

## **VISION**

Be the best Aviation Logistics Center in the world, powering U.S. Coast Guard mission execution.

## **MISSION**

We Keep 'Em Flying by Providing: the Right Stuff, at the Right Place, at the Right Time, at the Right Cost... EVERY TIME.



FY 2018 ALC · VISION AND MISSION

## COMMANDING OFFICER'S SUMMARY

Dear Reader,

Thanks for once again picking up ALC's annual report. Fiscal Year (FY) 2018 was a year of significant change but also one that resonated with events of recent years. At ALC we pride ourselves on being a learning organization, one that continuously improves and adapts to our environment. As we contemplate what 2019 will bring, I ask you to read this report with an eye on how we adapted our aviation mission support through the accomplishments of our Product Lines (PL), the expertise of our shared services divisions, and the dedication and competence of our amazing workforce.

U.S. Coast Guard Aviation once again responded to a historic storm, Hurricane Florence, whose record-setting flooding led to dramatic rescues by U.S. Coast Guard air crews. ALC naturally pivots our logistics support toward such national emergencies, but in this case we directly joined the fight by hosting several MH-65s with maintenance and support as they were operationally dispatched by the Fifth U.S. Coast Guard District. This direct support lifted the morale and spirit of our workforce as our community stood in support of our fellow North Carolinians to the south who took the brunt of Florence's impact.

Our PLs continue to get smarter and they have become the masters of their craft. Their collective expertise, combined with past stewardship through frequent and comprehensive PDMs, have provided options to extend service lives while improving aircraft and mission sensor systems. Rewiring the MH-65 with its Echo Common Aviation Architecture System cockpit and structural enhancements, along with the MH-60 structural life extension and blade-fold re-prototype, will position both rotary platforms as effective, mission-ready assets for many years to come. Similarly, upgrading all fixed-wing mission systems with Minotaur will maximize operational effectiveness and cross-platform commonality will streamline life-cycle support and sustainment.

Despite significant budgetary constraints, our shared services divisions continued to achieve significant milestones. ISD, for example ensured the Data Center Consolidation project was completed at Operations Systems Center (OSC) Martinsburg while sustaining ALMIS's incredible performance record. Several major contracts were delivered by our Procurement staff, including support by the hour vehicles like the MH-65 Engine contract. ESD made great strides in our Engineering Technical Authority framework and the BOD continued to advance our Enterprise Production System (EPS). IOD has never made a greater impact to the Inventory Control Point (ICP), the PDM lines, or to major projects through critical prototype support. Lastly, ALD has elevated our understanding of our ICP and Support Budgets, helping the Aeronautical Engineering program better balance and message program risks.

Finally, let me thank the incredible and diverse ALC workforce — without ALL of you none of this would have been possible. Our military personnel provide essential leadership and oversight as well as valuable customer insight as they rotate-in from operational assignments. Our Government civilians provide the technical knowhow and continuity to keep multi-year projects on track, and contract civilians are our "ace in the hole," allowing ALC to quickly provide skilled talent to supplement programs or projects as needed. Unfortunately we saw several of our best move-on, including 3 amazing deputies: John Sugimoto, Carl Woody, and Carl Webster. These three great Americans made ALC their lives' work and we won't be the same without them. Finally, we tragically lost our facility manager Mr. Kent Goodwin, a man who's personality uplifted our entire organization every day; his loss leaves an irreplaceable hole in our hearts.

What follows is an important record of what ALC experienced this year. It provides context that exists nowhere else. I am proud to present it and I hope you enjoy reading ALC's FY 2018 Annual Report.

Semper Paratus, Captain Randal A. Hartnett Commanding Officer, ALC



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Our key strategic capabilities are to:

Assure Airworthiness and Reliability Optimize Logistics Ensure Stewardship Excellence

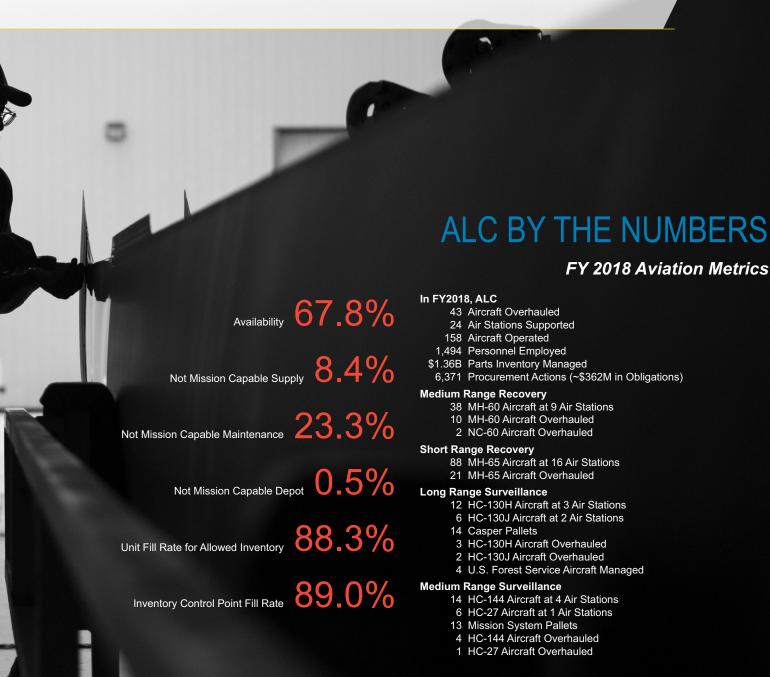
## **ALC PHILOSOPHY**

We will "Keep 'Em Flying" by providing aviation support in depot level maintenance, engineering, supply, procurement, information services, and acquisition project execution.



## **BUSINESS POLICY**

We are fully committed to fulfilling our duty to stakeholders by focusing on Assuring Airworthiness and Reliability, Optimizing Logistics, and Ensuring Stewardship Excellence. This commitment includes continual improvement of our integrated business system, promoting a safe and healthy workplace, preserving the environment through pollution prevention, and adhering to legal requirements.



MH-65 tail in paint at ALC (photo by David Lau).



## AIRCRAFT AVAILABILITY

A system of Measurements of Effectiveness indicates the performance of U.S. Coast Guard Aeronautical Engineering as related to strategic plans and goals.

#### Aircraft Availability

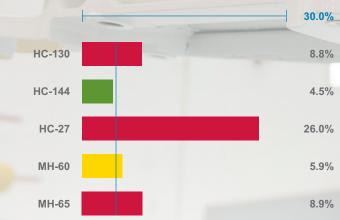
67.8% All Asset Types



A system of Measurements of Effectiveness indicates the performance of U.S. Coast Guard Aeronautical Engineering as related to strategic plans and goals. Multidimensional indices and individual metrics are taken collectively and considered over time to adequately reflect overall mission support system performance. The Availability Index indicates the percentage of time that aircraft assigned to air stations are available to perform U.S. Coast Guard missions. **The target is 71%.** 

#### Not Mission Capable Due to Supply (NMCS)

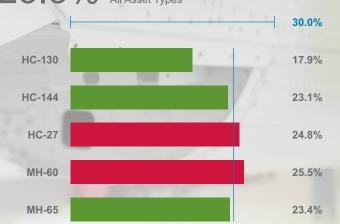
8.4% All Asset Type



NMCS is the status of an aircraft which is Not Mission Capable (NMC) due to the lack of available parts or supplies. A target of 5% is a planning goal for NMCS rates. This target also serves as a justification for supply chain resources required to meet availability of 71%. However, the U.S. Coast Guard must strive to meet these targets at minimum total system costs. The greatest efficiencies can be realized through minimizing inventory investment at ALC and in unit allowances consistent with this goal.



23.3% All Asset Types



NMCM is the status of an aircraft which is NMC because unit-level scheduled or unscheduled maintenance work is in progress. NMCM time also includes the time the aircraft is grounded awaiting maintenance action and/or the satisfactory completion of a test flight. **The target is 24%**.

#### Not Mission Capable Due to Depot (NMCD)

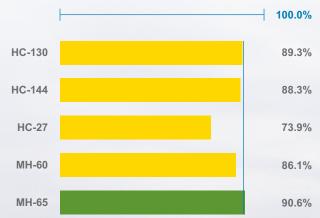
0.5% All Asset Types



NMCD reflects the percentage of time that aircraft of each type are unavailable to air stations for operational use due to depot level maintenance or testing. **The target is 0%.** 

#### ICP Fill Rate

89.0% All Asset Types



ICP Fill Rate (priority orders) is the percentage of time ALC was able to fill unit or depot maintenance orders made for a specific tail number. A target of 90% is a planning goal for this metric.

#### **Unit Fill Rate**

88.3% All Asset Types



Unit Fill Rate is the percentage of time the air station had allowed inventory on the shelf when it was needed. A target of 90% is a planning goal for

## LOGISTICS **RESULTS**

Target Rating NA

HC-130H in tow at ALC (photo by David Lau).

## Program Flight Hours (PFHR) versus Actual

87% All Asset Types

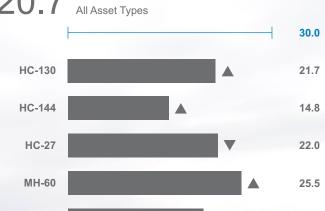


PFHRs are the benchmark set at the beginning of planning cycles for operational activity. Actual Flight Hours are influenced by all elements of logistics, including personnel, supply chain, maintenance, and operational mission demand. There is no performance target for Flight Hours Flown.

#### Unit-Level Maintenance Effort Index (UMEI)

20.7 All As

MH-65



UMEI is the Maintenance Labor Hours (MLH) divided by the PFHRs flown in the fleet. This trend data helps determine whether or not the air station maintenance effort is increasing as our fleet ages.

19.9



## **PROGRAMMED**

#### **PDM Aircraft Completed**

5

4

1

10

21

2

43

HC-130s

HC-144s

HC-27

MH-60s

MH-65s

NC-60s\*

TOTAL

TYPE	GOAL	INDUCTION RATE	IN-FLOW
HC-130	220 DAYS	73 DAYS	3
HC-144	182 DAYS	91 DAYS	2
HC-27	242 DAYS	121 DAYS	2
MH-60	222 DAYS	37 DAYS	6
MH-65	170 DAYS	17 DAYS	10
NC-60*	N/A	N/A	N/A

\*NAVY CONVERSION = Conversion of U.S. Navy H-60F to U.S. Coast Guard MH-60T assets.

# DEPOT MAINTENANCE RESULTS Sandra Shannon stocking a 2-Bin cabinet in the SRR hangar (photo by David Lau). PROGRAMMED DEPOT MAINTENANCE RESULTS

## LONG RANGE SURVEILLANCE

Division Chief, CDR Michael Danish Deputy Chief, Rodney Lawrence

The LRS PL achieved significant accomplishments over the last year, including fielding the first J-model aircraft to Air Station Kodiak and fielding the first three Mission Sensor System Upgrades for J-model aircraft.

#### Inter-Agency Engineering for Legacy Fleet Sustainment

During the Progressive Structural Inspection for CGNR 1711, significant damage was found to the Center Wing (CW) of the aircraft from corrosion and cumulative depot level maintenance defects. This required repair of the wing beam cap, and replacement of the web, two corner fittings, and the number two engine drag angle. Additionally, a specialized team from Warner Robbins Air Force Base (WR AFB) was required to perform the rework and bonded repairs.

Assistance from the engineering staff at WR AFB provided structural confidence that the CW section did not require replacement, saving an estimated \$8M in further repairs. Finally, further inspection revealed more than 40 fastener holes attaching the rainbow fitting (the structural member that holds outer wings to CW) that could not be returned to appropriate safety margins, requiring a rainbow fitting replacement. Approximately 360 holes were reworked for the installation of the new rainbow fitting.

Through integrated engineering support between WR AFB and ALC, the LRS PL was able to successfully restore airworthiness to the aircraft for an additional five years.





Clockwise from top left: CWO David Lane demonstrates the steady hand required to drill the new rainbow fitting for CGNR 1711 (photo by David Silva); CGNR 1721/Tanker 118 delivering retardant over the California fires this summer (photo by Jeff Serpa); the upper rainbow fitting shown during installation on CGNR 1711 (photo by David Silva); the removed rainbow fitting and undrilled replacement are set next to each other; and each of the 360-plus holes on the new fitting will be drilled by the experienced hand of a contract metal smith (photo by David Silva).

#### Minotaur Update

The LRS PL continued its technical assistance and flight test support of the HC-130J Minotaur missionization efforts underway at L3 Aerospace Systems' facility in Waco, Texas. The LRS PL teamed up with the U.S. Coast Guard Fleet Integration Team to test and deliver three Minotaur modified HC-130J's to Air Station Elizabeth City. Moreover, the LRS PL ferried three aircraft to Waco to feed ramped-up productions, including the newest airframe in the Coast Guard inventory CGNR 2011.

Accelerated modification schedules at the Texas facility will enable Air Station Kodiak to only receive HC-130J aircraft newly equipped with Minotaur during their year-long H to J transition. One of the first aircraft to receive Minotaur, CGNR 2009, initiated this transition when a joint LRS PL and HC-130J Standardization Team crew flew it to the storied Alaska Air Station in August 2018.

#### Block 8.1 Upgrade

In April 2018, a LRS PL-led crew delivered CGNR 2008 to Lockheed Martin's Greenville, SC facility for Block 8.1 Upgrade trial kit installation where it will remain until March 2019 initially undergoing prototype retrofit followed by numerous test and validation activities. The purpose of the HC-130J Block 8.1 Upgrade is to update the Flight Management System, Navigation Systems, and meet the Federal Aviation Administration (FAA) 2020 mandates while maintaining common core alignment with the other HC-130J users. With land-based navigation aids being phased out or non-existent within remote parts of the Pacific, Alaska, and Caribbean areas of operation, this sustainment initiative will ensure the HC-130J's ability to operate in austere locations with Area Navigation (RNAV) and Localizer Performance with Vertical guidance approach capabilities. Additionally, Block 8.1 will provide aircrews with International Aeronautical and Maritime Search and Rescue compliant Search and Rescue (SAR) planning tools. Retrofits for the rest of the HC-130J fleet are due to begin in 2020.

## Wheel and Brake Improvement Project (Carbon Brakes)

In July 2018 the LRS PL installed the first set of carbon brakes on a U.S. Coast Guard HC-130 and initiated a noteworthy transformation in the LRS fleet. The switch from the legacy steel to carbon brakes will enhance the operational capability of LRS assets at a significant overall savings. Carbon brakes have better stopping performance and with a 93% reduction in cool down time there is much less potential for hot brake incidents which have been a top concern listed by operators. Historically ALC spends approximately \$1.74M annually to support steel brakes for HC-130 aircraft. Carbon brakes are changed only every 8 to 10 years versus the current 8 months with steel brakes. The LRS PL will leverage the immediate initial savings to produce further carbon brake upgrades across the LRS fleet, and then repurpose greater than \$1.5M annual savings for other high demand inventory items.

#### U.S. Forest Service

As required by the National Defense Authorization Act of 2014, LRS has supported the U.S. Forest Service as they worked to attain a firefighting air tanker program using seven demilitarized U.S. Coast Guard HC-130H aircraft. This support includes a maintenance detachment in Sacramento, California that oversees all maintenance activities for the two currently operational aircraft. During the historic July 2018 fires these aircraft flew 62 sorties over 53.3 flight hours to deliver 1.67 million pounds of retardant on nine fires!



#### Growth of MRS

2018 has been a period of significant growth in responsibility for the MRS PL. In addition to the established HC-144 PDM line that simultaneously overhauls two aircraft at a rate of four per year, MRS took on the challenge of upgrading 16 of the 18 HC-144s to the new HC-144B model that incorporates the Ocean Sentry Refresh (OSR) cockpit avionics upgrade with the new Minotaur Mission System in the cargo compartment of the plane. In June 2018, the MRS PL also diversified and expanded its fleet by assuming the sustainment responsibility for 14 HC-27J aircraft at the close of their initial four year acquisition phase. This responsibility entails performing PDM simultaneously on two HC-27J aircraft at a rate of three per year as well as supporting Air Station Sacramento operations and the C-27J Asset Project Offict (APO) while it ushers the C-27J through a multi-year Missionization upgrade to become the HC-27J.



Clockwise from top left: AET1 Luke Voorhees observing maintenance being completed on an HC-144 by Alex Boyce (photo by David Silva); first HC-27J PDM aircraft, the 2702, staged for the ceremony on 25 October 2018 (photo by David Silva); hangar space shows how the MRS footprint is expanding (photos by David Silva) and now includes use of the Telephonics hangar (photo by Meredith Ellis); and MRS electricians completing the Minotaur Mod upgrade on the HC-144 2317 (photo by Meredith Ellis).

#### First HC-27J PDM

In mid-August 2018, CGNR 2702 placed its engines to takeoff power and lifted into the skies over ALC. Aircraft 2702 was the first of the 14 aircraft fleet to undergo a U.S. Coast Guard PDM and this highly anticipated event marked twenty months of hard work by dedicated uniformed, civilian and contractor maintenance personnel from both the MRS PL and the C-27J APO. As the first PDM aircraft, 2702 was used as a prototype to establish maintenance procedures, production scheduling, and map the entire C-27J depot maintenance process. The successful five hour check flight marked one of the final steps in this complex process that has yet to be attempted by any other operator in the worldwide C-27J fleet; another example of ALC being among a select few global leaders in depot level maintenance of maritime aircraft. Aircraft 2702 is scheduled to re-join the C-27J APO in September 2018 and will be one of the first HC-27Js to be outfitted with the new Minotaur mission system.



## MEDIUM RANGE SURVEILLANCE

Division Chief, CDR Matthew Schibler
Deputy Chief, Steven Chesson



#### OSR/Minotaur Dual Modification Line

In spring of 2018, after a year's worth of preparation, the OSR/Minotaur Dual Modification Line began producing state-of-the-art HC-144B aircraft with the new Minotaur Mission System installed. The OSR portion of the modification is a cockpit avionics upgrade that improves navigation capability and satisfies future FAA requirements such as Automatic Dependent Surveillance-Broadcast (ADS-B). The Minotaur portion of the modification replaces the sensor operator pallet with ergonomically enhanced consoles that run on the Minotaur operating system which is common in U.S. Navy, U.S. Coast Guard, and Customs and Border Protection fixed wing surveillance aircraft. The Minotaur operating system will deliver the most capability out of the recently enhanced sensors on the aircraft and will allow for seamless transition of sensor operators across all U.S. Coast Guard surveillance aircraft. Altogether, the OSR/Minotaur modification includes the removal or replacement of over 1,400 wires, installs 18 new or upgraded avionics components and removes 16 obsolete ones. The MRS PL doubled its HC-144 throughput capacity with the lease of a nearby contractor-owned hangar to house half of the mod-line work and expects to complete this fleet upgrade in approximately two years.





Small talented teams of artisans have been converting retired U.S. Navy SH-60F model aircraft into U.S. Coast Guard MH-60T model helicopters at the ALC since 2005 and have produced six aircraft to date (three replacements for aircraft lost to mishaps and three additional aircraft to expand the U.S. Coast Guard's mission and capabilities). This capability saves the U.S. Coast Guard approximately \$12M per aircraft as compared to a new purchase but up until now has only been tasked/funded for one aircraft at a time. With the increased need for U.S. Coast Guard MH-60T's, the U.S. Coast Guard received approval for three more conversions and to mitigate increased production schedules for an upcoming Service Life Extension project, Department of Homeland Security (DHS) Under Secretary for Management has approved four partial conversions. MRR is exploring external production options as well as increasing organic capabilities to meet this new and exciting demand. The U.S. Navy SH-60s are transferred to the U.S. Coast Guard when they are retired from service with 55 transferred as of August 2018. This influx of retired U.S. Navy SH-60s to the U.S. Coast Guard inventory significantly mitigates diminishing manufacturing sources and material shortages risk for the longest flying fleet of MH-60s in the United States' military arsenal.

#### Service Life Extension Program (SLEP)

The U.S. Coast Guard H-60 Jayhawk was acquired in 1990 with a 10,000-hour service life that was extended to 20,000 hours in 2002. With the MH-60Ts programed to fly 700 hours per year each, that life limit is quickly approaching and ALC, collaborating with the Acquisition Program Office CG931, is working to keep the MRR capability until the Department of Defense's future vertical life capability is developed in the mid-2030s. DHS initially approved the H-60 SLEP in February 2018 and is on schedule to approve the final Course Of Action (COA) in September 2019. Viable COAs range from piece parts replacement of the current fleet to full fleet replacement with either converted U.S. Navv SH-60 aircraft or the purchase of new H-60 airframes or any combination of alternatives. Regardless of alternative, there are no scheduled reduction of operational MH-60s and each operational area will maintain their full complement of this valued capability.



## RANGE RECOVERY

Division Chief, CDR Mark Lay Deputy Chief, Albert Radtke

# SHORT RANGE RECOVERY

Division Chief, CDR Craig Murray Deputy Chief, Danny Hale

The MH-65E (Echo) is the next evolution of the MH-65 Short Range Recovery helicopter. This upgrade project, commissioned to combat parts obsolescence and extend the aircraft's service-life, made significant progress this year. The program is on track to meet major acquisition milestones culminating in full-rate production beginning in November 2019. To date, the MH-65E program has amassed over 1,450 flight hours and is nearing the end of developmental testing.

Major accomplishments this year include flight-testing of several versions of avionics software and completion of a series of test events needed for GPS approach certification. Flight evaluation of the newly integrated Honeywell Primus-700 radar commenced in August 2018 and has obtained outstanding results. The Primus-700 is the same radar used in the MH-60T, and will benefit the fleet through increased parts commonality and subject matter expertise. Remaining development efforts include implementing ADS-B out, completing flight testing to update performance charts, regression testing improvements in Required Navigation Performance - Area Navigation (RNP-RNAV) capabilities, and integrating a Universal Serial Bus Utility charging panel.

With a tremendous effort from our technical and contracting teams the engineering and logistics is firming-up to provide an outstanding and comprehensive package of technical, procedural, training, and acquisition material. The MH-65E program is poised to meet U.S. Coast Guard mission needs for years to come.



#### Production

SRR production staff has started a Lean Event in preparation of Echo Full Rate Production in November 2019. The first of its kind in 20 years for the SRR PL, this event will be a wide-ranging look at hangar deck layout, shop space reorganization, equipment relocation and overall production line layout, flow and footprint changes; necessary to achieve the goal of setting up SRR to accommodate an added airframe and 17 additional days of production. The event will likely take place in phases, to minimize disruption to current activities across the PL and provide an opportunity to make workspace improvements never before possible, such as resurfacing the hangar deck floor. A common sense approach, coupled with a variety of Lean Manufacturing tools such as motion studies, transportation studies, value stream mapping, 5S, standard work, and production leveling will be employed to assess and implement improvements. The first planning milestone will be to have all major changes approved by the end of the year.

#### Supply

SRR Supply ordered over \$82.4M in parts/material and repair services in FY 2018 and submitted and processed over 442 Supply Item Change Requests. Improving vendor accountability and performance reliability, SRR Supply processed 461 Product Quality Deficiency Reports with a 74% success in warranty repairs saving \$582K.

#### Support the Fleet

SRR field team outreach has been steady over the past year as we support the fleet of aging aircraft with depot expertise. Over the past 12 months, 15 ALC field teams have responded to nine different units throughout the country, from coast to coast, in support of primarily corrosion-related repairs. All-in-all, over 720 MLHs have been dedicated to working alongside our field level maintainers on various repairs ranging from airframe corrosion, main gearbox corrosion, and cracks found upon routine inspections around the canopy and lower airframe structures.

#### End of the Line (EOL)

AMTC Brandon Jopp has done a great job this year leading our team of nine active duty and four contractor technicians. The dedicated crew has kept pace with providing the fleet a brand new overhauled MH-65 every 17 days. During the 170 calendar days that each aircraft spends at ALC, the EOL only has the aircraft for 10 days. Four days are spent performing ground runs including engine runs, Alternating Current (AC) and Direct Current electrical operations checks, and main and tail rotor track and balance. Following ground runs, radio certifications are performed and the aircraft is weighed and prepared for its first flight. The last five days are afforded to completing test flights and correcting discrepancies prior to fleet delivery.

Speaking of fleet delivery, ferry flights can be one of the best parts of the job! This year SRR delivered 21 helicopters to almost every district. Pilots and crew enjoyed notable trips flying down the Bahamian Island chain, through Dominican Republic to Borinquen and across the country, over the Grand Canyon and up the Pacific Coast to San Francisco and Humboldt Bay.

Beyond the flying, it is the in depth technical experience gained only at the EOL that makes each day interesting and fulfilling. AET1 Christopher Russell recently leveraged this experience to complete his Airframe and Powerplant (A&P) training and certification through Bakers School of Aeronautics in Lebanon, Tennessee. EOL members now also have a new path to A&P certification – the Aviation Depot Maintenance (AVIDM) competency code. Once a technician has been stationed on the EOL for 12 months, they can complete the AVIDM syllabus ultimately earning the competency code and referral for A&P certification.

The days are long and aircraft move quickly through the EOL, but professional opportunities and the privilege of providing airworthy and mission ready aircraft to the fleet make it a fun and rewarding tour.

#### POPDIV Reborn as ODF21

As SRR starts preparations for full rate production of the next generation of the H65, AMTC Ernesto Ortegon begins to unbox, inventory and conduct initial airworthiness assessments of the six sets of MH-65 skis, last used operationally more than 18 years ago, and recently returned to ALC from storage in Kodiak and Traverse City, Michigan. Why?...

This marks initial preparations for supporting Operation Deep Freeze 2021, also known as ODF21; an effort to resume Polar Operations in support of a State Department Initiative to be deployable-ready by Fall 2020.

After denying requests in 2018 and 2019, the U.S. Coast Guard has approved a request by the State Department and National Science Foundation for support of Antarctic Treaty Inspections. This is no small endeavor, and will include a much larger scale effort to begin training crews, updating doctrine, written policy and dusting off maintenance procedures related to operating in a cold weather environment over sustained periods.

As the U.S. Coast Guard leans forward in preparing for renewed presence in the Arctic as global environmental stewards and a premier maritime service, ALC will be an integral part of delivering the critical aviation capabilities, necessary for mission success.



Clockwise from top left: AMTC Ernesto Ortegon conducts initial airworthiness assessments on six sets of skis that recently returned to ALC (photo by David Silva); MH-65 aircraft in tow at ALC (photo by David Silva); and newly integrated Honeywell Primus-700 radar (photo by David Silva).

## **ENGINEERING SERVICES DIVISION**

Division Chief, CDR Matthew Walker Deputy Chief, Charles Hatfield

Throughout 2018, ESD has provided support and innovation to ALC and its mission.

Engineering Support Branch (ESB) Aviation Ground Support Equipment (AGSE) cell coordinated a Lean event to identify possible improvements to field unit support. The event revealed best practices of the MRS Adobe Technical Request form could be improved by utilizing an interactive form; allowing active management, electronic routing, and increased visibility. The resulting product streamlined the submission process by reducing management time, increasing visibility, and created a central database for ease of researching similar discrepancies, ultimately increasing efficiencies and availability of Coast Guard aviation assets.

In support of ALC's effort to replace its antiquated fleet of TA-35 aircraft tow tractors, the AGSE cell identified and replaced the tractors at several U.S. Coast Guard units. The U.S. Coast Guard worked extensively with the manufacturer to engineer the Tier 4 engine into an existing Air Force tow tractor chassis. After modification, the new tractor produces 99% fewer emissions than the legacy TA-35, thus providing an environmental advantage while avoiding obsolescence issues.

Alerted to an emergent, critical supply issue with legacy LPU/26P fixed wing life vests at the manufacturer, the Aviation Life Support Equipment (ALSE) cell replaced the vests for the HC-27 with a more modern and supported survival vest. The replacement of over 1,000 vests across all fixed wing platforms would have cost upwards of \$1M; however, the cell developed an innovative plan to reintroduce vests removed from the HC-27 program into the supply stock for the other fixed wing assets, creating lifecycle supportability for an additional five to seven years at an overall cost savings to the Coast Guard.

To better align with other USCG Logistics Centers, Technical Publications Branch has been redefined as Technical Information Management Branch (TIMB). With the recent and ongoing modernization of technical data support and capabilities, the new title more accurately describes the Branch. The implementation of Interactive Electronic Technical Manuals (IETMs), intelligent wiring, interactive maintenance data, and Additive Manufacturing (AM) have greatly increased the types of technical data developed, sustained and managed by TIMB. Most recently, TIMB has been fully engaged with the transition of all technical data to Coast Guard Logistics Information Management System (CG-LIMS). This includes technical manuals, illustrations, engineering drawings, engineering data, maintenance data, 3D solid models, manufacturing code/programs, and all associated approval information. This modernization prepares the U.S. Coast Guard to become compliant and aligned with S1000D standards and direction, providing a plethora of resources regarding technical data and its functionality. Look for many more great things to come!

Together, TIMB and the Airworthiness Support Branch (ASB) introduced IETMs and implemented maintenance features such as Intelligent Wiring and Interactive Illustrated Parts Breakdowns for the U.S. Coast Guard and is proud to report the successful implementation of this technology across multiple assets. The completion and delivery of Minotaur technical data in IETM format is now fully functional for HC-130J and HC-144. In addition, HC-27 technical data is being developed and can be expected to be complete by early 2019. To support HC-130J and HC-144 assets, maintainers can now access the Minotaur IETM and associated Intelligent Wiring now loaded on CF-53 CASE laptops. With over 600 wiring diagrams complete and over 350 in development for HC-27, maintainers are now better equipped with improved and modernized features to perform interactive and digital troubleshooting.

#### HC-27 Prop Gearbox Analysis Effort

HC-27 operators worldwide have experienced problems with propeller anti-ice/deice brush blocks wearing prematurely and electrically arcing causing damage to the propeller slip rings. Because of this issue, two separate international operators experienced full AC electrical system failures in flight. These two instances of total AC electrical system failures caused flight safety concerns with many HC-27 operators, including the U.S. Coast Guard.

Original Equipment Manufacturers (OEM) Leonardo (airframe), Rolls Royce (engine), and Dowty (propeller) began investigating the problem and believed the root cause was related to vibration interfaces between the Propeller Gearbox (PGB) and the brush block assembly. To understand the vibration environment in the propeller, the U.S. Coast Guard APO enlisted the assistance of ALC's Vibration Program Office (VPO) to collect, analyze, and provide engineering insight to the vibration environment of the HC-27 PGBs.

As a member of the HC-27 Joint Cargo Aircraft Team, the U.S. Coast Guard collaborates with the Royal Australian Air Force (RAAF) and the U.S. Army Special Operations Command (SOCOM) to share information regarding the operation and maintaining of the C27 platform. As part of this partnership, the RAAF and SOCOM requested the U.S. Coast Guard VPO include their fleets in the PGB vibration study. Adding data from these operators provides this study an increased statistical significance and provided insight to the vibration environment at different life cycle stages of the PGB.

After the data, from eight U.S. Coast Guard, six RAAF, and seven SOCOM HC-27's, was compiled, organized, and thoroughly analyzed, the VPO was able to identify indicators within the vibration spectrum of the PGB that could be used to predict the potential for brush blocks to arc to the slip ring. The results of this joint study were provided to the OEMs and Rolls Royce is now taking steps to modify the HC-27 PGBs to reduce vibration issues. The results of this study combined with these modifications will have a positive impact to flight safety by reducing the potential for arcing that could cause AC electrical system failures in flight.





#### LPT-S2 Sub-Coating Inspection Camera

ESD ASB is continually working with each of ALC's four PLs and all air stations to combat corrosion on our aging aircraft, which compromises the structural integrity and airworthiness of our aircraft. ASB's Corrosion Section regularly seeks new technologies in industry and leverages the U.S. Coast Guard Academy through senior design projects and summer internships. In the summer of 2018 ASB hosted 1/C Cadet Nicholas Woolfolk during his summer internship at the ALC. During his summer internship, 1/C Woolfolk, a rising senior and Mechanical Engineering Major, was tasked with an innovative, handheld, non-destructive video imaging instrument designed to locate corrosion beneath painted surfaces.

The current practice of stripping the coating system from aircraft to perform a detailed inspection for signs of corrosion is time consuming, costly, can induce inadvertent damage to the structure, and in some cases was determined to be unnecessary. Technologies similar to the LPT-S2 have the potential to eliminate the need for ALC to strip aircraft coatings to detect and combat corrosion.

During his internship, 1/C Woolfolk conducted an operational evaluation of the LPT-S2 camera to validate the effectiveness and robustness of the camera to operate in a depot environment. 1/C Woolfolk utilized the camera on every platform in the U.S. Coast Guard inventory and captured some dramatic results as shown in the photos above. The technology behind this camera, which uses Infrared Radiation (IR) light to see sub-surface layers demonstrated the potential to one day be a tool for use at the ALC and perhaps as a non-destructive inspection tool, which maintainers in the fleet could use to detect and combat corrosion. Technologies like this may eventually be able to mitigate the need to strip airframes thereby reducing ALC's hazardous waste, inspection time, cost and schedule.

Clockwise from top left: Painted MH-60 structure on the left and corrosion detected using the new LPT-S2 camera on the right (photo by 1/C Nicolas Woolfolk); Inspection Camera in use by Dr. Sam Benavides of ESD-ASB (photo by David Silva); and AMTC Corey Dauer setting up specialized equipment (photo by Robert Atkinson).

## FY 2018 FLEET AVIATION STATISTICS

#### U.S. Coast Guard Aviation Statistics

1007 Lives Saved

#### **Top Operational Sorties**

7,749 Search and Rescue

15,068 Hours

2,235 Drug Interdiction

7,850 Hours

1,988 Migrant Interdiction

5,577 Hours

3,207 Ports, Waterways, and Coastal Security

5,121 Hours

51,780 Total Sorties

106,583 Total Hours Flown

#### LANTAREA Aviation Statistics

779 Lives Saved

#### **Top Operational Sorties**

4.530 Search and Rescue

9.030 Hours

1,685 Drug Interdiction

5,393 Hours

1,934 Migrant Interdiction

5,410 Hours

1,831 Ports, Waterways, and Coastal Security

2,910 Hours

35,684 Total Sorties

73,638 Total Hours Flown

#### PACAREA Aviation Statistics

228 Lives Saved

#### **Top Operational Sorties**

3,219 Search and Rescue

6,039 Hours

550 Drug Interdiction

2,457 Hours

64 Migrant Interdiction

168 Hours

1,163 Ports, Waterways, and Coastal Security

2,010 Hours

16,096 Total Sorties

32,945 Total Hours Flown

#### Air Station Support

In addition to depot maintenance and logistics support, ALC provides additional services to support U.S. Coast Guard Air Stations missions.

#### These include:

9 Logistics Compliance Inspections (LCI)

41 Field Team Units

117 Aircraft Transfers

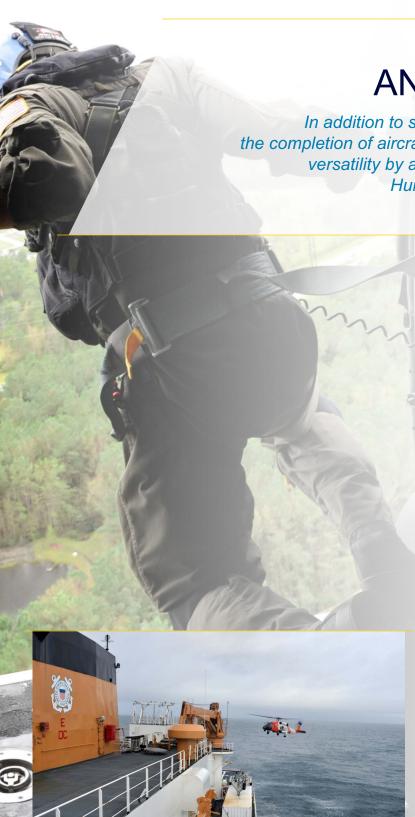
7 Continuous Process Improvement (CPI) Events

26 Locations Supported by the Aeronautical Support Equipment Program





Clockwise from top left: U.S. Coast Guard searches for survivors in NC after Hurricane Florence (photo by PO3 Shannon Kearney); MH-60 Jayhawk helicopter prepares to land on the flight deck of the U.S. Coast Guard Cutter Healy (photo by SCPO Rachel Polish); U.S. Coast Guard Cutter Bertholf crew conduct counterdrug patrol in the Eastern Pacific Ocean (photo by PO1 Matthew Masaschi); and Brief on the following days Hurricane Florence mission for a Senior Deployed Aviator, crew, and 4 MH-65 aircraft from Air Station Atlantic City (photo by CDR Steven Cerveny).



## ANSWERING THE CALL

In addition to supporting the operational commanders through the completion of aircraft overhauls and repairs, ALC demonstrated its versatility by acting as the MH65 base of operations following Hurricane Florence's devastation to our local area.

In the U.S. Coast Guard's stalwart efforts to implement the Western Hemisphere Strategy, U.S. Coast Guard aviation continues to be an essential force multiplier in combating Transnational Organized Crime networks, securing the borders, and safeguarding maritime commerce. In FY 2018, the ALC continued to provide essential logistical support and engineering technical support in order to enable operational commanders to effectively employ aviation assets in executing their missions. With an average eight air assets deployed daily away from home station year round, we contributed to 64 arrests and the apprehension of over 225 detainees. These accomplishments contributed to the seizure of over \$5,000kgs of cocaine and 113kgs of marijuana with a street value of over \$1.6B. We will continue to improve the U.S. Coast Guard's air assets detection capabilities in the coming year with the fielding of the OSR, Minotaur upgrades, and the conversion of the MH-65 to the Echo model.

#### Hurricane Florence

In addition to depot maintenance and logistics support, ALC provided direct operational support to Hurricane Florence relief efforts this year. Considered the worst flooding event in east coast history, Florence's impacts were felt across ALC. Answering the call, the SRR maintenance control and personnel assisted in the turn around and preparation of assets from six outlying air stations. In addition to completing all scheduled post PDM evaluation flights over the two week period, the SRR personnel assisted in ensuring the completion of 73 sorties, and over 220 flight hours in support of Florence relief missions. Their dedication enabled the saving of 31 lives and assisted or relocated another 60 in harm's way.

#### Arctic Strategy Support

As the U.S. Coast Guard continues to ensure maritime safety, security, and stewardship in the arctic, aviation assets from Air Station Kodiak are essential to the improvement in Maritime Domain Awareness (MDA) for our Nation. In addition to the aerial patrols and surveillance conducted in the area, two MH-60Ts and their standard 14 personnel aircrews have been deployed to Kotzebue, AK for 107 days to enhance and improve prevention and response capabilities in the region. ALC's ability to coordinate contract maintenance for these assets has been essential to their success. In 2018, the U.S. Coast Guard flew over 177 sorties totaling over 390 flight hours in support of the Arctic Strategy. The direct operational impact of these flights included: eight Marine Mammal Flight assessments, 32 MDA overflights, and 10 SAR cases resulting in seven lives saved and one assisted. This increased commitment has stretched the logistical reach of ALC and significantly improved our Nation's presence in the region.

## **AVIATION LOGISTICS**

Division Chief, CDR David Hatchett Deputy Chief, Crystal Taber

SK3 Michael Drennan, SK3 Noah Eddins, SK2 Britney Tribuzio, Wilbur "Bift" Baker preparing property for transport (photo by David Silva).

#### Fiscal Responsibility

ALD successfully managed one of the three U.S. Coast Guard General Ledgers. Accurately maintained a full chart of accounts including \$326.8M in vendor payments and accurate inventory totaling over \$1.3B. Met DHS goals for prompt pay and avoided unnecessary interest payments; 99.68% of payments made on time and \$178K in discounts received for expedited payments.

#### Risk Management

Supported the DHS and the U.S. Coast Guard in the FY 2018 Chief Financial Officers Act audit by responding to 331 requests for information from external auditors comprised of 1,077 individual samples. This was accomplished with the support of personnel throughout ALC who provided documents or other information to meet these requests. This effort supported the DHS and U.S. Coast Guard's unqualified, or clean audit opinion over financial reporting.



#### FY 2018 Operating Expense Summary

Approp	Description	AFC	Funding	Obligated & Expended
801	OE Approp	41	\$356,851,361	\$356,649,889
		30	\$2,908,332	\$2,907,876
		34	\$521,035	\$521,035
		45	\$1,792,852	\$1,792,828
		42	\$2,730	\$2,693

#### FY 2018 AC&I Budget

Name	Funding	Obligations	Expenditures	Unobligated Balance
HC-130J Conversion/Sustainment Total	\$21,167,039	\$18,565,548	\$2,2028,053	\$573,438
HC-144A Conversion/Sustainment Total	\$2,323,436	\$816,228	\$1,193,273	\$313,935
HC-27J Conversion/Sustainment Total	\$98,902,579	\$53,024,658	\$40,829,777	\$5,048,143
MH-60 Airframe Replacement Total	\$6,995,224	\$2,931,265	\$3,745,246	\$318,713
HH-65 Conversion/Sustainment Total	\$13,447,239	\$4,256,232	\$8,921,391	\$269,616
Other Equipment and System Total	\$2,027,185	\$675,767	\$62,381	\$1,289,037
FY 2018 Navy MH-60 Hulls Total	\$36,000,000	\$1,861,873	\$158,320	\$33,979,807
Grand Total	\$180,862,703	\$82,131,572	\$56,938,442	\$41,792,689

#### FY 2017-2018 Air Station vs. Depot Level Maintenance Requisitions

	AIR STATION		DEPOT LEVEL	MAINTENANCE
Fiscal Year	Number of Requisitions	Percentage of Requisitions	Number of Requisitions	Percentage of Requisitions
2017	53,665	33%	107,625	67%
2018	55,487	34%	105,607	66%
Average	55,008	34%	104,041	66%

#### FY 2018 Total Payments vs. Interest



Clockwise from top right: Vance Godfrey unloading an engine; Chris Younger, Robert Marie, Robert Klenke, and David Mead unloading a transport truck; and Melissa Walker verifying a tracked package (photos by David Silva).

#### ICP Fill Rate

		100.0%
HC-130		82.0% 84.8%
HC-144		86.0% 86.6%
HC-27		75.5% 61.8%
MH-60		84.5% 84.5%
MH-65		89.3% 89.2%
All Asset Types*		87.4% 87.4%
FY 2018 FY 2017		

<sup>\*</sup>All asset types except HC-27.

ICP Fill Rate (priority orders) is the percentage of time ALC was able to fill unit or depot maintenance orders made for a specific tail number.

A target of 90% is a planning goal for this metric.







## **AVIATION LOGISTICS DIVISION FINANCIALS**

## **BUSINESS OPERATIONS DIVISION**

Division Chief, CDR Andrew Guedry
Deputy Chief, Cynthia Soules

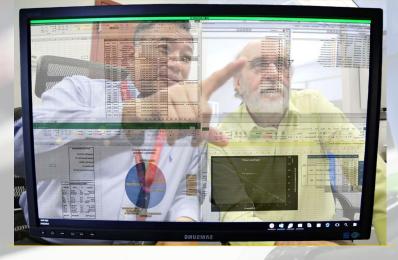
In 2018, in the spirit of CPI, the BOD underwent an organizational change resulting in four branches instead of three. With the addition of an O4 Branch Chief, the Intelligence Branch was divided into two distinct branches, the Systems Branch and Logistics Branch. The purpose was to provide more oversight to our respective disciplines and provide more tailored support to ALC and fleet. Additionally, the Logistics Branch saw the first of our new civil servant positions added in order to ensure continuity in our primarily contractor workforce. The new Logistics Branch focused on analyzing and standardizing the process for Make versus Buy across ALC PLs in addition to completing numerous inventory and allowance recommendation analyses. A large effort was also dedicated to the development of a dashboard tool for product line Deputies and Supply personnel to ensure more visibility of the management of the ICP and its associated funding.

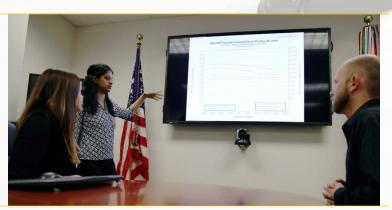
#### Analytical and Logistical Support

The Business System's Branch (BSB), formally known as the Intelligence Branch, continued its efforts to provide analytical and logistical support for ALC, Headquarters, and all the aviation field units. Here at ALC, two major coding efforts were undertaken to review and re-code the existing computer language associated with ALC's Supply Chain Management (SCM) and EPS. The kickoff of the year-long SCM review will better organize and improve supply chain data providing greater visibility, reporting, and analytical capabilities while the EPS efforts continue to focus on optimizing production workflows and total asset visibility. In addition, the BSB maintained its high frequency in answering a variety of data calls to include HITRON long term maintenance planning, HC-27 availability forecasts, and updated allowances for HC-130J stand up at Air Station Kodiak, just to name a few.

#### Enterprise Alignment and Development

Within the Business Applications Branch, the CG-LIMS change management team continued their efforts to support the enterprise alignment and development for this major U.S. Coast Guard project. The team has put forth great efforts to help align business processes with other U.S. Coast Guard entities to include Surface Forces Logistics Center (SFLC), U.S. Coast Guard Yard, Shore Infrastructure Logistics Center, and C4IT. They have also focused on mapping internal ALC processes in preparation for future changes and a smooth transition to CG-LIMS. The EPS cell teamed with IOD to continue making improvements to ALC's application of the theory of constraints model. Through several developments IOD has experienced a decrease in the work in process with a resulting increase in throughput and improvements to many of the identified constraint shops. EPS will also see the inclusion of MRS and LRS PLs this year.







four International Certifications and the formalized CPI program for the Command. These efforts continue to identify opportunities to improve ALC's integrated Business Management System (BMS). During the past four years, ALC has undergone certification and recertification requiring five upgrades to the BMS. The next BMS challenge will be the OHSAS 18001 upgrade to ISO 45001 in 2019. Management of Change is now visible through a new SharePoint checklist (BOD1 Form) that was modernized through a CPI effort providing the Command with improved visibility and reliability. Continuing internal and external CPI training at ALC and other units has increased focus on improvement events (300% increase over previous year). Trips to U.S. Coast Guard Air Stations HITRON, Borinquen, and Corpus Christi provided training, assessments and Lean events. Our CPI Team was benchmarked by DHS Civil Rights team who spent three days collaborating with BPB personnel. Additionally, CPI Awareness lectures were presented at SFLC, Norfolk, ATC Mobile Safety Stand Down, and DHS Civil Rights personnel at DHS Headquarters. The overall estimated return on investment (ROI) to date is over \$17M in addition to removing tens of thousands of wasted motion/man hours from labor processes.

Clockwise from top left: CPI training provided by BPB staff at ALC; Michael Schnoebelen and Steven McDyer facilitating CPI training along with a Lean event at HITRON; Ramya C Sreeram lyengar, Eric Daniels, and Nicole McNamara reviewing NIIN data; and Rainier Bojo and William "Bill" Clark comparing Make vs. Buy and Activity-Based Cost data (photos by Meredith Ellis).





## INDUSTRIAL OPERATIONS DIVISION

Division Chief, CDR Richard Kuzak Deputy Chief, Gregory Rakes



#### Opening of Finishing Room

After nearly four years of design, redesign, construction and testing, IOD's finishing room is finally complete and operational. The finishing room provides capabilities for caustic etching, cold and hot conversion coating, passivating and chromate conversion coating. These capabilities are a welcome addition to IOD's Machine Shop operations and will considerably cut down on lead times by reducing the dependence on outside vendors to provide similar services. Of major significance is the ability to completely submerge a MH-65 Main Gearbox (MGB) housing for chromate conversion coating. We are optimistic this process will greatly reduce the corrosion issues plaguing the MGB housings and improve the service life of these scarce components.

Clockwise from top left: ALCs updated paint facility (photo by David Silva); Joshua Melton prepares aircraft parts to enter the industrial paint booth. Paint plays a critical role in fighting aircraft corrosion (photo by David Lau); and Josh Baker uses a FaroArm gun to capture the dimensions of a HC-130 leading edge rib for prototype production. IOD works with each product line to manufacture parts in house in an effort to save money and reduce lead times (photo by David Lau).

#### Production Support Shop 100

In January 2018, IOD implemented Shop 100, also known as Production Support. This concept totally changed the manufacturing and repair process in IOD by establishing a Production Control Point for work orders in the machine, accessory and major component shops. Shop 100 has removed all of the administrative processes from Work Leaders (WL) within artisan shops to allow them to focus on workflow and optimal usage of their artisans and equipment. Shop 100 processes the parts or manufactured work orders received from the warehouse by unpacking and uncrating the components, arranging all paperwork (routing tags, drawings, Ready For Inspection/Scrap labels, etc.), verifying Significant Component History Reports, historical time on the components, and gathering any additional items needed to complete the work order. Once all items are gathered and information confirmed, the components are placed into a kit that is moved to the appropriate shop to complete the work. After the manufacture or repair of the part is completed, it is then shipped back to Shop 100 where all final paperwork, quality inspections and packaging is finalized for transport back to the customer. This new process has increased shop throughput by 34% since implementation.

#### Banner Year

FY 2018 was another banner year for the men and women of ISD. Despite numerous cyber mandated periodic downtimes for vulnerability patching, Aviation Logistics Management Information System (ALMIS) had an impressive 98% availability rate. Another 150 assets were inducted into ALMIS, furthering the U.S. Coast Guard's ability to enable operational commanders to have a one-stop shopping view for total asset availability. More impressively, the division completed the data center consolidation project with OSC. The final stage involved moving the disaster recovery site of ALMIS from ALC to the Finance Center. The effort involved modernizing several applications, making them virtual capable, a key step in the eventual move to a cloud-base operated datacenter.

#### Windows 10 Transition

Being responsible for almost anything related to Information Technology (IT) at ALC, the migration to Windows 10 presented a unique challenge for the division. Through rigorous coordination and testing, nearly 150 unique software applications vital to conducting daily operations at ALC were validated as being compatible for the new workstation image. In the rare cases that the software application failed the testing, ISD worked with impacted customers to define actual requirements and identify a Windows 10 compatible, customer suitable alternative software to minimize the impact on ALC operations. This work was done simultaneously as we updated the database operating system for ALMIS.

#### Cyber Compliance

FY 2019 will bring new challenges and exciting developments for the division. Our software engineers are working diligently with SFLC to re-code the Surface Technical Information Portal, bringing the application into cyber compliance. A cyber-related requirement to identify and document all platform information technology, everything from flight computers to sensor systems, will cause a significant increase in workload for our information assurance personnel.

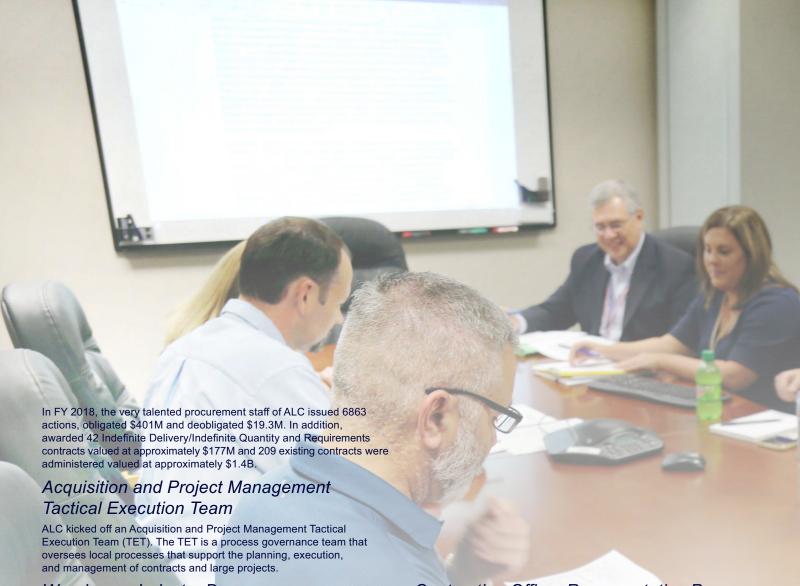




### INFORMATION

Clockwise from top left: The ALMIS Help Desk busy, responding to customer inquiries (photos by Meredith Ellis and Davis Silva); and Client Services personnel, Gregory Kahl and Jomesha Weeks running IT cables for the many personnel moves around ALC (photo by David Silva).





#### Warehouse Industry Day

ALD held an Industry Day on 08 November 2017 to meet with vendors regarding our current warehouse space. The event was organized by the ALD Procurement Branch and included briefings from the ALD Supervisory Contracting Officer and the Warehouse Manager. Attendees were briefed on the current operations, upcoming needs of the ALC's warehouse facility and an extensive tour of the warehouse was provided. This opportunity allowed ALC to explain to the various companies in attendance the overall mission and goal of safely and properly storing and distributing all components housed within the warehouse facility. The goal of this event was to obtain input from industry on processes, such as maximizing workflow of our existing warehouse and to gain information on centrally located distribution centers within the U.S. The event proved a great success and the U.S. Coast Guard received valuable input from the companies that attended.



#### Contracting Officer Representative Program

ALC has made tremendous progress with the pilot Contracting Officer Representative (COR) program over the past year.

ALC leadership recognizes that critical mission requirements are often reliant on the success of contracts that are fulfilled through the various procurement offices, and as such, the COR duties are recognized as an important operational requirement. ALC created two additional full time civilian COR positions this year. These positions are located in ESD and SRR PL. They serve on contracts for their respective divisions as well as contracts that often extend across the ALC enterprise.

During the past year, the COR Program Team has developed numerous documents to standardization COR files and the audit process. Additionally, the team is developing a SharePoint site for CORs and a COR Mentoring Program. The COR Program Team will continue to improve the COR program into next year to ultimately strengthen the relationship between the Program Manager (PM), COR, and Contracting communities, allowing acquisitions to be more efficient and successful.

#### HC-27J Composite Panels and Structures Industry Day

The MRS PL held an Industry Day on 18 July 2018 for the Repair and Modification of the HC-27J Aircraft Removable Composite Panels and Structures. This event was critical to familiarize potential vendors with the composite panels and structures on the HC-27J and to enable vendors the ability to better estimate costs and turnaround time for repair services. The vendors were provided a tour of the HC-27J aircraft along with an opportunity to see the panels and structures and ask questions.

# PROCUREMENT Division Chief, David Burgess Deputy Chief, Tabitha Callon Clockwise from top left: Integrated Product Team Meeting (photo by Steve McDyer); and Industry Day held in the ALC Warehouse (photo by Catrina McDonald).

#### Noteworthy Contract Awards and Achievements

The BOD Procurement Branch awarded a contract for project management, technical support, and logistics services for the BOD in support of the ALC mission, BMS support as well as planning, training, facilitation, and execution of various command-wide process improvement initiates.

The ESD Procurement Branch awarded a Firm Fixed Price Task Order for Technical Data Support Services. This task orders valued in excess of \$15M over a projected five-year span provides for the creation, management, and distribution of technical documents and publications. These include but are not limited to Time Compliance Technical Orders (TCTO), Special Compliance Technical Orders, MPCs, DMPCs, Process Guides, Illustrations, etc. The award represents a new approach to conducting this business segment as a substantial portion of the work accomplishment was moved to an offsite contractor facility. The move resulted in the freeing up of space within the limited footprint of ALC office and parking spaces. Additionally, Information Technology resources including hardware provisioning as well as maintenance and technical support, and software licensing have been drastically reduced.

The LRS Procurement Branch awarded the HC-130J Block Upgrade 7.0/8.1 Trial Installation Kit including modification services of the HC-130J's Intercommunication System (ICS) valued at \$12.9M. This effort requires that Lockheed Martin take the currently stored Block 7.0 Trial Kit, develop a combined Block 7.0/8.1 TCTO, and incorporate the stored Block 7.0 with Block 8.1 on the U.S. Coast Guard HC-130J variant under several U.S. Air Force contracts. The retrofit effort will be initiated with Low Rate Initial Procurement of group A/B retrofit kits and spare parts to support modification lines as well as the completion of provisioning tasks. Lockheed Martin will provide the TCTO and source data for Flight and Maintenance Manuals along with Block 7.0/8.1 Differences Training Courseware and conduct combined Block 7.0/8.1 Differences Training classes. Block 7.0/8.1 replaces both the "Missionization" ICS (MICS) and the existing legacy "baseline/common core" with the new Block 8.1 Palomar ICS to support all U.S. Coast Guard HC-130J communications radios instead of replacing the existing C-130J legal "baseline" ICS system in the Cargo Component Sidewall Rack with the Block 8.1 Palomar ICS and leaving the MICS system installed. This will alleviate the current problem and expense of sustaining two ICS systems on the aircraft...

The MRR Procurement Branch awarded a contract for the repair and/or modification of Enhanced Digital Electronic Control Units (EDECUs) used on the MH-60 aircraft with a total value of \$3.6M. The EDECU offers enhanced safety and performance by providing auto-ignition, auto-contingency power, manually selectable dual engine contingency power, improved transient droop response, and full maximum rated power vice intermediate rate power. The EDECU continuously monitors engine speed, temperature, airflow, and adjusts the fuel control. The award of this contract drastically reduced the administrative workload and lead times as these repair and modification services were previously procured via numerous purchase orders.

The MRS Procurement Branch awarded a contract to Airbus Defense and Space, Inc. valued at \$2.1M for Engineering Sustainment Services and Field Service Representatives services to support and maintain the airframe structures, systems, and components used on the HC-144 aircraft.

The SRR Procurement Branch awarded a contract to Safran Helicopter Engines USA, Inc. valued at approximately \$114M for comprehensive support services for the Arriel 2C2CG engines utilized on the MH-65 helicopters. The support-by-the-hour services include depot repair, overhaul, modification, asset accountability, tooling, test equipment, management, and logistical support.



Operations Officer, CDR Steven Cerveny Assistant Operations Officer, LCDR Jeffrey Bolling

Clockwise from top left: U.S. Coast Guard assets at ALC (photo by David Lau); and U.S. Coast Guard users participate in a hands-on demonstration and training of AWBS version 11.0 on the iPad and Windows 10 with System Architect, Doug Keith and Lead Developer, Paul Norris. The software is scheduled to be fielded to the U.S. Coast Guard in the fourth quarter of FY 2018 (photo by Ben Osborn).

FY 2018 ALC OPERATIONS DIVISION

## Weight and Balance (W&B) The Automated Weight and Balance System (AWBS) Application 11.0 was delivered on schedule, in June 2018, by the Lockheed Martin AWBS Software Development Team. The new AWBS application software and its enhanced capability will be employed on both Windows 10 and Electronic Flight Bag (iPad) platforms. The new system will greatly improve data integrity along with a totally new mobile capability to ensure airworthiness no matter the location of the aircraft or aircrew. The U.S. Coast Guard has taken the lead, among the other military services, to develop this software to meet the growing number of complex W&B challenges. This software solution allows for one system to be the enterprise solution from the aircraft weigh to the final flight clearance based on the actual flight loading, all while allowing for comprehensive quality assurance oversight through a Lockheed Martin hosted central data server. Ultimately, AWBS 11.0 significantly reduces the chances of error in data entry and calculations to ensure our aircraft remain within their strict structural and performance limits during all phases of flight operations. Flight Operations The ALC OPS managed the safe and efficient execution of 2.1K flight hours to support the continuous PDM overhaul cycle and three major CG-931 acquisition projects. Remarkably, almost half of this total flight time was spent away from home station to complete 337 ferry flight sorties that included aircraft transfers to and from our most remote air stations in Alaska and Hawaii. OPERATIONS DIVISION · FY 2018 ALC /



SEHO ensures stewardship excellence while sustaining OHSAS18001 and ISO14001 certifications. Work processes consist of heavy industrial aviation operations within a dynamic aviation depot level maintenance facility.

#### Goals and Objectives

- · The prevention of occupational injury, disease, and hazardous conditions;
- · Improving flight safety by increasing Flight Data Monitoring (FDM) reporting;
- · Evaluate industrial processes to identify hazardous waste streams and prevent improper landfill disposal;
- · Conduct risk management in all operations;
- · Ensure compliance with Commandant requirements for National Fire Protection Association Left Safety Code.

#### Proactive Identification

Hazard identification is vital in proactively promoting a safety culture and healthy workplaces. In doing so, mishaps and worker's compensation costs may be reduced. The ALC hazard-tracking tool was recognized by international auditors as an industry Best Practice in risk management and helped mitigate over 200 hazards in 2018. By creating an environment that is open to identifying and reporting hazards we develop a sense of teamwork, increase productivity and improve morale among personnel.

The acquisition of the Enterprise, Environmental, Safety, Occupational Health Management System, was extremely helpful for better hazardous materials tracking and control.

#### Fleet Support

During Calendar Year (CY) 2018, 300 flight data analysis requests were completed. These requests consist of certification (verifying CVR/FDR), engineering (analysis on components), validation (flight data checks for MPCs) and mishap analysis (data analysis of aircraft accidents to include building animation). Data shows over four hours of dedicated work are put in for each flight data request. For every aviation related mishap analysis (28 in CY2018) it takes over 16 hours to produce a quality product to fleet Flight Safety Officers, Operations Officers and members of Commandant Mishap Boards. In 2018, SEHO FDM Manager completed one flight data request for every 230 sorties the U.S. Coast Guard executes.



#### Partnerships, Training and Education

SEHO's Industrial Hygienist (IH - U.S. Public Health Service Officer) traveled with LCI teams for 12 of the 18 scheduled 2018 visits. This is the first time ever that a dedicated IH was a part of the team to provide technical safety and environmental health support to Air Stations, District SEHO's and units that are struggling with Hexavalent Chromium (HexChrom) concerns. Dedicated support from SEHO's IH during LCI's allows for units to immediately correct deficiencies and provides training to prevent future issues related to hangar contamination. Common deficiencies directly relate to availability and lack of use of ventilation systems (downdraft tables and paint booths) and acquiring proper tools needed for corrosion control. A lack of awareness related to HexChrome safe work practices has led to a collaborative effort with the ALC SEHO, Health Safety and Work-Life Service Center, CG-43 and the Aviation Technical Training Center to address policy gaps and introduce a new training module for safe work practices into the AMT "A" school curriculum. AMT's will receive increased awareness and understanding and will effectively manage HexChrome issues later in the fleet.

ALC SEHO collaborated with ESD's Corrosion Section of ASB to be able to present their knowledge to others in the operational fleet. They presented classes in the area of respiratory protection and safety work practices to various classes being held at ALC, such as the student engineers' orientation, CWO indoctrination, Engineering Officers orientation, Corrosion Control Inspectors class, as well as directly to Air Station Elizabeth City personnel.

SEHO provides all processes and programs that keep our workforce and our air crews safe while effectively executing U.S. Coast Guard missions.

## SAFETY AND ENVIRONMENTAL HEALTH OFFICE

Division Chief, LCDR Mark Haines Deputy Chief, Gwenervere Ray

# PROFESSIONAL DEVELOPMENT

#### Supervisor Training

ALC initiated an in-house Supervisor Training Program. These monthly one hour training sessions have received good reviews by new and veteran ALC supervisors. Subject matter experts have presented an array of topics designed to provide up-to-date information pertinent to the roles and responsibilities of supervisors. A Special Agent from U.S. Coast Guard Investigative Service spoke about preparing for and protecting one's self and others in the event of an active shooter situation. ALC will kick off FY 2019 with a guest speaker from U.S. Coast Guard Support who is scheduled to present a series on work related training, such as Mental Health First Aid, Leadership, Building a Resilient Lifestyle and Effective Communication.

#### Lunch and Learn

Lunch and Learn, a 45 minute session held every fourth Thursday, was launched in 2018 in an effort to further provide the ALC workforce the opportunity and venue to learn new things. Each month an ALC employee volunteers to present a skill developing topic or just give an informational talk regarding a work related subject. Popular subjects have been Basic Excel, Making the Most of Microsoft Outlook, Building Effective PowerPoint Briefs, Security and Foreign Travel Requirements, and Financial Planning.

#### ALC Division Officer/Deputy Academy

ALC's latest endeavor beginning in October 2018, the ALC Division Officer/Deputy Academy, will focus on providing new PL Managers, Division Chiefs, Deputies, and O-4's the tools they need to succeed. This two-day training is geared to acclimate newly transferred or promoted managers to ALC policies and organizational nuances. ALC's Executive Director will speak on Governance TETs and Workforce Accountability List. Other topics on the agenda are: OSHA/Environmental Compliance, Quality certifications (AS9110 and ISO), SharePoint, Contracting 101, Equal Employment Opportunity/Civil Rights, Router/Command Communications, and much more.

The goal is to provide relevant and useful learning for all ALC employees. These three programs are geared to do just that. ALC will strive to grow these programs and continually improve and adjust to organizational needs.





#### Training

- 3 Chief Petty Officer Academy
- 1 Chief Warrant Officer Professional Development
- 3 Midgrade Oficer and Civilian Training
- 254 ALC New Employee Orientation
- 14 U.S. Coast Guard Supervisory Tier II for Supervisors of Civilian Employees
- 285 Monthly Supervisor Training
- 102 Suicide Prevention Awareness

#### Individual Awards

- 5 U.S Coast Guard Meritorious Service Medals
- 9 U.S Coast Guard Commendation Medals
- 17 U.S Coast Guard Achievement Medals
- 11 U.S Coast Guard Commandant's Letter of Commendation Ribbon Bar
- 1 Military Outstanding Volunteer Service Medal
- 17 U.S Coast Guard Good Conduct Medals
- 2 U.S Coast Guard Civilian Service Commendation Medals

#### Team/Unit Awards

1 Coast Guard Meritorious Team Commendation

#### Length of Service Awards

- 13 5 Years
- 9 10 Years
- 12 15 Years
- 2 20 Years
- 3 25 Years
- 2 30 Years
- 2 35 Years

Clockwise from top left: Special Agents Dale Wood and Mark Rich of U.S. Coast Guard Investigative Services provide Active Shooter training to ALC Supervisors (photo by Meredith Ellis); ALC personnel share the responsibility of folding the American Flag displayed at the first HC-27J PDM ceremony (photo by David Silva); ALC personnel of the year awards (photos by David Silva); and Robert Bass of the BOD presents at the Basic Excel Lunch and Learn (photo by Meredith Ellis).

## PEOPLE OF ALC



#### Contractor Workforce

The unsung heroes of ALC's "Workforce Trident" are the employees of companies contracted for services performed at ALC. Most of ALC's successes, whether in major aircraft modifications, business operations, or information services, were achieved with major contributions from contractor employees. Many of the companies and their employees have extensive experience in support of U.S. Coast Guard Aviation and ALC, and they own a piece of ALC's legacy. ALC is fortunate to have these companies and their outstanding employees on our team.

#### Enlisted Person of the Year

Throughout 2017, AET1 Sal Leone demonstrated sound judgement, technical expertise, and excellent leadership. As the MRR EOL supervisor, Petty Officer Leone used his encouraging attitude and positive leadership style to organize the completion 10 Traditional PDM and one Navy Conversion EOL evolutions as well as maintain MRR's testing and evaluation aircraft. As a member of MRR's Flight Examining Board, Petty Officer Leone completed 17 instructor flights and five Basic aircrew standardization flights while completing 60 hours of training flights. As a member of the Morale Committee, he helped plan and organize division morale events for 200 military and civilian personnel thus contributing to the esprit de corps and camaraderie on the MRR PL. His selfless service also extended into the community where he served as the Assistant Tiger Den Leader for a local Cub Scout Pack. Petty Officer Leone has been a great asset on the MRR PL and ALC and his selection as ALC's Enlisted Person of the Year is well deserved.

#### General Schedule Civilian of the Year

It's hard to imagine a more demanding year for ISD than 2017. Mrs. Angela Griffin was ALC's point of contact to consolidate all of the U.S. Coast Guard Data Centers at OSC Martinsburg. The largest part of that project was moving the ALMIS database without reducing support for the 25K registered users of ALMIS, and Mrs. Griffin led that effort through outstanding performance and dedication, beating deadlines by months. She also led ALC through the migration to Windows 10, during which she and her team worked through and solved dozens of specialty application problems. We often take our outstanding ALMIS and specialty IT support for granted because its always there when we need it; it's great to recognize the hard work of Mrs. Griffin and her team.



#### Wage Grade Civilian of the Year

Mr. Calvin Thatch is the Sandblast WL for IOD. Mr. Thatch helped lead a dedicated, hard-working team that performs one of the most difficult, hazardous, and important phases in PDM and Component Repair.

Mr. Thatch helped facilitate Shop 121's continual process improvement in 2017, incorporating a wealth of knowledge into maintaining division-level documents, ensuring all specified processes were followed. He expertly drafted documents for performing daily and weekly maintenance on blast equipment ensuring compliance with ISO external auditor certification requirements and finally he revised both daily and weekly blast cabinet logs, improving maintenance accountability. He and his team's efforts are evident in the EPS's Daily Status Report, helping to meet PDM timelines across all PLs.

#### Way Forward

The ALC Annual Report has become an important exercise for every division, as we characterize the FY that was and share the key performance metrics of our integrated logistics system. The stories you've just read are highlights of the achievements made by the people of ALC under the shadows of some enormous challenges. ALC's culture, however, is to provide brutally honest self-assessments, so while we are proud of our accomplishments, we keep laser-focused on the big problems yet to be overcome. ALC's way forward is defined by such challenges: extended asset lives, dynamic cybersecurity requirements, new Enterprise Resource Planning (ERP) Information Systems, and of course tightening budgets with reduced buying power. This Annual Report provides us with the situational awareness we need to plan our way forward.

Annually, the Aviation Commanding Officers produce their Flight Plan which describes the most pressing concerns of the aviation community. This year they made a point to clearly state we are entering unknown territory by extending the lives of our helicopter fleets well past 50 years of use. This strategy will require deepened competencies in Engineering, Supply Chain, and Industrial Operations, and that expertise resides in our shared services divisions, which will face increasingly complex problems as our fleet ages and supply chains diminish. ALC's ability to adapt and craft solutions to problems we have not even thought about yet, will help drive our success. The deeper our knowledge and expertise within our shared services divisions, the better ALC will be able to maintain airworthiness and operational readiness for assets with extended life.

On the foundation of our shared services divisions, our PLs flourish, and they have each crafted sustainment solutions for their assets that are comprehensive, integrated, and optimized to deliver mission effectiveness to operational units for years to come. In the next year the MRR PL will ramp up its second life extension program and begin to again expand our operational fleet of MH-60's. The SRR PL will begin full production of the MH-65E, the fifth version ALC has produced of the Dolphin. The HC-130 PL will support a new HC-130J air station in Kodiak and begins a new PDM contract better adapted to the U.S. Coast Guard being the owner of the heavy maintenance facility. Finally, the HC-144 is already into its midlife extension work, implementing the Bravo model with the Minotaur Sensor System, and learning the hard way how corrosive 10 years of service in our operating environment is on aircraft. The HC-27's supply chain will hit its stride this year as long lead parts arrive and the logistics system is able to meet availability targets.

## **WAY FORWARD**

Air Station members prepare for Hurricane Florence SAR missions outside of ALC Hangars 75 and 79 (photo by David Silva).

Check out ALC's portal page for more exciting news about the Aviation Logistics Center.

One product of ALC supports the entire operational community, and that's our ERP Information System ALMIS. With nearly 25,000 registered users, ALMIS provides daily asset planning and status tools to operational units and operational commanders. Keeping ALMIS available for around the clock U.S. Coast Guard operations is getting more challenging as increasing cybersecurity controls cause unexpected problems and our ISD is learning how to work with a centralized data center. At the same time, ISD has brought the first CG-LIMS module into sustainment, the Technical Information Module, while also developing it for use by the Civil Engineering community and expanding its support for Surface and Aviation technical publications. The remaining modules for CG-LIMs will follow the new financial ERP system and will usher in a period of comprehensive business process change as ALC and the U.S. Coast Guard adapts to a strategy of procuring off-the-shelf information systems.

ALC will face difficult resource decisions in the years to come, and good strategies can be defined by how well they identify what to do and also what not to do. ALC implements its strategies with a management system that is fundamentally based on the ISO 9000 family of quality management principles. If ALC is to overcome future constrained budget environments, we must wisely choose what to do, then do what we say by investing in our core competencies with discipline. We hold ourselves to standards and apply Internal Controls to every division, while all of ALC's shared services divisions receive third party audits. ALC's governance structure ensures every process has oversight and that every resource decision is transparent and aligned with strategy. Using our management system discipline we will become better at applying Risk Management to resource decisions, because we know the factors and the mitigations that inform good decisions.

ALC is ready for these challenges. Our workforce is uniquely devoted to supporting the men and women who take our products into the most difficult environments Mother Nature can offer. The one certainty all U.S. Coast Guard Aircrews share is that they can depend on their aircraft, a faith earned by the people of ALC, who work hard to keep that faith every day. It's the ALC Workforce, Military, Civilian, and Contractors, that brings our ALC Ethos to life in their shared purpose to "Keep em Flying..."

## **ALC ETHOS**

We are the United States Coast Guard Aviation Logistics Center; a diverse team of professionals.

We are a process-driven organization inspired by the highest industry standards, determined to be the best aviation logistics center in the world.

We ensure stewardship excellence by investing in our people, improving our infrastructure, encouraging process and fiscal transparency with a commitment to the American public.

We optimize logistics and embrace new challenges through global partners, centralized inventory control, and an adaptive production model.

We are innovative and dedicated with a reputation for sustaining airworthiness and reliability by providing exceptional aircraft to our customers.

We embrace the U.S. Coast Guard's Core values of Honor, Respect, and Devotion to duty as part of the ALC culture.

We are ALC.

