

Current Readiness & Enterprise AIRSpeed Newsletter



Celebrating 100 Years



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The first joint TMS forms within the NAE

By Lt. Col. Michael Legens,
MAG-41 F-5 TMS Representative,
and Tactical Support Wing

This past year has been an exciting time within the Department of the Navy (DoN) Adversary Program as United States Navy and United States Marine Corps F-5 teams consolidated efforts and service issues under a single joint type/model/series (TMS) architecture. A true joint briefing cycle has been successfully implemented and executed. After an in-depth examination of the Naval Aviation Enterprise (NAE) process,

After an aerial performance in Eastern Europe, a KC-130T Hercules aircraft, flown by the Air Combat Element of Black Sea Rotational Force (BSRF) 11, lands behind the line of F-16 fighter jets that belong to the U.S. Air Force Demonstration Squadron, the "Thunderbirds" June 8. BSRF-11 is a rotational deployment of Marines operating in the Black Sea, Balkan and Caucasus regions building military capacity, providing regional stability, and developing lasting partnerships with nations in the region.

Read [Reserve reporting to better reflect its characteristics](#) on [Page 2](#) to read how the KC-130T, a reserve type/model/series, is improving the fidelity of its readiness reporting. Photo by Cpl. Tatum Vayavananda/Marines.mil.



this innovative approach has streamlined briefing requirements, resulted in creative solutions and facilitated a refined methodology within the TMS without sacrificing service-specific concerns. The results-to-date are as-

tonishing and have undoubtedly led to significant improvements within the F-5 TMS and the DoN Adversary Program.

Previously, the 44 aircraft and

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Reserve reporting to better reflect its characteristics

By the KC-130T TMS Team

The past two years within the KC-130T type/model/series (TMS) has been an interesting and enlightening time. Since, across all other TMS teams, the Reserve unit data is intertwined within the active duty TMS charts, there is little opportunity to identify Reserve specific barriers and thus affect change within those teams. The KC-130T is the sole Marine Corps "Reserve-only" TMS under the Naval Aviation Enterprise (NAE) construct which reports all of the top five readiness metrics. The TMS provides a unique prospective into what it takes to keep Marine Reserve aviation at the ready.

Initial TMS analysis indicated that certain aspects of Reserve manning combined with our legacy platforms made for a different squadron model from our active duty counterparts; i.e., reduced time available to train/maintain, as well as reducing the above average aggregate experience of aircrew and maintainers. Originally dubbed the "Reserve Dynamic," the TMS attempted to quantify and define those unique issues specific to operating within 4th Marine Aircraft Wing and Marine Forces Reserve. While only focusing on a single TMS, the issues defined were actually found to be a reflection of those experienced by other Reserve units spanning all TMS platforms.

Aircrew manning shortfalls, which were recognized and highlighted as the limiting factors for Aircrew Core Competency (ACC) readiness, are quite common at most reserve squadrons. The Reserve specific accession programs for aircrew combined with the strug-



After a transport mission, Cpl. Jeremy J. Davies and Sgt. Matthew J. McKinney, power line mechanics, assigned to Black Sea Rotational Force (BSRF) 11, check the engine of a KC-130T Hercules as part of after-mission standard operating procedures in this photo dated May 2011. Marine Aerial Refueler Transport Squadron (VMGR) 686, the Air Combat Element for BSRF-11, is a combination of reservists from VMGR-452, Newburgh, N.Y., and VMGR-234, Fort Worth, Texas. The unit played a vital role in cargo and personnel transport to the 12 Eastern European nations participating in the deployment. Photo by Cpl. Tatum Vayavananda/Marines.mil.

gles associated with being a legacy platform wedded to dissimilar active KC-130J squadrons, creates an intricate and, at times, unpredictable recruiting program. Maintainer manning and training have similar complex issues associated with compliance with Reserve Affairs policy, and the multifaceted nature of the maintenance workforce, comprised of roughly 60 percent active and 40 percent reserve Marines. It was noted that the reserves were expected to produce the same dual shift readiness metric as an active duty unit with, at best, two-thirds the everyday maintainer workforce.

Time to train and maintain became

a primary focus of interest, as the TMS team investigated causal factors for ready for tasking (RFT) gaps and developed mitigation strategies. During a thorough examination into gap analysis, the team discovered it would take a newly accessed reservist's entire first enlistment to attain initial qualifications for some maintenance occupational specialties, based solely on availability during scheduled drills and annual training.

As a result of the in-depth examination, spurred by the NAE process, the KC-130T TMS developed a new Maintenance Core

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Bringing Enterprise culture to big deck aviation ships

By Jacquelyn Millham, NAE Current Readiness CFT/Enterprise AIRSpeed Public Affairs

The "Boots-on-Deck" (BoD) site visit aboard *USS Bataan* (LHD 5) in 2008 proved to be a seminal event in Naval Aviation Enterprise (NAE) history.

Up until that point, much of the work on increasing readiness afloat had been conducted in aircraft intermediate maintenance and a few other departments on aircraft carriers.

After that site visit, the NAE engaged the Surface Warfare Enterprise (SWE) to partner with it in its readiness efforts. That momentum recently culminated in the development of a memorandum of agreement to formalize and expand that partnership to eventually include big deck aviation platforms in aviation readiness activities.



Aviation boatswain's mates watch from Vulture's Row as an AV-8B Harrier assigned to Marine Attack Squadron 214 lands on the flight deck of the amphibious assault ship *USS Essex* (LHD 2) in this photo dated Sept. 25. (Photo by Mass Communication Specialist 2nd Class Eva-Marie Ramsaran/ Navy.mil)

deployment of the V-22 aboard a ship, but they also heard first-hand seams issues that stemmed from L-class ships being Naval Sea System Command (NAVSEA) assets.

While NAVSEA is a member of the Naval Aviation Enterprise (NAE) Extended Air Board, at that time NAE leadership recognized addressing barriers to readiness aboard amphibious ships required a higher level of coordination.

Less than a month later, NAE and SWE leadership held an initial meeting in mid-December to research and explore solutions to improve readiness aboard L-class ships. A barrier removal team (BRT), led by Commander Naval Surface Forces Pacific (CNSF) N42, was created to identify and mitigate *Bataan's* readiness barriers.

BoD at work

True to its purpose, the *Bataan* BoD brought to the surface the seams issues Naval Aviation encountered aboard aviation-capable ships. Not only did attendees hear about the efforts of maintainers preparing for the first ever

The site visit was a catalyst to action. As a result of senior leadership hearing and seeing first-hand the challenges deckplate Sailors and boots-on-the-ground Marines face when deployed on amphibious ships, the NAE acceler-

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E2E: Refining a process to meet the V-22's future demand

By Jacquelyn Millham, NAE Current Readiness CFT/Enterprise AIRSpeed Public Affairs

A third type/model/series entered onto the stage this summer to play its role in the most comprehensive transformation of Marine Corps aviation logistics in a quarter century.

Marine Medium Tiltrotor Training Squadron (VMMT) 204 is prototyping Current Readiness/ End-to-End

Design (E2E) in the Osprey community.

"Applying continuous process improvement (CPI) methodologies and principles to identify inputs that enable a squadron to achieve its qualifications for a training or tactical requirement is the first step toward aligning Marine aviation logistics and enabling [Marine Aviation Logistics

Program II]," said Capt. Angel Toledo, VMMT-204 E2E Team lead.

"The VMM community presents a unique opportunity to implement an E2E design on a transitioning platform," said Chief Warrant Officer Rob Willis, Supply Chain Team lead for MALSP II. "As lessons are learned at full operating capacity squadrons,

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NAE leadership first hears, then sees COMACCLW challenges

By Jacquelyn Millham, NAE Current Readiness CFT/Enterprise AIRSpeed Public Affairs

Sustaining aging aircraft, repair capabilities, support equipment, and increasing the involvement of other resource providers in the Naval Aviation Enterprise (NAE) were among the main topics of discussion at the “Boots-on-the-Ground” (BoG) hosted by Commander Airborne Command Control and Logistics Wing (COMACCLW) at Naval Base Ventura County Point Mugu Aug. 18.

“The issues you will see on the site visit are the same issues we raised at the Air Board,” said Navy Capt. Matthew Danehy COMACCLW commodore, referring to his type/model/series (TMS) brief via video teleconference to the NAE on Aug. 2. “I believe they are not unique to the wing, but also common to the broader NAE.”

Danehy said that anticipating problems will improve readiness but current processes do not lend themselves to this need. “How can we make our analysis more predictive? How can I get ahead of what will cause RFT gaps in the future? What are its triggers?”

As one example, he said, COMACCLW, successfully identified the shortage of engine mounts as a readiness degrader and addressed it before it became a problem. “The shortage had little or no impact to the fleet because we mitigated its impact. Had it not been resolved early on, [the wing] would have been ground to a stop,” he said.

Scheduling and course length of maintenance training is another issue that affects readiness in the squadrons, said Danehy. Squadron maintainers receive their training on the job and from the Naval Air Technical Data

and Engineering Services Command (NATEC). “We are training on the weekends and taking NATEC on cruise as well,” said Danehy.

But E5s must attend their career training for three months on the East Coast at the Center for Naval Aviation Technical Training (CNATTU) Norfolk. Scheduling the course depends on demand from the fleet.

Aviation Program Related Logistics, which provides funding for mitigating aging aircraft repair and increasing Aviation Depot Level Repairable costs, is a concern, not only in

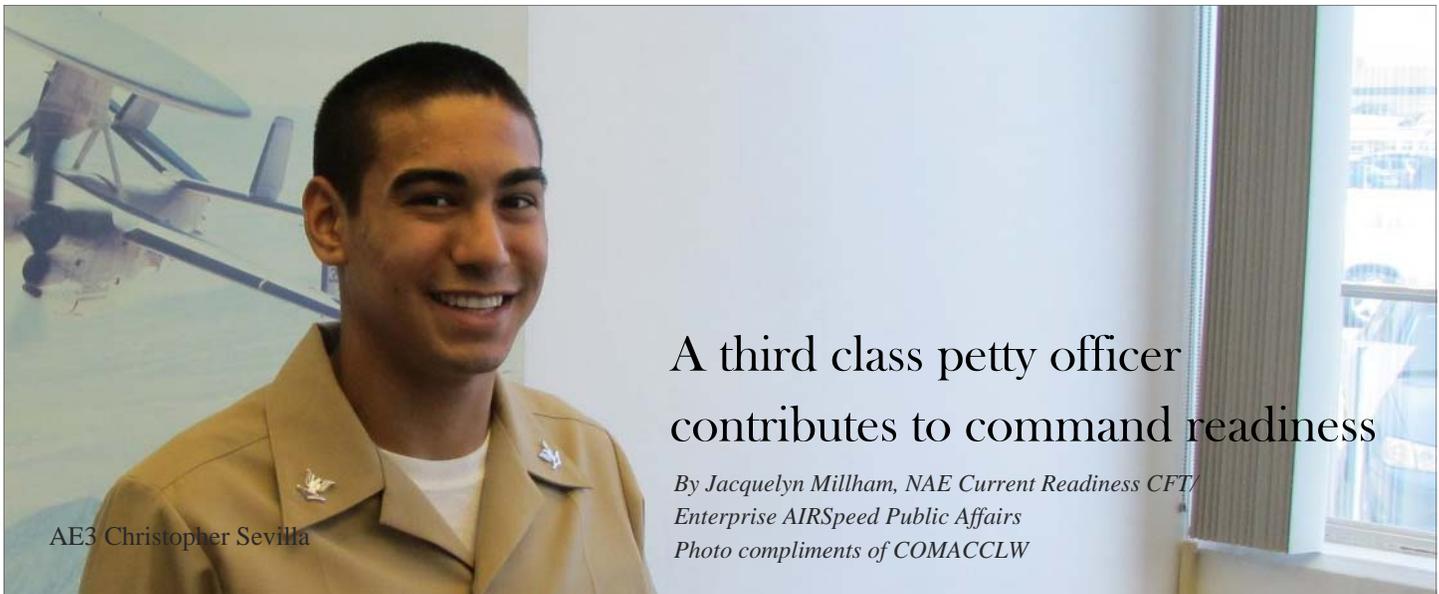
his command, he said, but the fleet as well. “1961 was the E-2’s first flight. We are living with design decisions made 50 years ago. This platform has several more years in service,” he said.

Availability and positioning of support equipment, such as huffers (auxiliary power units), power carts and NC-10 also were discussed. “These are issues that have growth across other TMSs and that you will see during your visit,” said Danehy.

One of successes highlighted by
(BoG continued on Page 9)



Aviation Machinist's Mate Chief Petty Officer Kok Hooi, Fleet Readiness Center Southwest (FRCSW) Site Point Mugu Production Control chief (far right), explains the difficulties maintainers face when fixing an aft intake to Naval Aviation Enterprise leadership. (From left to right) Navy Capt. John Smajdek, FRCSW commanding officer; Cmdr. Keith Nixon, Naval Air Systems Command, E-2/C-2 Program Office, assistant program manager for logistics; Rear Adm. (sel.) C.J. Jaynes, Naval Air Systems Command assistant commander for logistics; Cmdr. Roger Brouillet, Center for Naval Aviation Technical Training (CNATT) Unit Norfolk commanding officer; and Navy Capt. Terry Burt, CNATT commanding officer.)



A third class petty officer contributes to command readiness

*By Jacquelyn Millham, NAE Current Readiness CFT/
Enterprise AIRSpeed Public Affairs
Photo compliments of COMACCLW*

One of the principles of continuous process improvement (CPI) is that all stakeholders' voices, regardless of rank, must be heard when analyzing processes and planning changes within an organization. Junior personnel, according to its reasoning, bring valuable input that comes from executing the process at the deckplate level. Aviation Support Equipment Third Class and Yellow Belt Christopher Sevilla's work speaks to the power of this approach.

Sevilla, who has only been in the Navy for two years, is credited with leading a team that reduced waste and improved Fleet Readiness Center (FRC) Site Point Mugu's hazardous materials (HAZMAT) process time by almost 40 percent. He was recognized with the Naval Aviation Enterprise Site Visit Excellence Award presented during "Boots-on-the-Ground" at Naval Base Ventura County Point Mugu in August.

"We only had one key for all of 900 Division (Support Equipment Division) that only one person could check out at a time. A lot of times, one person had the key and wouldn't turn it in requiring us to look for the person. That was time we could have spent doing maintenance," he said.

Another problem that reduced the time spent on maintenance was how materials were stored in (HAZMAT). Grease carts and other gear were returned and placed in the room haphazardly, making it difficult to move in the area, he said.

The solution, developed by Sevilla and five other senior petty officers, was to make duplicate copies of the key for every work center in the FRC. Log books in the work centers are now used to track who uses the key. In addition, they measured the floor in HAZMAT and used AutoCAD to design the layout of the room. "We randomly cut pieces to scale and moved them around like a puzzle to determine which floor layout would be best," he said.

"We taped out locations and labeled them. Everything was measured so that the room wasn't congested.

When we were finished, each item had its designated spot and the walkways were easily passable," said Sevilla. Not only did maintainers spend less time in HAZMAT, but the distance they had to travel was reduced by 70 percent.

The two-week rapid improvement event had another benefit: spills were easier to see, identify and clean up.

Sevilla said he was convinced of the value of CPI after witnessing an event in the Support Equipment / Hydraulic Branch. "The first project I saw completed was in Work Center 920. Before the event, equipment would be put back haphazardly which made it difficult to bring equipment in and lay it out. They came in and moved tool boxes, lockers and established designated working lanes. It was faster to get maintenance actions completed," he said.

"AS1 Scott Hatzung, who was the work center supervisor at the time, asked me my opinion. I told him that it was nice to see how something so easy with time put into it, can help the junior Sailors," said Sevilla.

He is also working toward earning his green belt and is currently looking at setting up a buffer for the parts locker in the Support Equipment Division. He also would like to establish a "pull" system, so that the demand for a part is triggered when it is consumed, not when it is ordered. "When we are performing preventative and unscheduled maintenance, the same part is ordered repeatedly and takes long time to come in," he said. "With the pull system we won't have excessive wait times."

(Junior continued on Page 12)



Fighter Composite Squadron 111, the Sundowners, based at Naval Air Station Key West, Fla. and Fighter Composite Squadron 13, the Saints, based at Naval Air Station Fallon, Nev. F-5N's fly in formation. Photo from Naval Air Systems Command.

the F-5 TMS position within the Naval Aviation Requirements Group (NARG) forum through the two service's cooperation and consensus. The Joint TMS's understanding and respect for each other's community/service perspectives and operational needs has facilitated a single voice during program briefings and other venues, from requirements generation to the conveyance of TMS issues throughout the Enterprise. The potential for enduring positive impact is significant for both services. The F-5 adversary TMS supports force aviation training for the entire DoN and in several diverse capacities. Ranging from FRS and unit level training, to pre-deployment evolutions and Weapons School support, the impact of F-5 adversary support is undoubtedly, one of the most important contributors to a Naval Aviation squadron's readiness for current and future

(F-5 continued from Page 1)

three DoN F-5 squadrons were broken into two teams, one Navy and one Marine, each working separate briefing chains and service-centric issues. The F-5 is an Adversary Program cornerstone and the true operational support work horse for USN Fleet Replacement Squadrons (FRS) and Marine Corps aviation combat training and readiness.

Given the changing fiscal environment with many external pressures and time constraints, it became obvious that for longevity, the relatively obscure F-5 TMS required evolution. The two F-5 TMS leads, Tactical Support Wing (TSW) and Marine Aircraft Group 41 (MAG-41), tabled previous TMS differences and aligned efforts in the hopes of securing program synergy and a joint concept for the way ahead. Although fiscal constraints contributed to the reorganization, the requirement to continue effective legacy aviation training support, as well as support future tactical aircraft such as the F-35 *Lightning II*, drove the realignment.

In addition to improvements to the TMS's internal communication and alignment of mutual goals, the new structure has seen a few other transformations. First, the consolidation of the two services operational concerns directly contributed to achievement of program goals and more efficient and effective results from supporting agencies, such as Naval Air Systems Command.

Secondly, the alignment of efforts enabled ground breaking improvements in F-5 flight line availability through depot schedule revisions and the introduction of a DoN F-5 loaner program between the three F-5 squadrons.

Finally, the joint approach has significantly enhanced

conflict.

Recent initiatives to sustain DoN adversary assets have also contributed, in part, to the F-5 TMS's cooperation and common voice addressing service impacts and needs across the multiple adversary TMSs. It has been universally recognized within the F-5 TMS and the Adversary community even more so that ongoing operational training requirements necessitate the full complement of current DoN adversary platforms. Any uncoordinated changes to allocations and capability would ripple through aviation training during a time when transition to the F-35 is becoming a priority and funding for follow-on adversary aircraft is uncertain.

Despite major fiscal challenges across all DoN programs, the F-5 TMS was able to secure much needed sustainment support, as well as initiate cost effective safety upgrades to ensure the platform remains a safe and highly-reliable adversary platform. Additionally, recent efforts to explore emergent operational-tactical upgrades have made notable headway and, if funded, show promise to expand operational support capability and significantly improve future fleet training as the F-5 will be better suited to replicate current threat aircraft and employ threat representative electronic signatures for enhanced training of fleet squadrons.

The F-5 TMS has been and continues to be the beta test bed for a joint approach within the NAE. The TSW and MAG-41 will continue to answer the call, leading the way towards a new and exciting time within the Navy, the Marine Corps and the Enterprise as a whole. ■



Aviation Ordnanceman 3rd Class Larry Idefonso, right, and Aviation Ordnanceman 2nd Class Peter Phipps move a pallet of ordnance in the hangar bay of the forward-deployed amphibious assault ship *USS Essex* (LHD 2). *Essex* is part of the Essex Amphibious Ready Group and is conducting operations in the western Pacific Ocean. (Photo by Mass Communication Specialist 2nd Class Eva-Marie Ramsaran/Navy.mil)

and supporting the installation of a global positioning system that allows commanders to determine the location of forces.

The IRMT is also working very closely with Naval Air System Command's Air/Ship Integration (A/SI) Team to ensure all efforts concerning future aviation ship platforms are aligned. The A/SI Team manages aviation-related command, control, communications, computers, collaboration, and intelligence and modernization aboard all ship classes; provides Shipboard Weapons Integration Team services; and supports Program Executive Office Joint Strike Fighter, future and current aircraft carriers, littoral combat ships, joint high speed vessels and Zumwalt-class destroyer program managers.

Naval Aviation's touch points

Up until now, there were two components of aviation readiness that the NAE did not engage; cruiser-destroyers and littoral combat ships. Recognizing a need to affect aviation readiness aboard big deck aviation ships, Naval Aviation and the Surface Warfare enterprises signed a memo-

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ated its efforts to touch other areas that contributed to the readiness of Naval Aviation.

To date, the team has addressed several issues including manning to support the Osprey and introducing continuous process improvement aboard L-Class ships.

In 2010, the BRT was renamed the Amphibious Aviation Readiness Team (AART) to more accurately reflect its purpose. Recently, the AART also established a charter to expand its focus to include other L-class ships.

Current action items the team is looking at include power and air launch and recovery equipment aboard L-classes; analyzing and addressing equipment reliability issues; developing people, equipment, sustainment, training and ordnance entitlements and metrics; implementing continuous process improvement aboard all ships; addressing Aviation Consolidated Allowance List issues,

re-writing the Commander-in-Chief, U.S. Pacific Fleet Instruction Joint Fleet Maintenance Manual as a combined CNSP/CNSL, CNAF, Combined Maritime Forces Pacific, Combined Maritime Force Command instruction; determining the appropriate level of manning for other aviation platforms;

A working partnership

AART membership now includes O-6s from Commander, Naval Surface Forces, U.S. Pacific Fleet (CNSP); Commander, Naval Surface Force Atlantic (CNSL); Commander, Naval Air Forces (CNAF); Commander, Naval Air Force Atlantic; Naval Air Systems Command (NAVAIR); NAE's Integrated Resource Management Team (IRMT); U.S. Marine Forces Command Aviation Logistics Department (MARFORCOM ALD); U.S. Marine Corps (USMC) Forces Pacific Aviation Logistics Department; Headquarters, Marine Corps Aviation, Aviation Logistics Support Branch (HQMC ASL); Mine, Amphibious, Auxiliary and Command Ships Program Office; Commander, Fleet Air Forward; Littoral Combat Ship Class Squadron (LCSSRON); and 1st, 2nd, and 3rd Marine Aircraft wings. Its charter was signed by all parties in early July.

(ISWART continued from Page 7)

randum of agreement in early August standing up the Integrated Surface Warfare & Aviation Readiness Team (ISWART).

ISWART will identify aviation readiness issues on surface ships not already being addressed by other entities. Currently, the NAE and SWE are in the process of developing people, equipment, supply, training and ordnance readiness briefs for the platforms. The team will be co-led by IRMT and CNSP N40. Membership includes CNSP/CNSL N42; CNAF N42; CNSL N01R; and MARFOR-COM. Representatives from NAVSEA 21 (the dedicated life cycle management organization for the Navy's in-service surface ships); USMC Deputy Commandant for Combat Development and Integration; HQMC ASL and Aviation Plans, Programs, Doctrine, Joint Matters and Budget Branch; CNAF Force Supply Officer; Naval Supply Systems Command Weapons System Support; LCSRON ONE; CNSP/L N46; CNSP/CNSL N47; and NAE Current Readiness Cross-



Engineman 1st Class Kevin Jones (left) explains the capabilities of the command and control center to Ensign Patrick Love aboard the amphibious transport dock ship *USS New Orleans* (LPD 18). Photo by Mass Communication Specialist 3rd Class Dominique Pineiro/Navy.mil)

functional Team will attend as necessary.

This alignment with the SWE is one of many steps toward Naval Aviation, and even the entire Navy, achieving its readiness requirements in a cost-wise manner, said Navy

Capt. Pete Hunt, IRMT's Director, "The work of ISWART and other initiatives will provide the cornerstone for collaboration and joint action not just in naval aviation," he said, "but Big Navy as well." ■



Marines assigned to the 11th Marine Expeditionary Unit (11th MEU) participate in a live-fire exercise aboard the amphibious assault ship *USS Makin Island* (LHD 8) in this photo dated Sept. 10. The Makin Island Amphibious Ready Group was conducting a composite training unit exercise (COMPTUEX) off the coast of Southern California. COMPTUEX is a training exercise designed to test capabilities and ensure overall readiness before deployment. (Photo by Mass Communication Specialist 2nd Class Jason Behnke/Navy.mil)

(BoG continued from Page 4)

Fleet Readiness Center Site Point Mugu during the BoG was its cost avoidance savings realized by onsite contractors in the Avionics Division. In place from 1994, the Forward Site Depot repairs communication/navigation radars, indicators, actuators and micro miniature components. From Fiscal Year 2008 to 2011, its \$1.24 million investment realized a \$4.9 million cost avoidance in beyond capability of maintenance interventions. In one notable example, more than \$300,000 was cost avoided because contractors were able to reach back to their companies to repair a weapon repairable assembly coax, eliminating the need to send it back to its original equipment manufacturer.

FRCSW Site Point Mugu also used continuous process improvement (CPI) to find out why pulse generators had excessive times to reliably replenish (TRR). Consolidated automatic support system (CASS)

benches were determined to be a major constraint to throughput. The site has requested that a third bench or of one of its hybrid CASS benches be converted to a Radio Frequency bench. Once it is in place and additional E-2 mission systems shop replaceable assemblies (SRA) have been procured, the FRC expects the pulse generator's TRR to be reduced from 88 days to seven days, and its expeditious repair (EXREP) rate to drop from 20 to zero.

Another success was in FRCSW Detachment Point Mugu's T-56 Engine Shop. Its workforce had been reduced, resulting in a decrease in the component's ready for issue (RFI) buffer and an increase in its TRR in fiscal year 2010. By implementing the first-in, first-out principle for engines; establishing a parts kit in the work center; designating an engine staging area and a standard work chart; using 5S to organize Individual

Material Readiness List components; removing supply cage and excessive materials; and reducing the number of maintainers on temporary additional duty when the engine buffer is low, the T-56's TRR was reduced by 50 percent and its buffers have increased from zero to seven.

FRCSW Detachment Point Mugu also used CPI to tackle the number one degrader in Structures Shop – the side beam assembly. An analysis showed that it had a high EXREP rate of 75 percent and high TRR of 31 days due to the priority of other components for maintenance. With a new process flow to work all Structure Shop components, the total touch time for the side beam assembly is expected to be reduced by 48 percent, total back-log and off-shift time by 50 percent and TRR by 50 percent.

The Structures Shop also benefited from the relocation of a depot level artisan into its work center. To date, the artisan has repaired more than 45 engine components and cowlings and has trained 38 technicians in the last year.

Other successes included:

- Reducing the distance maintainers traveled to and time spent in Hazardous Materials (See accompanying article on Page 5: [A third class petty officer contributes to command readiness](#));
- Increasing visibility into Support Equipment's flight line readiness through the creation of the Support Equipment Readiness Report. The report, which generates data based on the "pull" from the flight line, also enables maintainers in Support Equipment to better prioritize work.
- Reducing the non-RFI gear rate through the use of the Ground

(BoG continued on Page 12)



AFWC Ricardo Juarez, flight engineer for VX-30 (left), discusses the capabilities of the Scan Eagle (foreground) with Mike Warriner, deputy director for the Naval Aviation Enterprise. The Scan Eagle is an unmanned aircraft system that provides real-time direct situational awareness and force protection information for expeditionary teams.



V-22 Avionics Technicians Cpl. Taylor Deal (left) and Lance Cpl. Kristina Morton remove an Osprey’s panel to monitor its oil levels. The Osprey’s avionics system is one of the most sophisticated in the fleet.

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those lessons can then be carried into transition and initial operational capacity squadrons across the community. In doing so, the learning curve is significantly flattened.”

While the first two communities to formally undergo E2E were the KC-130 and AV-8B, VMMA-204 had a head start on its CPI efforts. It was the initial prototype for a Marine Corps organizational-level (O-level) design in 2007. At that time, however, there was not a specific link to the E2E construct. But many of the fundamental enablers discovered during that initial prototype were used in the development of the current E2E construct.

In addition, the VMM community was the first type/model/ series (TMS) to undergo a formal leader-

ship alignment process (referred to as a Leadership Strategy Process). “The process involved high-level leadership from not only the MV-22 community, but supporting agencies such as the Defense Logistics Agency, Navy Supply Systems Command Weapons Systems Support and the Training and Education Command,” said Willis. “This alignment of all ‘system’ stakeholders ensured that each agency understood the key deliverables that must be implemented in order to reach the community’s desired end state.”

In 2010, Lt. Gen. George Trautman (then Deputy Commandant for Marine Aviation) indicated that he wanted to implement an E2E Design in the MV-22 community. “Marine Air Group 26 Commanding Officer Col.

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Christopher Seymour was very supportive and offered VMMT-204 due to the recent change of command and changes in key leadership positions," he said.

Not just aircraft

Many of the issues VMMT-204 faces are common to all TMS. Aircraft availability is a constraint on all squadrons and is the focal point around which all other decisions are subordinated.

The qualifications of its workforce is another constraint. VMMT-204 Commanding Officer Lt. Col. Stephen Augustin said he wants to reduce VMMT-204's flight operation schedule from three 10- to 12-hour shifts, to two eight- to nine-hour shifts. The squadron has a limited number of qualified supervisors, collateral duty quality assurance representatives, collateral duty inspectors and other specialized personnel. "I have qualified people working all shifts, but they have varying levels of qualifications," he said.

But VMMT-204 is also different than fleet squadrons. "The [Fleet Replacement Squadron] is more like a factory than a squadron in the fleet," said VMMT-204 Aircraft Maintenance Officer Maj. Christopher Browning. "We push them out to the fleet. We constantly operate at [maximum] capacity. No matter what, in the end, we still have to produce a specified number of students. In maintenance, it is constantly flying, fixing and flying aircraft."

Added to that is the requirement that squadron leadership attend alignment conferences with other Navy training commands, agencies, and the Air Force to con-



VMMT-204 Commanding Officer Lt. Col. Stephen Augustin (left) and End-to-End Lead Capt. Angel Toledo shake hands after discussing the following weeks' events of the command's E2E implementation.

duct long-term planning.

Increased demand

VMMT-204 is planning for the future as the number of qualified aircrew and pilots it must produce will increase. "We are on track to fly more flight hours than we ever have before," said VMMT-204 Operations Officer Maj. Lawrence Nichols. "Last year we flew 3,200 flight hours; this year we are on track to fly 3,700. In the future, we need to produce 4,400 hours."

For more than a year, the squadron has been looking at how to meet the demand for the increase in hours with current assets. "My predecessors started to improve the process and they did the hard work. We've taken a look at how many aircraft we are getting and how many flight hours we are able to produce each day. We are asking ourselves what should be the appropriate number of personnel in the squadron. We are in the process of

understanding what the right size for the unit should be to produce a specified number of flight hours and manning for the right number of flight," he said.

With this in mind, Augustin, who assumed command in July, tasked the VMMT-204 representatives and the E2E Team with validating a change in the sortie schedule and reduce the number of flight operations hours from three 10- to 12-hour shifts, to two eight- to nine-hour shifts.

"What E2E is doing for us is validating our process and refining it so that it is razor sharp," said Nichols.

"We have a two-three-three (a daily sortie schedule comprised of three shifts of launch and recovery of



Cpl. Alan Kemen, a flight line mechanic, moves a color-coded grip on a V-22.

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(Junior continued from Page 5)

In February, Sevilla plans to re-classify as a hospital corpsman. While the field is more in line with his college courses in biology he took before he joined the Navy, he said he would take his CPI skills with him wherever he goes. "CPI not only showed me that it is a tool that can be used to eliminate what is slowing you down, but it also opened my mind up to how to approach different situations and how to come to a solution to a problem," he said. (Note: CPI initiatives are currently underway within the Bureau of Medicine and Surgery.)

"Because of the skills I learned at the FRC," said Sevilla. "I spend more time thinking of solutions and looking at them from different aspects instead of just one way." ■

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Support Equipment Troubleshooter – a cart equipped with gear that enables maintainers to bring FRC maintenance capability out to the flight line, reducing the need for organizational-level maintainers to induct components into the FRC.

- Applying CPI in the Avionics, Support Equipment and throughout the Airframes divisions.
- Achieving a 33 percent advancement rate, (which is seven percent higher than the Navy-wide average) and a 62 percent retention rate in the command.

Vice Adm. Al Myers, Commander, Naval Air Forces, and Vice Adm. David Architzel, Commander Naval Air Systems Command (NAVAIR), led the site visit. Rear Adm. Bill Sizemore, Chief of Naval Air Training; Brig. Gen. Gregg Sturdevant, Assistant Wing Commander for Third Marine Aircraft Wing; Rear Adm. Mat Winter, Commander, Naval Air Warfare Center, Weapons Division

(Reserves continued from Page 2)

Competency (MCC) Single Shift Reserve Metric. It is predicated upon incorporating a single-shift maintenance metric applicable only to a non-activated Reserve unit and a corresponding time threshold for attaining dual shift after activation. Under this construct, the reserves report a more accurate picture of their capability to perform in garrison under their non-activated manpower limitations, as well as their capability to deploy rapidly with a dual shift capability that is enabled by the depth of experience available in the reserves. After working through perception issues to ensure there was not a dual standard developing, the concept quickly gained approval of 4th Marine Aircraft Wing (MAW), Marine Forces Reserve, and Headquarters, Marine Corps, Aviation Logistics Branch.

Recognizing that there is still much work to be done for the TMS and reserve readiness reporting, similar discussions and assess-

ments regarding ACC and ready basic aircraft/RFT requirements due to the reserve dynamic, have been undertaken by the TMS team. However, courses of action for proposed modifications are still under consideration. The KC-130T TMS has shared its lessons learned with all other reserve units, and empowered the KC-130T Current Readiness analyst to work closely with other TMSs and Marine Aviation Commanders Current Readiness Tool (MACCRAT) programmers to develop and test the MACCRAT component break-out program prior to roll-out for other Reserve platforms. The KC-130T TMS has been, and continues to be the test bed for Reserve unit metric issues, while also being the lead TMS to implement the end-to-end concept within the Reserves. The KC-130T TMS and Marine Air Group 41 will continue to answer the call, leading the way for 4th MAW's NAE integration. ■

NAVAIR Assistant Commander for Test and Evaluation; Rear Adm. (select) C.J. Jaynes, Assistant Commander for Logistics, Naval Air Systems Command; Rear Adm. (select) John King, Commander, Naval Supply Systems Command Weapon Systems Support; representatives from CNATT; Defense Logistics Agency; Headquarters Marine Corps, Aviation Logistics Support Branch; Commander, Naval Air Force Reserve; Office of the Deputy Under Secretary of the Navy/Deputy Chief Management Office; and contractor support also were in attendance.

Naval Aviation Enterprise, COMACCLW and FRCSW Site Point Mugu leadership also discussed parts availability, relocating the T-56 engine

test cell, procuring a third CASS communications/navigation/identification friend or foe systems bench, continued funding for contractors, replication opportunities, expanding the use of CPI aboard amphibious ships, reverse engineering of obsolete components, the integration of unmanned aerial systems into Navy squadrons, how phase maintenance intervals affects the workforce, Flight Line Electrical Distribution System power disruptions, troubleshooting and testing weapon repairable assemblies and their SRAs, and challenges associated with the Joint Tactical Information Distribution System. BoG attendees took these and other issues back to their commands for further review and possible resolution. ■

(Future continued from Page 11)

aircraft -- two in the first wave, then three in the second and third waves). I want to go to a four-turn-four (launch and recover two waves of four aircraft) to shrink the fly window. This will give the maintainers time to recover and prepare aircraft before and after launch and increase the number aircraft available for training," said Augustin.

"The team looked at qualifications and manpower," said Browning. "We asked ourselves what number of qualified individuals we have to choose from. With the [four-turn-four schedule] we know we have more individuals to choose from and can be more flexible in scheduling shifts."

Augustin also sees E2E as an opportunity to improve communications in the squadron and help leadership manage non-production issues. "From an administrative point of view, we can be pretty thin in the day-to-day operations when we are supporting flight schedule. Establishing the two-shift maintenance schedule with a shorter fly window will give the Marines who are here training more spare capacity to handle administrative day-to-day issues."

Analysis of the squadron's processes revealed variation caused by a requirement not in the purview of the command – dental work. Data showed enlisted aircrew training was often delayed due to the extraction of wisdom teeth. The procedure and recovery period required students to take sick leave. To protect against that variation, the squadron and clinic entered into an agreement which stated the procedure would only be performed during a certain time in a Marine's training schedule.

Other possible variations the team and squadron leadership will protect against if the new schedule is adopted is the increased demand for the limited number of support equipment, individual material readiness list assets and tools, and the possibility that the working hours of the night crew could be extended, impacting

morale.

The two-shift model also has its benefits, said Toledo. "Marines would no longer be driven by the clock, but by goals. They know that once the work is completed, they are done. With this model, leadership now has the incentive of time.

"Marines with much needed levels of certifications and qualifications will also be more readily available," he added.

Both Browning and Nichols credit E2E with helping them understand the squadron's throughput. "We all have certain obstacles," said Nichols. "I was aware of mine. And maintenance was aware of theirs. The E2E team helped us improve our visualization and awareness of our obstacles in terms of the system. E2E

put all of them on one sheet of paper for the entire squadron. The synchronization of the two brought us together and identify them together so that we can find more efficiencies and how to overcome them."

"E2E opened my mind a little bit more," said Browning. "We got around the table and came up with ideas. When I didn't think something was that big of a problem, we'd 'peel back the onion' and then I'd realize that it may really be a choke point.

"We'd also talk about how a maintenance process affects operations. We now are more aware of how what we do affects processes down the chain and makes us think in terms of effects," he said.

"What I like about E2E is that it allows me to create and pass on a codified process. It doesn't let personalities decide whether or not to do this or require the next Marine in my position to rely on intuitive management," said Nichols. "I can teach the next Marine who takes my place with the materials that come out of this initiative. Codifying the process makes it repeatable, executable and effective."

VMMT-204 is scheduled to complete E2E in early 2012. ■



End-to-End Lead Capt. Angel Toledo (right) reviews some of the variations that may occur in VMMT-204 when implementing its new flight schedule with the squadron's aircraft maintenance officer, Maj. Christopher Browning.

Links of interest

1. **NAE Air Plan – Leadership Strategy Process Initiative***
This issue discusses Marine Corps Aviation's use of enterprise principles to establish a Leadership Strategy Plan (LSP) that created a strategic mapping process to increase the readiness of the MV-22 force while simultaneously reducing flying hour costs.
https://www.portal.navy.mil/comnavairfor/Naval_Aviation_Enterprise/Air%20Plans/20-Sept11_Air_Plan.pdf
2. **2005 BRAC implementation completed**
The Navy completed another milestone to better posture itself for the future.
<http://www.navair.navy.mil/index.cfm?fuseaction=home.NAVAIRNewsStory&id=4762>
3. **Marines prepare for F-35B operational testing**
The platform's low-observable characteristics will require different maintenance practices, which are currently under development.
<http://www.navair.navy.mil/index.cfm?fuseaction=home.NAVAIRNewsStory&id=4757>
4. **FRCSW Almanac - Volume 5, Issue 3***
Fleet Readiness Center Southwest's joint effort with NAVSEA to increase the efficiency of the LM2500 gas turbine are featured in this issue.
https://www.portal.navy.mil/comnavairfor/Naval_Aviation_Enterprise/AirSpeed%20Newsletters/Newsletter%20repository/FRCSW%20Almanac/FRCSW_Almanac_Vol_5-3.pdf
5. **EMALS successfully launches E-2D Advanced Hawkeye**
The new launch system takes another step toward introduction to the fleet.
http://www.navy.mil/search/display.asp?story_id=62973
Watch the video on *All Hands Update*
<http://www.navy.mil/swf/mmu/mmplyr.asp?id=16279>
6. **UH-1Y pilots fire first APKWS shots**
A total of six shots were fired part of the program's low-rate initial production phase.
<http://www.navair.navy.mil/index.cfm?fuseaction=home.NAVAIRNewsStory&id=4769>
7. **NAVAIR Airwaves**
This week's video brings you the latest platforms to successfully fly on a 50/50 biofuel blend and how the NAVAIR Cargo & Special Operations supports the Fleet.
<http://youtu.be/CGKih4e9w6M>

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An F-35B Lightning II makes the first vertical landing on a flight deck at sea aboard the amphibious assault ship USS Wasp (LHD 1) Oct. 3. The F-35B is the Marine Corps Joint Strike Force variant of the Joint Strike Fighter and is designed for short takeoff and vertical landing on Navy amphibious ships. (Photo by Mass Communication Seaman Natasha R. Chalk/Navy.mil)

*- Site is CAC-enabled. Some readers may not be able to access the link.

An E-2D Advanced Hawkeye launches successfully using the electromagnetic aircraft launch system (EMALS) at the full-size shipboard-representative test site at Joint Base McGuire-Dix-Lakehurst, N.J. (Photo by Kelly Schindler/NAVAIR)



(Links continued from Page 14)

8. **Lakehurst engineers design Litening Pod Loader to support Marine Harriers**

Mounted in the center-line station of the aircraft fuselage, the complex electronic precision targeting system significantly increases the combat effectiveness of the aircraft during day, night and adverse weather conditions.

<http://www.navair.navy.mil/index.cfm?fuseaction=home.NAVAIRNewsStory&id=4751>

9. **Software change gives V-22 pilots more lift options**

Read how a four-degree tilt of the V-22 rotors allows the aircraft to carry more weight and achieve greater overall performance in hover mode.

<http://www.navair.navy.mil/index.cfm?fuseaction=home.NAVAIRNewsStory&id=4758>

10. **Initial Marine Corps virtual aviation training network tests successful**

ADVTE -- the Marine Corps' Aviation Distributed Virtual Training Environment -- is a system of local and wide area networks that will allow aviators operating simulators of many Marine Corps platforms to "fly" together regardless of geographical location.

<http://www.navair.navy.mil/index.cfm?fuseaction=home.NAVAIRNewsStory&id=4745>

11. **New MH-53E desktop trainer developed for Sea Dragon aviators**

The trainer simulates some of the components of a glass cockpit.

<http://www.navair.navy.mil/index.cfm?fuseaction=home.NAVAIRNewsStory&id=4744>

12. **NAVSEA's Who's On Watch***

Find out how Port Hueneme Division, Naval Surface Warfare Center realized almost \$20 million in cost avoidance by streamlining its depot-level repairable carcass turn-in process and read about improvements being made to the Super Saw – a specialized tool that cuts through a submarine hull.

[https://www.portal.navy.mil/comnavairfor/Naval_Aviation_Enterprise/AirSpeed%20Newsletters/Newsletter%20repository/WOW%20Newsletter%20\(NAVSEA\)/JUNE2011WOW.pdf](https://www.portal.navy.mil/comnavairfor/Naval_Aviation_Enterprise/AirSpeed%20Newsletters/Newsletter%20repository/WOW%20Newsletter%20(NAVSEA)/JUNE2011WOW.pdf)

(Links continued on Page 16)

(Links continued from Page 15)

[https://www.portal.navy.mil/comnavairfor/Naval_Aviation_Enterprise/AirSpeed%20Newsletters/Newsletter%20repository/WOW%20Newsletter%20\(NAVSEA\)/JULY2011WOW.pdf](https://www.portal.navy.mil/comnavairfor/Naval_Aviation_Enterprise/AirSpeed%20Newsletters/Newsletter%20repository/WOW%20Newsletter%20(NAVSEA)/JULY2011WOW.pdf)

13. **Lean Stuff***

The following PDF documents are a list of links from commercial resources which are compiled by NAVSEA and disseminated to CPI practitioners and organizations throughout the Navy.

September links

https://www.portal.navy.mil/comnavairfor/Naval_Aviation_Enterprise/AirSpeed Newsletters/Newsletter repository/Lean_Stuff/September_2011

October links

https://www.portal.navy.mil/comnavairfor/Naval_Aviation_Enterprise/AirSpeed Newsletters/Newsletter repository/Lean_Stuff/October_2011

14. **AIM-9X Block II completes back-to-back live fires**

The tests were conducted to evaluate the weapon's ability to deliver expanded air-to-air warfare capabilities.

<http://www.navair.navy.mil/index.cfm?fuseaction=home.NAVAIRNewsStory&id=4767>

15. **VX-31 flies Harrier on biofuel blend for the first time**

Another platform conducts preliminary ground tests on the fuel.

<http://www.navair.navy.mil/index.cfm?fuseaction=home.NAVAIRNewsStory&id=4766>

16. **EA-6B Prowler flies on biofuel blend**

All Hands Update takes a look at the Navy's most recent step toward energy independence.

<http://www.navy.mil/swf/mmu/mmplyr.asp?id=16234>

17. **Unmanned aircraft closes biofuel chapter**

Using a combination of JP-5 aviation fuel and plant-based camellia brings unmanned aerial vehicles one step closer to achieving the Navy's energy goals.

<http://www.navair.navy.mil/index.cfm?fuseaction=home.NAVAIRNewsStory&id=4772>

Watch the video on All Hands Update

<http://www.navy.mil/swf/mmu/mmplyr.asp?id=16287>

18. **F-35B completes initial shipboard vertical landing aboard *USS Wasp***

The first at-sea vertical landing for the Marine Corps' F-35 JSF version collected data on the aircraft's ability to perform short take-offs and vertical landings on a ship at sea, as well as determine how the aircraft integrates with the ship's landing systems, and deck and hangar operations.

http://www.navy.mil/search/display.asp?story_id=63065

19. **Cargo UAS to deploy, keeping trucks off the road**

Lockheed Martin/Kaman's K-MAX unmanned helicopter will augment Marine Corps ground and air logistics operations during a six-month deployment in November.

http://www.navy.mil/search/display.asp?story_id=63107

*- Site is CAC-enabled. Some readers may not be able to access the link.

Content in this publication has been cleared for release.