

A 24/7 Mission

BY MR. MATTHEW LIPTAK, STAFF WRITER

Turbulence is the irregular motion of the air resulting from eddies and vertical currents. It is usually not much more than an annoyance to a pilot and their passengers, but the weather phenomena, in its more extreme varieties, can cause the pilot to temporarily lose control of the aircraft or even cause structural damage. Due to its unpredictable nature, turbulence is a constant concern for forecasters and mission planners at the 618th Air Operations Center (AOC) located at Scott Air Force Base, IL.

"Light and moderate turbulence occurs fairly regularly, and no special steps are taken to mitigate the forecast," explained MSgt Ryan Snider, the Manager of the Weather Plans Division, 618 AOC. "However, severe and extreme turbulence must be avoided and will require flight planners to change the route or planned altitude to mitigate the threat."

Turbulence is categorized into four levels of intensity. The first level, light turbulence, can momentarily cause slight erratic changes in attitude or altitude. On the inside of the aircraft, unsecured objects may become slightly displaced, and it is still possible to walk in the aircraft with ease. With moderate turbulence, there are variations in attitude and/or control and variations in airspeed, but the aircraft remains in positive control. In the interior, however, walking becomes difficult and objects are dislodged.

The next two levels of turbulence are of more serious concern. Severe turbulence leads to large abrupt changes in altitude and/or attitude, and variations in speed. The aircraft can be momentarily out of control. Walking in the interior of the aircraft is impossible. For extreme turbulence, the aircraft is tossed about and is impossible to control, and structural damage to the aircraft may result.

To mitigate these problems and threats caused by turbulence, the 618 AOC applies intense diligence. The Air Force weather model, Global Air-Land Weather Exploitation Model (GALWEM), produces a computer-generated 140-hour turbulence forecast every six hours, Snider said. Weather technicians at the 15th Operational Weather Squadron (OWS) continuously refine the first 30 hours of the forecast by analyzing real-time data and incorporating turbulence forecasting techniques.

"The 30-hour turbulence forecasts issued by the 15 OWS are the authoritative source for Air Force flying operations and are used by forecasters at 618 AOC to create the turbulence charts found in crew papers," Snider explained.

Of course, not all turbulence is cut from the same cloth. According to **weather.gov**, there are different causes of turbulence giving the weather phenomena different characteristics. Turbulence is found to come from four different sources.

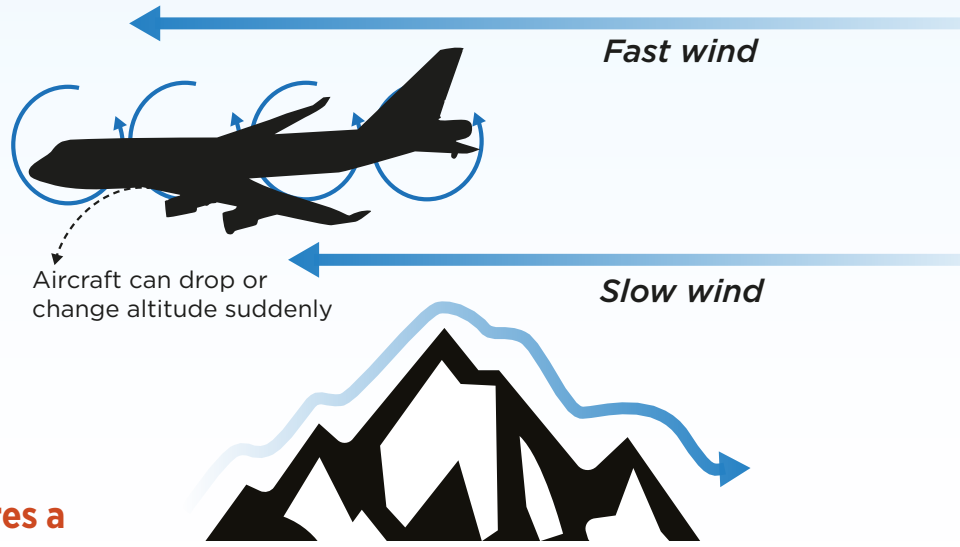
Mechanical turbulence can be defined as friction caused by the interaction of the air and the ground. Irregular terrain and man-made objects cause eddies and turbulence in the lower levels as a result. The magnitude of this turbulence depends on the strength of the surface wind, the nature of the surface and the stability of the air.

Another form of turbulence is **thermal** or **convective turbulence**. On warmer days, the earth's surface can be unevenly heated by the sun. Some surfaces, like the barren ground or rocky and sandy areas, are heated more rapidly than are grass-covered fields and water. Isolated convective currents are then set in motion with warm air rising and cooler air descending, which can cause the aircraft to have a bumpy ride.

Turbulence is is the irregular motion of the air resulting from eddies and vertical currents.

Causes:

- Wind
- Storms
- Jet stream
- Objects near the plane (particularly mountain ranges)



The presence of turbulence requires a great deal of attention from pilots, flight planners, and weather forecasters alike.

Frontal Turbulence is caused by the collision between two opposing air masses where the sloping frontal zone causes friction and, as a result, turbulence. This type of turbulence is most notable when warm, unstable air impacts colder air and can be very severe if there are thunderstorms present.

Finally, **wind shear** is the change in wind direction and/or wind speed over a specific horizontal or vertical distance. Wind shear can even occur during high altitude flights.

"It is sometimes referred to as **Clear Air Turbulence [CAT]** and is commonly associated with the jet stream," explained Snider. "Low-level wind shear is a specific type of wind shear that can be especially dangerous to flight operations since it can disrupt flight performance in the critical stages of take-off and landing. Doppler radars measure horizontal wind flow and can be a useful tool for observing turbulence, especially in the lower levels of the atmosphere. Abrupt changes in wind speed or direction are often a tell-tale sign of wind shear."

Both planners and forecasters for 618 AOC always keep a close eye on wind conditions. Safety is paramount with flying, and monitoring conditions for turbulence is one of the keys to ensuring it. Since turbulence is such a common occurrence, including severe turbulence, vigilance is required.

"Severe and extreme turbulence can cause a pilot to lose control of an aircraft and are always avoided," Snider noted. "Moderate turbulence can be uncomfortable, especially for aircrew and passengers, so pilots will adjust the aircraft's path and altitude as needed to find calmer air. Moderate turbulence also makes air refueling difficult since it can be challenging for the tanker and receiver to maintain a connection."

Severe turbulence is very common in and around thunderstorms due to strong updrafts and downdrafts associated with the storm, he said. At higher altitudes near the jet stream, severe thunderstorms can occur due to the stronger winds found in that area. Also, severe mountain wave turbulence, a form of mechanical turbulence, is commonly found downwind of mountainous terrain when a strong wind flows perpendicular to the terrain.

With all this and more to consider, pilots, planners, and forecasters must know how much is too much regarding turbulence and flying aircraft safely. In very extreme cases aircrew may even turn back. After all, safety is job one.

"Pilots will coordinate with ATC [air traffic controllers] to change altitude or heading to find smoother air," Snider explained," In the meantime, each aircraft has power settings and airspeeds recommended by the manufacturer to relieve stress on the aircraft and maximize safety, and our mobility pilots are well versed in adapting to weather conditions to guarantee the safety of the crew."

The presence of turbulence requires a great deal of attention from pilots, flight planners, and weather forecasters alike. Safety demands they have the best, most current data on the phenomena around the clock. It is an ever-present challenge, but one that, with the help of Air Force units like 618 AOC, can be well mitigated.

"Due to its unpredictable nature, turbulence is one of the most difficult weather hazards to forecast," Snider concluded. "Forecasters rely heavily on pilot reports to validate and, if needed, amend turbulence forecasts to provide the best possible product."

Airmen assigned to the 435th Contingency Response Group, Ramstein AB, Germany, supporting Combined Joint Task Force-Horn of Africa (CJTF-HOA), set up a forward operating location at Beira Airport, Mozambique, April 2, 2019, for the U.S. Department of Defense's (DoD) relief effort in the Republic of Mozambique and surrounding areas following Cyclone Idai.

USAF photo by SSgt Corban Lundborg

Airmen from the 435th Contingency Response Group, Ramstein AB, Germany, carry U.S. Agency for International Development (USAID) supplies at Camp Lemonnier, Djibouti, April 1, 2019.

USAF photo by SSgt Franklin R. Ramos

AMC NEWS

521st Air Mobility Operations Wing, Ramstein, Germany, Provides Humanitarian Aid in Mozambique

BY DR. ANDREW WACKERFUSS, 521 AMOW HISTORIAN

Cyclone Idai, the Indian Ocean's worst cyclone in a century, hit the southeast coast of Africa in March of this year, leaving death and destruction in its wake. Idai first made landfall in Mozambique on March 14 as a tropical depression causing flooding in the port city of Beira. Once inland, however, the storm turned in a circle and dumped even more water over the region as it traveled back over Beira and out to sea. Idai reversed course again, intensified into a devastating cyclone, and charged back for a catastrophic second landfall on March 15.

The storm caused massive flooding, intense wind damage, numerous road and bridge collapses, and an immense loss of life across a 1,200 square mile region including Mozambique, Zimbabwe, Malawi, and Madagascar. All told, the death toll numbered at least 1,000 fatalities, and the larger devastation meant that the true total may never be known.

Beira is Mozambique's fourth-largest city. Some of its areas lie beneath sea level, making it especially vulnerable to flooding. Access to the city by road grew increasingly difficult throughout the storm and eventually ceased altogether when a dam burst and inundated the last major open road. With the city completely cut off by land, air mobility offered the only possible way to provide vital supplies.

U.S. relief agencies called for a global response for aid with assets coming from the United States, Europe, and Africa. The 60th Air Mobility Wing (AMW) at Travis Air Force Base, California, and the 436th Airlift Wing (AW) at Dover Air Force Base, Delaware, in conjunction with airlift wings from other air bases, provided crews and aircraft to assist in the humanitarian aid. State Department diplomats from around the world coordinated with joint forces personnel at the United States Africa Command at Kelley Barracks in Stuttgart, Germany, and the Combined Joint Task Force-Horn of Africa (CJTF-HOA) in Djibouti and Mozambique also provided personnel who were eager to assist.

From March 24 to April 13, the CJTF-HOA flew 120 missions to deliver 782 tons of supplies to the battered nation. This rapid response and coordination of supplies involving various agencies

Local men assist in humanitarian relief efforts at Beira Airport, Mozambique, April 2, 2019, during humanitarian relief efforts in the Republic of Mozambique and surrounding areas.

USAF photo by SSgt Corban Lundborg

The exceptional cooperation among the three wings at Ramstein demonstrates why it is the world's premier platform for delivering intercontinental humanitarian aid.

would not have been possible without relying on Ramstein Air Base in southwestern Germany.

At Ramstein, three wings stand ready at all times to deliver and support humanitarian airlift operations of this scale. The host wing, the 86th Airlift Wing, provides C-130s and other airlift capacities while administering the base as a whole. The 435th Air Ground Operations Wing (AGOW) assesses airfields, deploys personnel, and sets up airfields in needed locations. The 521st Air Mobility Operations Wing (AMOW) supplies aerial port services, command and control, operational support of deployed personnel, and maintenance teams standing ready around the clock to keep C-5s and C-17s flying throughout the theater.

A single mission on March 30 demonstrated how these three wings work seamlessly to conduct a humanitarian aid operation when disaster strikes and unexpected problems arise.

The 435 AGOW was the first on the ground in Mozambique, arriving March 26 to assess local conditions and set up reliable airfields. Once established, 435 AGOW provided local aerial port services, managed the airfield, and controlled air traffic.

A C-17A belonging to the 62 AW at Joint Base Lewis-McChord, Washington, and flown by an aircrew from Joint Base Charleston's 437 AW in South Carolina, was one of the aircraft used to deliver the much-needed supplies. This aircraft, which had already extended its deployment to support the relief mission, suddenly revealed a serious fuel pressurization issue and had to divert back to Ramstein. Maintenance crews at the 521 AMOW's 721st Aircraft Maintenance Squadron (AMXS) quickly accomplished a 600 flight-hour hard point inspection, which involved changing the engine and gearbox oil filters, and then performed a full array of operational checks. Such a repair is normally only done at an aircraft's home station, but the AMXS crews accomplished it in a few hours and quickly returned the aircraft to service in time to stay on its mission.

Upon arrival, the C-17A delivered pallets of supplies that had been built in the United States and handled at Ramstein by the "port dogs" of the 521 AMOW's 721st Aerial Port Squadron. In Africa, crews offloaded the needed goods under the watchful eyes of a RAVEN Team of security forces specialists, based out of Charleston, and supported by Ramstein's 313th Expeditionary Operations Support Squadron.

The exceptional cooperation among the three wings at Ramstein demonstrates why it is the world's premier platform for delivering intercontinental humanitarian aid. Their remarkable services allow a vast array of other mission partners—from other Air Force wings, to joint components, to U.S. and international aid agencies—the ability to rush urgently-needed, strategic-level assistance to nations battered by storms and disasters.

MOTORCYCLE CULTURE

Mentorship and New Perspectives Create Dover's Motorcycle Program

BY MS. ARYN KITCHELL, STAFF WRITER

For five years, the Airmen of Dover AFB, DE, have celebrated **zero** Class A or B motorcycle mishaps. On a base with 300 motorcycle riders, this is no small feat. This accomplishment took an excellent safety program, a hands-on safety team, and a little bit of luck to make it happen.

Sgt Kenneth Reid, 436th Airlift Wing Occupational Safety and Wing Motorcycle Safety representative, spoke about why he thinks Dover's program has been so successful. He particularly wanted to stress the benefits of their Motorcycle Safety Days—held in mid-April—and their mentorship program.

"Our Motorcycle Safety Days are a big part of what we do. And you know we like to reach out to other communities and vendors," said Reid. Dover often invites speakers and other vendors, such as race drivers, to come and speak to their Airmen about safety on their Motorcycle Safety Day, but they also make it an enjoyable day for their riders. For example, if they invite a local motorcycle dealership, the dealership will provide different motorcycles for the Airmen to ride. They also pass out freebies like t-shirts and T-CLOCS (safety pre-check cards).

For their mentorship program, Dover has created a layer of motorcycle representatives in each of their squadrons who help extend the reach of their Safety Office. Those men and women take the initiative to mentor the riders underneath them in their squadrons, usually by choosing which safety modules to teach and how they want to teach them. For Reid, this creates a hands-on culture that lets him know as a safety leader which units are involved with their members and which members ride motorcycles.

Motorcycle Safety Day attendees participate in a group ride April 13, 2018, at Dover AFB, DE. The group cruised through the base and finished at the Motorcycle Safety Foundation range for a social event.

USAF photo by A1C Zoe M. Wockenfuss

Reid also thinks the mentorship program has a lot to do with keeping his 300 riders up to date on their certifications. "If you don't have the right type of mentorship in the squadron, it [staying certified] can go by the wayside," he noted. The motorcycle representatives reach out to those in their squadrons who need to update their training and ensure the recertification is done.

One of the things the Motorcycle Safety Office teaches their mentors is

to get to know their riders and reach out to them often. "What we do by mentoring is we try to make sure to get everybody together quarterly," said Reid. Gathering everyone is important for the mentors. Then there is the job of making contact monthly, at least by email, said Reid. This contact is to have a conversation, see if the rider needs anything, and make sure they are not overdue on any training.

Dover has a working relationship with the Delaware DMV, which is conveniently only 20 minutes down the road from Dover AFB, said Reid. Those riders who want to go the extra mile and become a rider coach go to the DMV and are trained to teach other riders the DMV motorcycle safety course. These rider coaches can then retrain Airmen at Dover AFB, rather than having to send every rider to the DMV for retraining.

Like their Motorcycle Safety Days, the team at Dover also likes to organize morale rides. For a morale ride, Dover bikers get together and go on a 30-minute ride, but prior to the ride, the rider coach gives the riders safety training. According to Reid, the rider coach chooses whichever modules from the DMV course program they want to teach. "They talk safety for a little bit, and you know, enjoy each other and have fun," he said.

As for Reid, he takes great care to not ignore any of the "near misses" that have happened at Dover. He clarified that some accidents were recordable, which means a rider had to submit a mishap report, but since the rider did not receive anything more than first aid medical attention, it is filed as a different kind of report, not a Class A or B mishap. "You can either say, 'Okay, well I'm just going to file this,' and you never speak to the guy. Instead what you should be doing is going to reach out to that person and say, 'Hey, why or how did this happen?'"

A lot of the time, those riders will admit their near misses were from complacency, Reid said. That contact has become a great tool for Reid and the team to learn when people have developed bad trends and habits. By identifying those trends and habits and creating a strong mentorship program, he hopes his riders have learned to check their bad habits at the door. "When you ignore mishaps, that's when they can actually come to fruition," he said.

As for what makes him proud of his job, Reid noted that, at first, he did not know anything about motorcycle safety, as he is not a rider himself. However, after his first Motorcycle Safety Day, he saw how much riders value what he and his team were doing for them. "Honestly, it's a whole bunch of work that sometimes you would rather not do, but the end result makes you feel appreciated," Reid said. For him, he enjoys seeing all his hard work pay off and being recognized by the many riders on base.

Since he's not a rider, motorcycles are not necessarily a passion for him, he mentioned. Going through his experience of being a part of the Dover Motorcycle Safety Program, however, has made him admire riding and see the need and necessity for motorcycle safety measures. He thinks it is possible he may look at motorcycle programs differently than other safety representatives who are riders, but he also noted he has seen the passion really come through safety representatives who do ride motorcycles. Both riders and non-riders give different perspectives, he said, and together they are able to meld everything together into Dover's very successful Motorcycle Safety Program.

A sea of bikes fills the Motorcycle Safety Foundation range during the Motorcycle Safety Day, April 13, 2018, at Dover AFB, DE. More than 200 riders from the base attended the Annual Pre-Season Brief and many stayed to enjoy the day's events.

USAF photo by A1C Zoe M. Wockenfuss

BACK TO SCHOOL

Taking Care On Campus:

Applying Situational Awareness as New Semesters Start This Fall

BY MR. MATT LIPTAK, STAFF WRITER

Situational awareness can be described as assessing the characteristics of your environment in the dimension of time and space, understanding the meaning of what you are perceiving from those characteristics, and then accurately forecasting the situation in the near future so you can make effective decisions.

Having good situational awareness is vital in many circumstances for those who serve. It can also be useful to retain situational awareness when Airmen and their family and friends head back to school this fall. It is just one way to keep your learning experience safe as it becomes time to hit the books once again.

According to Mica Endsley's article in *Human Factors: The Journal of the Human Factors and Ergonomics Society*, situational awareness can be further broken down from the elements provided in the initial definition. Doing so may help you modify this skillset so you can apply it to your campus experience.

LEVEL 1
SITUATIONAL AWARENESS

Assessing the characteristics of your environment. This level is comprised of recognizing the parts or elements that, together, work to determine the situation. Level 1 identifies critical parts of the circumstances and their meaning so enhanced understanding can be developed at further levels.

LEVEL 2
SITUATIONAL AWARENESS

Understanding your current situation. This level is the result of converging all Level 1 characteristics to develop the larger picture, pattern, or tactical situation. Level 2 is used to ascertain the present circumstances in operationally valid terms to allow fast decisionmaking and action.

LEVEL 3
SITUATIONAL AWARENESS

Forecasting the future situation. This level is achieved by advancing current circumstances into the future in order to try to predict how a tactical situation is going to evolve. Level 3 bolsters short-term planning and the evaluation of options when time allows.

So how does all this situational awareness apply to a carefree stroll around a campus quad or studying in a classroom? Sexual assaults and active shooters can be grim realities on today's campuses. In order to avoid becoming a victim when confronted with such a threat, situational awareness can be used to mitigate the danger and devise potential solutions in an apparently no-win situation.

The prevailing strategy amongst law enforcement thinkers on how to avoid violence for those confronted with developing situations seems to be: run, hide, and fight. In other words, the first and best response to a developing confrontation should be to evade the bad actor. This reaction may be counterintuitive to the military ethos, but in a campus situation, where you would most likely be without a

weapon to defend yourself, evasion is thought to often be the best policy.

Concealment, or hiding, is akin to evasion. Examples can be seen in the mandatory lockdowns that often take place at schools that receive a threat. If a predator cannot find you, they cannot attack you. Law enforcement is most likely on the way and can confront the perpetrator.

After assessing your situation, you may decide that going on the offensive is your best chance, or only chance, of survival. As has been evident in some attacks this year, this strategy can also save lives by delaying the perpetrators' advancement and, hopefully, by disabling the target.

Situational awareness can be used at all times, not only when the threat is clear and present. Keeping your head up and eyes open and away from your mobile device will allow you to assess your current situation. Trouble assessed from a distance can be trouble averted before things get dangerous.

Although situational awareness and the mantra of run, hide, and fight can help to keep you safe on campus, school officials are looking for other ways to prevent or deal with threats. Increasingly, in 2019, they have been turning to technology.

According to the magazine *Campus Security and Life Safety*, tip lines, digital checklists, cameras, access control, and communication tools are all legitimate technological assets to bring to the campus to keep it secure. Added to a situationally-aware student body and faculty, campuses of the future will hopefully always be peaceful places to be educated.

Tip lines can take advantage of the eyes and ears of the people who are often the most perceptive and prolific on campus—the students. Colleges offering a tip line app to students can eliminate threats before they are acted upon.

Formatting safety checklists for a digital format or even for the Cloud is also an advancement. Using digital forms for safety procedures makes the process both more accessible and more transferable. This format provides easy access to the safety guidelines and it is easily shareable.

Cameras are essential to campus security. They can identify issues in real time wherever they are placed. They can enhance the situational awareness of law enforcement arriving on the scene.

An access control system secures entryways and controls who can get where. They can be vital to a sprawling campus that has thousands of students, faculty, and visitors.

Communication tools are often critical to keeping the campus as secure as possible during an incident and can be effective in not allowing a bad situation to get worse. Streamlining a communication system to provide alerts to students and faculty along many channels is vital to campus security.

Technology may be advancing to keep our colleges safer, but situational awareness can offer no-cost and very effective security. Assessing your environment in the moment and evaluating the right decision to make is the most reliable way to stay safe this semester.

SUICIDE PREVENTION

Taking a Look at Commercial Airborne Safety During National Suicide Prevention Month

BY MR. MATT LIPTAK, STAFF WRITER

In the spring of 2015, Andreas Lubitz, the copilot of Germanwings Flight 9525, flew into the side of a mountain in the French Alps. Evidence suggests that Lubitz planned the act when he locked the commanding pilot out of the cockpit after the other man had gone for a bathroom break. In addition to himself, Lubitz killed 149 other people from 12 countries.

Carsten Spohr, the Chief Executive of Lufthansa in 2015 and a former A320 pilot, seemed to doubt flight 9525 should be considered an act of suicide alone.

"I am not a legal expert," he said, adding, "If a person takes 149 other people to their deaths with him, there is another word than suicide."

September is National Suicide Awareness Month. We are looking back at the safeguards that were implemented to ensure a crash like Flight 9525 does not happen again.

To find out what could be done, investigators examined what actually happened on that fateful flight. Lubitz waited until the commanding pilot had left the cockpit and he was completely alone before locking the cockpit door.

When he got back to the cockpit, the commanding pilot tried desperately to open the door, apparently even using a crowbar at one point. The door was designed to be tamper-proof, however, because making secure cockpits a priority had been a consequence of the 9/11 hijackings in 2001.

Although an emergency code is available to allow entry into the cockpit, it can be disengaged by a determined person inside the cockpit. An obvious answer to this challenge is to require two airline employees to be in the cockpit at all times. This regulation is something the United States had already instituted at the time of the crash, but Europe had not. After the crash, however, several European airlines began instituting the measure independent of the European Aviation Safety Agency's requirements. Those airlines included EasyJet, Ryanair, and Lufthansa.

MISHAP-FREE FLYING HOUR MILESTONES

6,500 HOURS

310 AS, MacDill AFB, FL
SMSgt Arturo Zavala

5,000 HOURS

384 ARS, McConnell AFB, KS
MSgt Chad Holloway

310 AS, MacDill AFB, FL
Maj James Long

180 AS, St. Joseph, MO
Col John Cluck
Lt Col Doug Bailey
Maj Robin Patton
Capt Lamont Wood
CMSgt Terry Godfrey
CMSgt Rodney McIntosh
CMSgt Dave Shultz
SMSgt Mark Hummer
SMSgt Daryl Schildknecht

166 AW, New Castle, DE
Lt Col Jeremy Goodwin

133 ARS, Pease ANGB, NH
Lt Col Jason Denton
CMSgt Michael George
SMSgt James Doyle

93 ARS, Fairchild AFB, WA
Lt Col Daniel M. Hasley
MSgt Warren W. Weldon
TSgt Christopher M. Ramey

92 ARS, Fairchild AFB, WA
Maj Denique Asion
CMSgt Thomas Ireland
MSgt Justin Hunter

91 ARS, MacDill AFB, FL
Lt Col Kelly Kimsey

3,500 HOURS

384 ARS, McConnell AFB, KS
Lt Col Earl Ardales
Lt Col Travis Christensen
Lt Col Matthew Dibble
Lt Col Jeffery Webb
Maj Justin Davis
Maj Travis Smith
SMSgt Mike O'Connor

310 AS, MacDill AFB, FL
Lt Col Michael Charles
Lt Col Brandon Leifer
Lt Col Carol Mitchell
Lt Col Steven Schnoebelen
Maj Phillip Battles
Maj Jeffery Moss
Maj Adam Wantuck
MSgt Phebe Frye

180 AS, St. Joseph, MO
Col Byron Newell
Lt Col Sean Baker
Lt Col Brian Diven
Lt Col Greg Hay
Lt Col Tom Kampmeyer
Lt Col Cade Keenan
Lt Col Pete Parbel
Lt Col Eric Smith
Lt Col Ryan Stepp
Lt Col Jeff Tourtillott
Maj Chad Bannwarth
Maj Chase Bodenhausen
Maj Josh Hulett
Maj Alan Kerkaert
Maj Jason Lehman
Maj Aron Pena
Capt Josh Perrigo
SMSgt Kerry Mills
MSgt Kent Bohart
MSgt Griff Burdette
MSgt Bart Watts

179 AW, Mansfield, OH
Lt Col Matt Crowe

166 AW, New Castle, DE
Lt Col Julian Jacobson

133 ARS, Pease ANGB, NH
Lt Col Nelson Abreu
Lt Col Joseph Corpening
Lt Col Brady Oh
Lt Col Gregg Van Splunder
Maj Jeffery Davis
Maj Walter Hale
Maj Jackson McFarland
Maj Wiley Semrau
1Lt Geoffery Schultz
SMSgt Michael Girouard
SMSgt Daniel Luter
MSgt Alan Beaulieu
MSgt James Marier
TSgt Nathan Tarleton

93 ARS, Fairchild AFB, WA
Lt Col Christopher A. Dieter
Lt Col Chad E. Marchesseault
Lt Col Jeffrey S. Webb
Maj Michael D. Gaskins
Maj Jonathan S. Liard
Maj Clayton S. Ward
Maj Jacob R. Yates
MSgt Brendan C. Balko
MSgt Joseph A. Ekker
MSgt Matthew G. Hunsinger
MSgt Augustine P. Marshall
TSgt Jonathan W. Rogers
SSgt David L. Ballmer

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Lt Col Brian Mack
Lt Col Michael Street
Maj Kendall Brown
Maj Cameron Czarniecki
Maj Stephen Massey
Maj Robert Miller
Maj Robert Sherlock
Capt Nicholaus Herr
SSgt Kilian Stone

91 ARS, MacDill AFB, FL
Lt Col Christopher Power
Lt Col Jeffrey Quick
Maj Michael Bargiel
Maj Seth Hutcheson
Maj Douglas Karl
Maj Ryan King
Maj Ryan Troxel
Capt Stephen Kemp
SMSgt Jason Resler
MSgt John Hester

2,500 HOURS

384 ARS, McConnell AFB, KS
Lt Col Sean McClune
Lt Col Aaron Strode
Maj Britton Adamson
Maj Dane Arnholt
Maj Andrew Lawrence
Maj Mark Lennon
Maj Chase Mattingly
Maj Brian Sikkema
Maj Joe Smith
Maj Travis Walters
Maj Tyler Young
Capt Casey Lynn
Capt Gabe Miranda

MISHAP-FREE FLYING HOUR **MILESTONES**

Capt Dave Sternberg
CMSgt Andrea Inmon

310 AS, MacDill AFB, FL
Lt Col Daniel Lindley
Maj Kenneth Cotter
MSgt Orlando Brown
MSgt Andrew Gajkowski
TSgt Mitchell Howells
TSgt Robert McGee
TSgt Rodriquez Nelson
TSgt Christopher Phillips
TSgt Kate Ruehl
SSgt Matthew Young

180 AS, St. Joseph, MO
Lt Col Scott Campbell
Lt Col Barrett Golden
Lt Col Eric Rawlings
Maj Greg Hafley
Maj Mark Hanna
Maj Ryan Kennedy
Maj Jared Kirk
Maj Anthony Shaffer
Capt John Brown
Capt Mark Gaines
1Lt David Hall
CMSgt Jeremy Overby
MSgt Ryan Blake
MSgt Ed Huff
TSgt Ben Hynes
TSgt Tyler Ingino

179 AW, Mansfield, OH
Maj Matt Bulanda
Maj Todd O'Brien

166 AW, New Castle, DE
Lt Col Timothy Fields
Lt Col Robert Pike

133 ARS, Pease ANGB, NH
Lt Col Brett Pierson
Lt Col Nicholas Scola
Maj Nicholas Alcocer
Maj Michael Blough
Maj Daniel Chacon
Maj Christa Frey
Maj Joel Webley
Capt Arren Sniderman
SSgt Matthew Pongrace

93 ARS, Fairchild AFB, WA
Col Jeremiah S. Heathman
Lt Col Brian C. Epperson
Lt Col Dawn L. Hildebrand
Lt Col Sean F. Howlett
Lt Col Kevin L. Parsons
Maj Karan Bansal
Maj John A. Davis
Maj Purvis C. Gaddis
Maj Luke J. Reardon
Maj Mitchell F. Richard
Maj Emma G. Steinbar
Maj Taylor J. Zahm
Capt Jonathan G. Barillas Fogarty
Capt Lukas J. Huebener
Capt Mark C. Koch
Capt Clinton J. Muery
Capt Paul L. Paskell
Capt Tyler J. Stecker
Capt Austin S. Westbrook
SSgt Christopher L. Fitzgerald
SSgt Andrew J. Keepers
SSgt Craig J. Vandenburg

92 ARS, Fairchild AFB, WA
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Lt Col Edmund Ballew
Lt Col Matthew Collins
Lt Col Justin Hendricks
Lt Col Ryan Petersen
Lt Col Adam Serafin
Lt Col Jasmine Simms
Maj Casey Eikholt
Maj Colin Hughes
Maj Matthew Miller
Maj Zachery Valdez
Capt Myles McDowell
Capt Nicholas Meinhart
TSgt Bobby Cash
TSgt Daniel Hernandez
TSgt Evan Vanelermay
TSgt Justin Yow

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Lt Col Jesse Caldwell
Lt Col Christopher Collins
Lt Col Justin Dahman
Lt Col Scott Whinnery
Maj Jonathan Fernandez
Maj Samuel Holbrook
Maj Benjamin Johnson
Maj Jeffrey Osgood
Maj Douglas Seeley
Maj David Smith
Capt Mike Crockett
Capt Joseph Desanti
Capt Benjamin Hessney
MSgt Theodore Dinwiddie
SSgt Marcus Norman

TO SUBMIT MISHAP-FREE FLYING HOUR MILESTONES:

Send your request to: **mobilityforum@us.af.mil**

HQ AMC/SEE, 618.229.0927 (DSN 779)

Please submit as shown in the listings above (first name, last name, sorted alphabetically within rank).

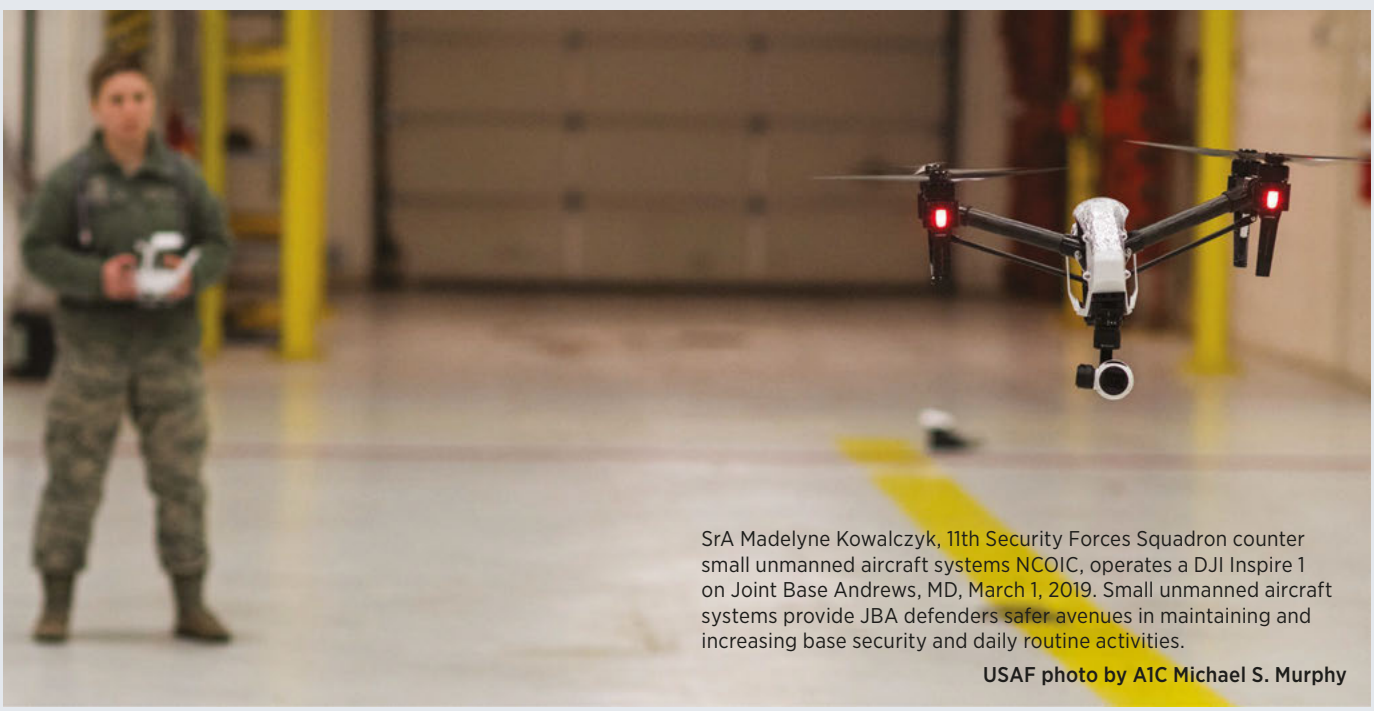
QUICKSTOPPERS

Rise of the Drones

BY MAJ JONATHAN WEAVER, HQ AMC FLIGHT SAFETY

Small Unmanned Aerial Systems (sUAS), also known as "drones," seem to be everywhere today. They are great tools if used properly, but they can also be threats to personnel, security, and aircraft if used improperly or maliciously. Currently, anyone can purchase these items and even children can operate them. Unfortunately, due to a lack of understanding by those outside the aviation field, the devices have been used in congested airspace without regard to potentially serious consequences.

Guidance on both the civil and military sides has changed so often that it is hard to understand what the current legal requirements are to be a licensed drone operator. Further complicating the issues is the fact that, as a military force, the Air Force is held accountable to civil liberty protection and domestic intelligence collection laws and regulations. This means an sUAS is subject to the same rules domestically as U-2 and MQ-9 aircraft. To try to tame and utilize this ever-growing technology, Air Mobility Command has established an sUAS Working Group that is charged with researching and enabling sUAS and counter-sUAS operations for Mobility Forces. At the Air Force headquarters level, Air Force Instructions (AFIs) are also being written to address training and fielding of these new systems as tools to enable daily work efforts. In preparation for future implementation, individuals interested in this technology can familiarize themselves with the Federal Aviation Administration (FAA)'s 14 Code of Federal Regulations (CFR), Part 107. Additionally, those pilots with civil licenses can also take the Part 107 training on the FAA safety team's website (**www.faasafety.gov**) and add a free sUAS endorsement to their pilot's license after visiting a local Flight Standards District Office.



SrA Madelyne Kowalczyk, 11th Security Forces Squadron counter small unmanned aircraft systems NCOIC, operates a DJI Inspire 1 on Joint Base Andrews, MD, March 1, 2019. Small unmanned aircraft systems provide JBA defenders safer avenues in maintaining and increasing base security and daily routine activities.

USAF photo by A1C Michael S. Murphy

GPO U.S. GOVERNMENT PUBLISHING OFFICE: 2018-645-110/10016.
For sale by the Superintendent of Documents, U.S. Government Publishing Office.
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A DAY IN THE LIFE

SSgt Daniel Olszewski, 621st Contingency Response Support Squadron, Joint Base McGuire-Dix-Lakehurst, NJ, communication operator, left, and SrA Robert Bloech, 621st Contingency Response Squadron, Joint Base McGuire-Dix-Lakehurst, NJ, security forces member, right, prepare to drive an all-terrain vehicle during Exercise Crescent Moon Feb. 12, 2019, at North Auxiliary Airfield in North, SC. Exercise Crescent Moon is an annual training event aimed at maintaining the readiness of U.S. Transportation Command and Air Mobility Command contingency response forces. The 621st Contingency Response Wing specializes in rapidly deploying personnel to establish, expand, and sustain air mobility operations. From wartime operations to disaster relief, 621 CRW extends AMC's ability to deploy people and equipment around the world. In the aftermath of Hurricane Michael, which caused catastrophic damage to Tyndall Air Force Base in October 2018, various contingency response efforts similar to the ones practiced during exercise Crescent Moon were implemented to provide rapid humanitarian aid.

USAF photo by A1C Joshua Maund