



KŪKAʻI MOKU

154th WING HAWAII AIR NATIONAL GUARD | JOINT BASE PEARL HARBOR-HICKAM



A SUMMER OF PARTNERSHIP

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- SENTRY ALOHA 19-2
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October
2019

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HIANG WELCOMES NEW LEADERSHIP

COL DANN CARLSON ASSUMES COMMAND OF 154TH WING

by Senior Airman Robert Cabuco



Col. Dann S. Carlson assumed command of the Hawaii Air National Guard 154th Wing from Brig. Gen. Gregory S. Woodrow during a change of command ceremony held Aug. 4, 2019 at Joint Base Pearl Harbor-Hickam.

A 'standing-room-only' crowd of family, friends, and fellow 154th Wing Airmen packed into a C-17 Globemaster III hanger on the JBPHH flightline to say mahalo and aloha to its past and present leaders.

Woodrow who had been at the helm since 2016, retires after 33 years of military service; after guiding the Air National Guard's largest wing. Future endeavors include increasing his surfing time and pursuing a second career in commercial aviation.

During the ceremony Woodrow said 'mahalo' to the personnel, who contributed to the wing's success, spoke fondly of his guard 'ohana' (family) and left some words of wisdom for Carlson as the incoming commander.

"These folks here...give them a vector, a little vision," said Woodrow. "Because these guys are professionals and they know how to succeed."

Carlson, an Air Force Academy graduate, served 25 years as an active duty Airman in various capacities. Prior to coming to the 154th Wing, he was an F-16

instructor/evaluator pilot, Harrier exchange pilot, Thunderbird pilot, Fighter Squadron commander and Deputy Joint Base commander.

Retiring from active duty in 2018, his service to community continued as the assistant superintendent for the State of Hawaii Department of Education, Office of School Facilities and Support Services. After a brief military retirement he joined the HIANG, as the director of plans and programs.

Carlson was handed the 154th Wing guidon, or colors, representing the ceremonial passing of authority from one commander to the next.

"As men and women of the 154th Wing," said Carlson, "we are in a great trajectory and I want to see us keep it that way. The priorities that General Woodrow set out will continue for now. I will be getting out to all the different units in the next 90 days. I look forward to meeting with you and learning how we can improve this highly effective team."

The 154th Wing is comprised of nearly 1,900 officers and enlisted Airmen making it the largest and one of the most complex wings in the Air National Guard. The wing executes several mission sets which includes federal response to national threats as well as state response to domestic civil emergencies.



INTEGRATED AIRCREW ENSEMBLE MAKES DEBUT

by Senior Airman John Linzmeier

Representatives from Wright-Patterson Air Force Base, Ohio, visited Joint Base Pearl Harbor-Hickam July 8-12 to introduce fighter pilots and aircrew flight equipment professionals to some of the newest developments in flight-suit technology.

Team Hickam's Hawaiian Raptors, comprised of members from the 199th and 19th Fighter Squadrons, have been selected to be the first aircraft operators to bring the gear, called the Integrated Aircrew Ensemble, into an operational capacity.

The visiting project managers from the Human Systems Program Office provided demonstrations, fittings and on-the-job training to F-22 Raptor pilots and the AFE Airmen who will maintain the state-of-the-art ensemble.

"Being selected as the first unit, and also as the Air National Guard, over any other [major

command] is definitely something to be proud of," said Senior Master Sgt. Michelle Davidson, 154th Operations Support Squadron AFE superintendent. "I think it says something about our work ethic and our integrity down here; that we're willing to take on the challenge and be a part of this new process."

Hawaii Air National Guard and Active Duty pilots were provided demonstrations and were individually measured for custom-fit equipment.

Unlike the currently used 'legacy' equipment, which had been piecemealed with additional support items over several decades, each component of the IAE has been designed to complement all other items. The IAE is built to support aircrew in all ejection-seat aircraft, to include fighters, trainers and bomb carriers. Its material has been influenced by recent advancements in sports technology to aid aviators

who endure harsh flight conditions.

"It's all strategically placed so items are not on top of each other; it minimizes the occurrence of friction, hotspots or wear-down on the system," said Carl Medeiros, IAE program manager. "The material is also moisture-wicking, so it pulls moisture away from the body, removing and reducing thermal burden, while increasing mobility and comfort levels. When it all comes together, there's a direct correlation and improvement to the physiological effects on the pilot."

A combination of four layers can be used to support pilots in the face of natural elements and a wide range of mission sets. This includes a thermal undergarment for cold weather protection, a water-resistant environmental protection layer, a chemical/biological/radiological resistant layer and the coverall, which provides heat and flame protection.

While the new system will require additional familiarize training events for AFE Airmen, less man hours will be required to sustain and service the equipment. Developments, such as the new flotation device, make this possible, as it does not require sensitive munitions to activate and can be transported



and handled without risks of explosive reactions.

According to Medeiros, the Hawaiian Raptors are projected to receive the IAE during the first half of 2020.

"Initially I think the buildup process is going to be quite tedious," said Davidson. "It's a big task to take on, but I think once the supplies are delivered and we're all set up it's going to be an amazing product for us to use."



Photo by Master Sgt. Mysti Bicoy

RAPTORS TEAM UP WITH SPEC OPS FOR FARP TRAINING

by Senior Airman John Linzmeier



Hawaiian Raptors and maintenance Airmen practiced a new refueling capability at Joint Base Pearl Harbor-Hickam flight line August 4, in collaboration with Special Operations Airmen from Cannon Air Force Base, New Mexico.

The process is called a Forward Area Refueling Point, which entails the rapid transfer of fuel from one aircraft to another. On this occasion, an MC-130J Commando II and a formation of F-22 Raptors completed the procedure with all engines running. This unique capability makes it possible for fighter aircraft to land, replenish fuel and return to air-battle operations within a short timeframe.

Leading up to the FARP training, a similar operation was practiced on the windward-side of the island August 2, at Marine Corps Base Hawaii, Kaneohe Bay. Unlike the initial event, the second round had maximized the

MC-130J's refueling capabilities, enabling two fighter jets to receive fuel at the same time.

"It was helpful for us to have completed two operations in quick succession," said Tech Sgt. Evan Frisco, 15th Maintenance Group Quality Assurance inspector. "At Kaneohe Bay, we were trying to figure out the best way to maneuver the aircraft around and get it in the best position. Once we got all the other groundwork laid, the team was confident enough to take on the two-jet operation."

The FARP program is designed to train petroleum, oils and lubricants Airmen for covert refueling operations in deployed locations where fueling stations are not accessible or when air-to-air refueling is not possible.

Members of the 154th Aircraft Maintenance Squadron provided hands-on-training with the visiting FARP crew, as this was the first



time the FARP operators have worked with the fifth-generation Raptors at JBPH-H. The guidance helped ensure every member is aware of the appropriate safety precautions and airframe layout.

"Familiarization training like this pays off a lot," said Tech Sgt. Colby Mira,-Naeole, AMXS F-22 dedicated crew chief. "Because when they go to deployed locations, it's possible for them to receive aircraft they've never seen before. This experience helps them to know where the receptacles are. When they do it deployed, it's usually at night. It's an elaborate process, so they're going to need to be able to do it with night vision goggles on."

While FARP Airmen, belonging to the MC-130J, are usually the only personnel on the ground during real-world scenarios, crew

chiefs here worked alongside their Active Duty counterparts to incorporate a cursory inspection and end-of-runway inspection.

Airmen of the Hawaii Air National Guard have been preparing to hold a FARP operation here for more than a year, which entailed a series of 'hot pit' refueling operations – having Airmen refuel a running aircraft from a ground vehicle or hydrant.

Without FARP capabilities, U.S. Air Force aircraft are limited to air-to-air refueling and permanently installed bases for their refueling needs. However, when a fighter squadron has FARP support, options are vastly increased, as any accessible airfield or island can be used to replenish fighters and send them back to the fight.

STEALTH FIGHTERS SHOWCASED TO MAUI RESIDENTS

Photos by Tech. Sgt. Alison Bruce-Maldonado



The Hawaii Air National Guard hosted an F-22 Raptor exhibit for the public at the Kahului Airport on the island of Maui, Hawaii, Aug. 2, 2019. More than 1500 visitors including military personnel, their dependents, extended families and friends, braved wind, high humidity and rain to get a close-up view of four F-22 Raptors in a secure area of the airport.

The HIANG flew the aircraft to Maui Aug. 1-3, to conduct F-22 training to ensure the aircraft would be able to divert to alternate airfields within the Hawaiian Islands in the event of any state emergencies. To support the Raptor divert airfield training and exhibit on Maui, more than 40 HIANG personnel flew to Kahului, Maui, July 31, on a C-17 Globemaster flown by the HIANG's 204th

Airlift Squadron. Supporting personnel included HIANG recruiters, military air crews, maintainers, logistics and avionics specialists, as well as security personnel.

The F-22 training was conducted by a diverse contingent of supporting units including the HIANG's 199th Fighter Squadron, 154th Aircraft Maintenance Squadron, 204th Airlift Squadron, 154th Security Forces Squadron, 292nd Combat Communications Squadron located on Maui, active duty Air Force 19th FS aircrews, ANG members from Portland, Oregon, as well as Maui Airport avionics, fire and security personnel.

The Raptors conducted a final day of training on Saturday, Aug. 3, before returning to Joint Base Pearl Harbor-Hickam, Hawaii.



WAR FIGHTERS UNITE FOR SENTRY ALOHA 19-2

by Senior Airman John Linzmeier

More than 700 Airmen from across the country and a team from the Royal Australian Air Force wrapped up a large-scale, combat-aircraft exercise Sept. 4, at Joint Base Pearl Harbor-Hickam.

Since kicking off on August 21, dozens of fighter, command and control, and tanker aircraft were launched each training day of the Hawaii Air National Guard led exercise, Sentry Aloha 19-2. Two training missions were carried out daily, one in the morning and a second in the afternoon.

Lt. Col. Matthew Ohman, Sentry Aloha Exercise Director, said the routine exercise is held to provide tailored and cost-effective training for all participants, with a focus on fourth and fifth generation fighter integration

against an advanced threat.

While Hawaii-based aircraft, assigned to the 154th Wing, practice combat sorties on a regular basis, dissimilar air combat training offers more diverse and realistic training, resulting in heightened levels of readiness for pilots and the hundreds of support Airmen from a broad variety of career fields. In total, 20 units from 15 states and one unit from Australia came to Oahu to participate in Sentry Aloha.

Visiting fighter aircraft included Oregon ANG F-15 Eagles from the 173rd Fighter Wing and Oklahoma ANG F-16 Fighting Falcons from the 138th FW. These fourth generation visitors took on alternate roles throughout the training, taking turns



‘fighting’ against and alongside the Hawaii F-22 Raptors.

Similar to real-world flight operations, the success of each mission relied on the process of inflight refueling. A team of KC-135 Stratotanker from the Nevada, Utah and Hawaii ANG flew alongside the fighters and transferred fuel to each airframe, prolonging flight time and potentially maximizing lethality in the battle space.

This iteration of Sentry Aloha also featured the integration of an airborne early warning control system, provided by members of the Royal Australian Air Force No. 42 Wing. An Australian aircrew utilized a high powered radar aboard an E-7A Wedgetail to monitor the battle space and provide friendly forces with an advantage over their opponents.

“The force integration is the main thing we’re looking to work on when we’re coming here, with the Raptors, [Falcons] and Eagles,” said RAAF Flying Officer Nelson Mirus, Wedgetail aircrew member. “What we provide, with the airborne early warning, is giving them a heads up and let them know what they’re flying towards; and they can derive their own tactics according to that.”

While the majority of traveling participants flew halfway across the Pacific Ocean to join in the exercise, small teams of Airmen from the Hawaii Air National Guard’s geographically separated units were called upon from neighboring islands.

Members of the 292nd Combat Communications Squadron, in Maui, relocated to JBPH-H to set up lines of radio communication for the Australian Wedgetail and provided satellite





Staff Sgt. Eli Morinaga, 292nd Combat Communications Squadron radio frequency technician, service a satellite terminal August 27. The Airmen traveled from their detached unit, located on Maui, to provide communications support to visiting Air National Guard to units and members of the Royal Australian Air Force. Photo by Senior Airman John Linzmeier

network capabilities for visiting ANG members.

Unlike communication technicians at a normal squadron, 'Combat Comm' Airmen specialize in installing mobile communication centers at virtually any provided location. These agile-capabilities were demonstrated during an inclimate weather exercise in Saipan this year, which was used to provide command and control to a dispersed team of F-22s.

Since the last iteration of Sentry Aloha, held in December 2018, the 154th Wing's Raptor cadre has grown considerably, as additional F-22s, originally assigned to Tyndall Air Force Base, Florida, are now maintained and operated at JBPH-H. The Hawaiian

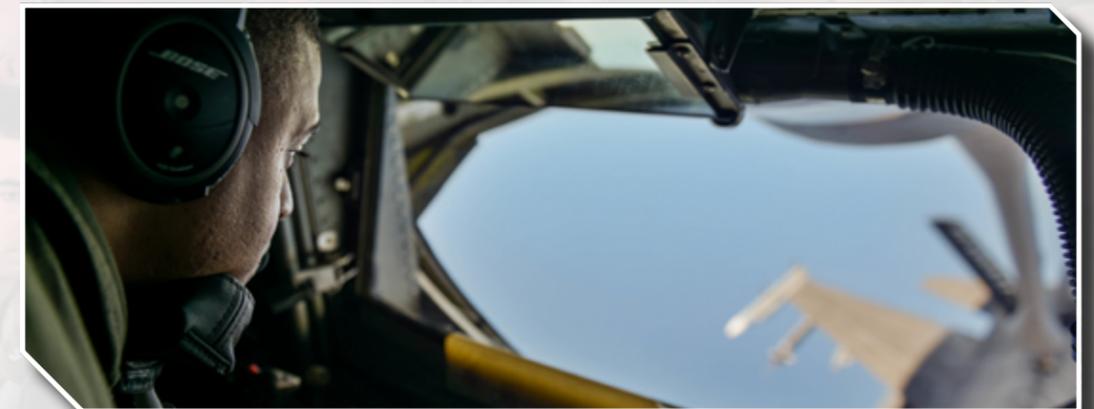
Raptors belong to the Hawaii ANG's 199th FS and also operated by active duty Airmen from the 19th FS.

While the additional fifth-generation aircraft and large force employment of new partners serves as a force multiplier, Col. Michael Blake, 154th Operations Group commander, indicates that the goal of Sentry Aloha has constantly remained the same.

"Our way of measuring success is in making sure that everyone is a better tactician," said Blake "a better subject matter expert when they leave than when they arrived."



F-16 Fighting Falcon from the 138th Fighter Wing prepare for a combat sortie Aug. 21, 2019. Photo by Senior Airman John Linzmeier



Tech. Sgt. Shane Williams, 203rd Air Refueling Squadron Boom Operator, refuels a F-16 Fighting Falcon from Tulsa Air National Guard Base in Tulsa, Oklahoma Aug. 27, 2019. Photo by A1C Adam Smith



F-15 Eagles from the 173rd Fighter Wing out of Kingsley Field in Klamath Falls, Oregon, fly in formation over the Pacific Ocean Aug. 27, 2019. Photo by A1C Adam Smith



A Royal Australian Air Force E-7A Wedgetail taxis down the Joint Base Pearl Harbor-Hickam flight line Aug. 28, 2019. Photo by Master Sgt. C.T. Michael.



Members of the Royal Australian Air Force check in for a welcome briefing at Joint Base Pearl Harbor-Hickam Aug. 19, 2019 during fighter exercise Sentry Aloha 19-2. Photo by Master Sgt. Mysti Bicoy



A Hawaii Air National Guard F-22 Raptor takes off at Joint Base Pearl Harbor-Hickam, Hawaii, Aug. 21, 2019. Photo by Senior Airman John Linzmeier

A SUMMER OF PARTNERSHIP

BRINGING FORCES TOGETHER ACROSS THE PACIFIC

The State Partnership Program has been successfully building relationships for 25 years and now includes 75 partnerships with 81 nations around the globe. SPP links a unique component of the Department of Defense - a state's National Guard - with the armed forces or equivalent of a partner country in a cooperative, mutually beneficial relationship. As part of this effort, Airmen and Soldiers from the Hawaii National Guard have maintained ongoing subject matter expert exchanges with their partners from Indonesia the Philippines, to include more than 20 events this year.

Hawaii National Guard and Indonesian Air Force (TNI) personnel greet one another during a tour of the TNI Air Training Wing July 10, 2019 in Yogyakarta, Indonesia. The tour was part of an Air Defense Subject Matter Expert Exchange held as part of the State Partnership Program which links a state's National Guard with a partner nation in support of mutual interests.

Photo by Tech. Sgt. Alison Bruce-Maldonado

AIR DEFENCE ENHANCED WITH MULTINATIONAL TEAMWORK

By Tech. Sgt. Alison Bruce Maldonado



Six Hawaii Air National Guardsmen (HIANG) participated in a State Partnership Program (SPP) Air Defense subject matter expert exchange July 10, 2019, in Yogyakarta, Indonesia. The SPP SMEE began in late June on the island of Oahu, Hawaii, when members of the HIANG's 169th Air Defense Squadron hosted their Indonesian Air Force (TNI) counterparts.

Army Captain Marco Hartanto, Hawaii National Guard SPP director, was on hand in Yogyakarta to share general information about the Hawaii SPP and HING missions. Being bilingual in the Indonesian language, Hartanto's presence was crucial to the mission as he provided his own brand of professional expertise in the continuing effort to build a stronger and more cohesive relationship with the Indonesian military.

"Indonesia's mission is similar to the HIANG's mission of air defense in the Pacific," said Hartanto. "The focus of this trip was to work on an exchange of air defense ideas and strengthening our relationships. Having mutual trust can

build on our lasting efforts."

"The purpose of our participation in the state partnership program is to develop a bond between the two militaries," said Major Michael F. O'Donnell, mission crew commander, 169th Air Defense Squadron, Air Defense SME. "That way, we can build on the relationships with our Indonesian counterparts and have a more advanced detailed discussion on air defense."

The State Partnership Program links a state's National Guard with a partner nation in support of mutual interests. The program is held to foster and strengthen positive relations, grow partnerships and to build a capacity of trust with partner countries.

Including Hartanto and O'Donnell, nine military personnel made the nearly two-day journey to Yogyakarta in an effort to strengthen alliances with Indonesia's air defenders.

"This trip was conducted to talk about tactics, techniques and procedures with air defense experts in the Indonesian military," said O'Donnell. "This was a way

for us to get smarter by learning from each other on how to protect our air space. That included a conversation relating to the tactics on protecting a nation's air space."

The SMEE in Yogyakarta included table-top discussions and question-and-answer sessions on the challenges with drones and GCI procedures, as well as the HING and TNI organizational structures. There was a visit to the TNI Air training Wing and the 215th Wing



radar tower.

"There were in-depth discussions over the flying presence in Asia," said Hartanto. "This was the first time this objective was accomplished, so not only did we meet the HIANG objectives, but an additional objective was met in the Pacific Command."

"For the future, we would like to invite our federal administration officials to participate in the SMEE," said Hartanto. "We will continue to progress into other airmen to airmen discussions including mobility, leadership and



professionalism, especially for those who are controllers or pilots that support the air defense mission."

"Now that we have advanced discussions on defending air space, we can build on that foundation," said O'Donnell. "This will allow us to advance our discussions and build on conducting exercises together. This will include training on the air systems we have and whether it's a radar, jet and maintenance facility, the goal is to ensure that we can operate and fly safely."



No Translation Required



by Senior Airman Orlando Corpuz

In a dimly lit conference room in the Philippine Air Force installation of Clark Air Base, a radar expert is going over maintenance techniques and procedures. While he's a U.S. Airman from the Hawaii Air National Guard, he's conducting the class in Tagalog - a dialect of the Philippines - maintaining a calm and confident tone as he leads the teaching session with a crowd of Philippine Air Force Airmen.

Master Sgt. Eugene Mariano, a ground radar systems Airman with the Hawaii Air National Guard and 298th Support Squadron has worked on the latest technologies over the past 22 years of his career.

Because of his mastery of the language and natural delivery, onlookers could easily assume he is a member of the Philippine Air Force, only seeming to be separated by a distinct uniform pattern.

"I love working with the Philippine Airmen as they're going through modernizing of their air defense systems," Mariano said. "They're like an open book. So respectful and eager to learn and the fact that I'm a natural Tagalog speaker certainly makes the communication easier."

Mariano is part of a diverse team of Hawaii Air Na-

tional Guard air defense experts that convene yearly to share air defense knowledge with Philippine Air Force counterparts through the National Guard's State Partnership Program. SPP pairs a state's National Guard with a partner nation and aims to build capacity and security cooperation through Subject Matter Expert Exchanges such as the one held this past Aug. 19-24 in various locations in the Philippines.

"This is a really cool mission. It's pretty amazing to see the strides the PAF has made in their air defense," Mariano said. "And it's humbling to think that maybe I had a small part to play in all of this."

The team includes several Tagalog speaking airmen, but Mariano is the most senior and has the most experience.

"I feel very proud for being a part of this team," Mariano said. "It's been a long process, but I think they are turning the corner."

While working with service members from another country can be a daunting effort; the language barrier alone can prove insurmountable, Mariano leverages his Philippine language skills to bridge

the language barrier and make connections naturally with his PAF counterparts.

"Being able to speak the language is definitely an advantage," said Mariano. "They don't have to take the extra step to translate when they hear me talking. I think it helps to make the Philippine airmen comfortable. And when they're comfortable, maybe it's easier to learn and absorb the material."

Mariano was born in the Philippines and immigrated to the United States in the 1990s. At an early age he knew he would be serving in the military; it was one of his passions. It wasn't until he joined the Hawaii Air National Guard

with the PAF. Mariano has been there from the start, having been selected as one of the original members of the team. According to team leader Lt. Col. Colin Yoshimitsu, Mariano's contributions are integral to the group.

"Gino has been an important part of this team from the beginning of the program," said Yoshimitsu, a mission crew commander with the 169th Air Defense Squadron. "Yes there is the bilingual language skills, but Gino has a unique ability to connect with people. He has

that 'aloha spirit' that puts the PAF at ease and makes it very conducive to learning. I think the PAF have come to embrace Gino as a friend,



that he discovered that radar was also one of his passions. Blending his language skills with dedication to country and enthusiasm for his craft make him an effective mentor.

"I really like working on radars and it's a very important piece to air defense. I really love that I'm able to share some knowledge and some of the lessons I've learned in radar maintenance," Mariano said. "When I left the Philippines to come to the U.S. I never imagined though, that I would be returning as a U.S. Airman to work with some of my former countrymen."

This year's iteration marks seven years since the HIANG has conducted air defense SMEEs

not just some radar maintenance guy from the U.S."

"I've been doing this for a while now," Mariano said, "I enjoy coming back every year and seeing some of the same airmen I met in the beginning. We've become friends to each other."

Back in the dimly lit conference room in Clark, Mariano has a side-bar conversation with one of the PAF Airmen.

"I told him, that your job and how well you do your job has a direct effect on the air defense of your country," said Mariano. "I think he got it."

MULTI-NATIONAL EMERGENCY READINESS ACHIEVED



An Indonesian soldier assists a simulated wounded Hawaii Army National Guardsman as he repels from a second story building during a Combined - Multinational Task Force [CTF 501] search and extraction training scenario on July 18, 2019 at Kalaeloa Urban Search and Rescue Training area. Service members from the Philippines, Indonesia, Bangladesh, Vietnam, Oregon Air National Guard traveled to Hawaii as part of a State Partnership Program training event. Photo by Master Sgt. Mysti Bicoy



Hawaii Army National Guard Spc. Tyson Ortiz breaks through concrete and reinforced steel as part of the Combined - Multinational Task Force (CTF 501) search and extraction training scenario on July 18, 2019 at Kalaeloa Urban Search and Rescue Training area. Photo by Master Sgt. Mysti Bicoy

MULTILATERAL URBAN SEARCH & RESCUE

Story by Senior Airman John Linzmeier

Emergency response service members from four nations gathered on Oahu July 15-19 to participate in a Hawaii National Guard hosted exercise, focused on urban search and rescue.

Teams from Indonesia, Bangladesh, Vietnam, The Philippines, and the Oregon National Guard joined forces with the Hawaii's CBRNE Enhanced Response Force Package, a Joint Mission comprised of both Army and Air National Guard Soldiers and Airmen. All together, the cohesive unit formed a Combined Multinational Task Force, called CTF 501.

The training activities were held in effort to maintain urban search and rescue standards and revolved around a 24-hour Basic Rope Rescue course, resulting in certifications and an improvement in interoperability.

Civilian responders also played a major role in supporting CTF 501, and regularly participate in disaster response events with the guardsmen, who specialize in scenarios which entail chemical, biological, radiological, nuclear or explosive threats, along with an array of natural disasters which may occur in the region.

Hawaii Army National Guard Capt. Valentine Roberts, CBRNE Enhanced Response Force Package (CERFP) operations officer, said the four nations were able to overcome obstacles throughout the week, such as language barriers, and further their combined life-saving capabilities.

Much of the initial training was held in a conference-styled

setting, where experts could review and discuss emergency response procedures and development of best practices. It also served as a platform to introduce a Multinational Coordination Center, for responses involving humanitarian assistance and disaster relief.

The discussion-based training led up to a disaster scenario, held at Kalaeloa US&R site, which utilized the efforts of all military participants. Instructors focused on life-saving topics, such as pre-incident planning, program safety, rescue philosophy, safety standards and more.

At the training grounds, CTF 501 responders identified possible 'victim' locations and recovered casualties from a collapsed structure. Participants exercised rappel techniques to reach confined spaces and used an array of tools to break victims free of concrete confinements and metal obstacles. Simulated personnel with injuries were provided first aid and egressed through litters and a system of ropes.

Each rescue action was carefully evaluated and recorded by a team of instructors, who provided the international operators with feedback, highlighting their strengths and areas of improvement.

Roberts said Service members of all uniforms walked away from the CTF 501 training with more confidence in their rescue abilities and are better prepared to integrate together in the event of potential emergencies.



EMERGENCY MANAGEMENT EXCHANGE IN THE PHILLIPINES

by Senior Airman Robert Cabuco

Soldiers and Airmen from the Hawaii National Guard (HING) gathered with their counterparts from the Armed Forces of the Philippines (AFP) to conduct an Incident Awareness and Assessment (IAA) Subject Matter Expert Exchange conference on July 16, 2019.

The goal of the meeting was to develop strong personal and professional relationships with the AFP through the State Partnership Program on disaster response and emergency crisis management. The partners gathered to share their experiences and operational practices during the three-day event.

The State Partnership Program is a joint Department of Defense security cooperation program, managed and administered by the National Guard Bureau, executed and coordinated by the geographic Combatant Commands, with personnel provided by the National Guard of the respective partner States.

The Philippines was the first country brought into the SPP for U.S. Indo-Pacific Command in 2000 with Guam as an associate partner. Since then, the partners have participated in annual exchanges and joint exercises to increase each organizations over all readiness.

“The most important part of this exchange is to learn from each other,” said Master Sgt. Wayne Drowns, information analysis with the Hawaii Air National Guard. “The AFP gets to see how we do things in Hawaii and we get to learn from their experience as well.”

The officers provided a brief overview of how the Hawaii National Guard gather and disseminate information during a response. IAA operations are

designed to provide timely and usable information to all levels of command and civil leaders in the event of a disaster.

“We can adapt these techniques to develop standard operating procedures to use during Humanitarian and Disaster Response operations,” said Capt. Rene Datugan, an AFP Commander. “We need unity and clarity in the HADR mission sets in the roles and responsibilities area.”

“What we offer in this exchange is experience in both the wartime information operational picture



and disaster response information operations,” said Lt. Col Brandon Torres, an intelligence officer with the Hawaii Army National Guard Joint Forces Headquarters. “This dual experience allows us to translate the similarities and differences in each operational picture.”

FUEL CELL TECHNOLOGY DEMONSTRATED ON FLIGHTLINE



by Senior Airman Orlando Corpuz

The Hawaii Air National Guard [HIANG] demonstrated the use of alternative energy to tow a KC-135 Stratotanker here July 18.

A U-30 Aircraft Tow Tractor retrofitted with hydrogen fuel cells was used to tow the 186,000 pound aircraft on the flightline of Joint Base Pearl Harbor-Hickam and demonstrate the efficacy of the technology, showing one way the U.S. Air Force could incorporate the use of renewable energy in conducting operational missions while lessening its dependency on fossil fuels.

According to the Hawaii Center for Advanced Transportation Technologies[HCATT], the event marked the first time hydrogen fuel cell technology had been used to tow a large USAF aircraft. This was made possible through a collaborative effort of a consortium of public and private entities.

“We’re very pleased about this first demonstration. We’ve worked with U.S. Hybrid, TUG Technologies, and the Air Force Research Laboratory on this vehicle for three years and have garnered a lot of technical knowledge along the way,” said Dave Molinaro, HCATT project manager. “But to get it in the hands of an Air National Guard Airman doing an operational mission is really what is most rewarding.”

Working closely with the original manufacturer, U.S. Hybrid Corporation modified the diesel-based drive train with a 30kW fuel cell, two 5kg hydrogen storage tanks, a 28kWh Li-ion battery configuration, and a 240kW AC induction motor linked to the transmission.

Hydrogen for the U-30 is produced using HCATT’s electrolyzer at Joint Base Pearl Harbor-Hickam in a relatively simple process of splitting water with DC electricity into oxygen and hydrogen

gas. The fuel cell in the tug combines the hydrogen gas and ambient air to produce electricity with byproducts being water, heat and zero greenhouse gas emissions.

The demonstration involved towing the Stratotanker from its normal parking area to a wash rack, located one quarter-of-a-mile away, to conduct its periodic corrosion prevention maintenance.

Comments by HIANG tow team members centered around the tug’s relative quietness, smooth operation, and the lack of diesel fuel smell.

“I’ve never seen a tug move that smoothly and without the lurching common to other tow vehicles,” said Chief Master Sgt. Edward Tang, 154th Logistics Readiness Squadron vehicle maintenance superintendent who was among the dozens of HIANG Airmen on-hand conducting or observing the demo.

The tug demo was just one example of the HIANG’s efforts to incorporate renewable energies in its operations. In 2018 an HCATT hydrogen fuel cell generator provided the energy to power a multi-national training exercise while numerous facilities at the HIANG campus on JBPH-H receive their power from solar panel technology.

The tug will be put through its paces for another two to three years while HCATT continues to collect data in an operational environment.

“This is the technology that can help the Air Force be more resilient,” said Stan Osserman, HCATT director. “I have a feeling that this will perform as well as our other prototypes, and the Air Force will want this kind of reliable, quiet, pollution free gear in its support equipment arsenal.”

Taking care of Families



Members of the 154th Wing Chaplain team hosted a Strong Bonds weekend workshop during the last weekend of August. The National Guard funded event is held on a routine basis and provides lodging, meals, classes and empowering activities to HIANG family members. Photos by Tech. Sgt. Alison Bruce-Maldonado



The Royal Guard of the Hawaii National Guard took part in the 73rd Aloha Week Festivals Parade Sept. 28, at Ala Moana Beach Park to Kapiolani Park. This team of guardsmen form a ceremonial unit which re-enacts the royal bodyguards of the Kingdom of Hawaii, dating back to the 19th Century. The current team was established in 1962 and serves the Governor, for official State functions and other public events, such as Memorial Day and Veterans Day Ceremonies. Courtesy photo.