

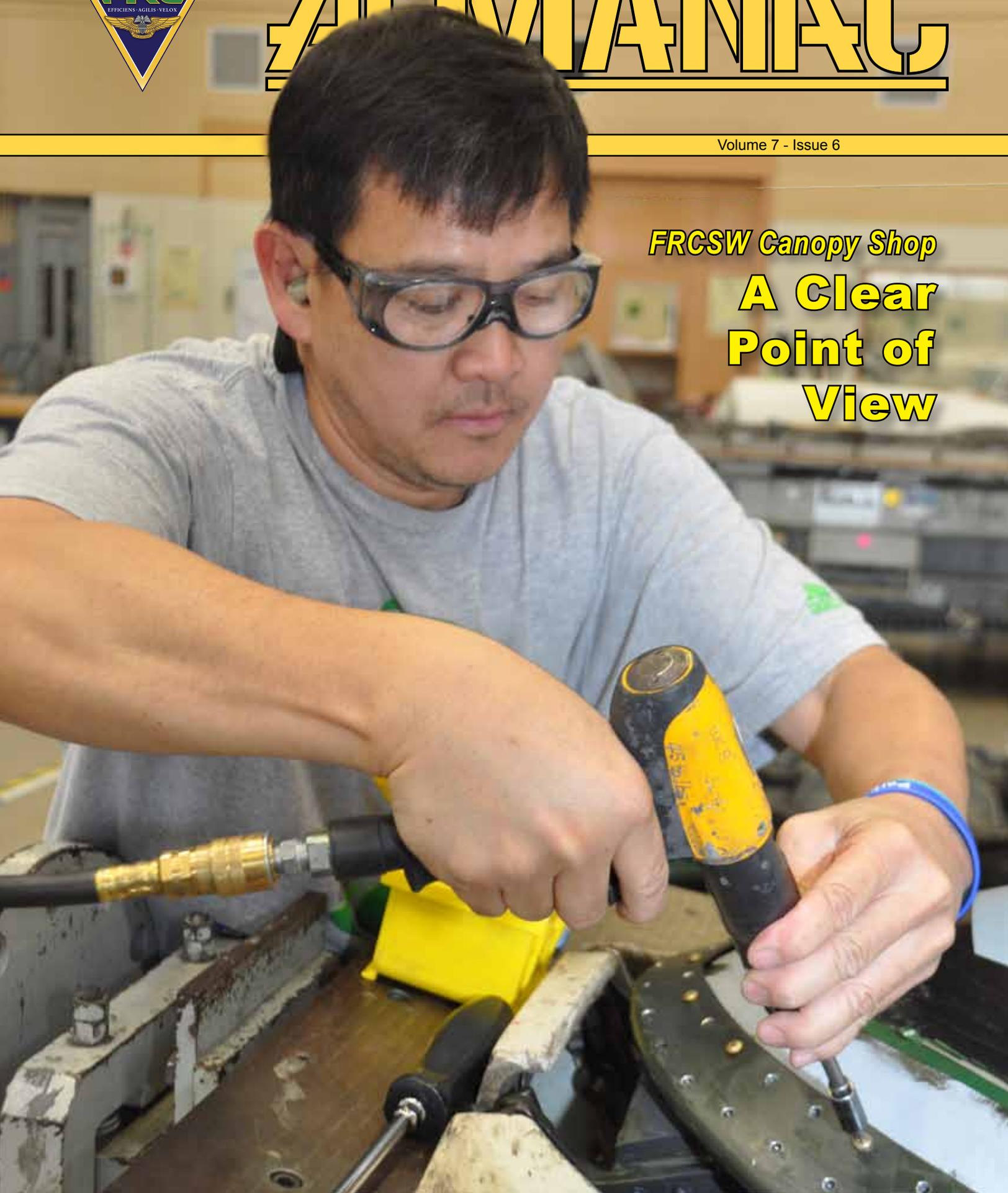


**FRC SW**

# ALUMINUM

Volume 7 - Issue 6

*FRC SW Canopy Shop*  
**A Clear  
Point of  
View**



# Skipper's Corner:

## Generating Readiness is What We Do



**Capt. Timothy Pfannenstien**

FRCSW Team,

This is a time of great change in our Nation.

As we continue to deal with trans-national threats in the Middle East, Eastern Europe and the Pacific, as well as the on-going political challenges at home, we are forced to do so while also in a time of shrinking defense budgets. Those of us working to support the National Defense live in a constant state of uncertainty. We find ourselves asking, what is next? When do we get a breather? Will things ever be like they were before 9-11?

You may have even found yourself questioning your personal commitment to government service, wondering if serving the Nation is still worth the effort it takes. Are you questioning how those in the private sector view your efforts and commitment as a government employee or contracted service provider? If you have, you are not alone. Many are asking such questions and wondering why they are here, and questioning the nobility of their efforts in a time when many look at government as a problem and not a solution.

Today I'd like to help answer some of those concerns...

Let me first assure you that the work you do is indeed noble. There is no one anywhere in the world that does or can do what you do each and every day! You have abilities to fix things no one else can. You support those who prepare our Nation for battle! You provide this Nation's Warfighters with the equipment they need to prosecute the fight that keeps your fellow Americans safe. NO ONE ELSE DOES THIS! Indeed, your work is noble!

Where else in America does anyone do what you do? The answer is: Nowhere! Where else does anyone work on the products you deliver or employ support structures that enable that delivery? Again, the answer is nowhere! Where else in America does a workforce improve the quality of repaired or overhauled items before they are returned to the Warfighter?

Some may not see it that way, but trust me when I say they are wrong. Every day we are asked by our Nation's Fighting Men and Women to give them what they need to keep us safe. Every day they ask for more. They come to us because we deliver what they need. Our Nation and our Warfighters know who you are, what you can do, and how well you can do it. You are depended on by thousands for what you do! Without you, they cannot do their jobs and if they cannot do theirs, our nation cannot continue to be the driving force for good across the globe.

If you ever find yourself questioning your commitment, your resolve or your worth as a government employee or contracted National Defense Artisan, or one of the hundreds here who support those Artisans, never forget how your Nation, and most importantly, the men and women in uniform who depend on you view you. They see you as possessors of the skill sets that keeps them safe; as the technician who provides what they need; as the mechanic who gives them the best equipment possible and as a group of government employees and civilian contractors whom they depend on every day to give them what they need to win.

Noble? Yes! Dependable? Yes! Honorable? Yes! As an FRCSW employee or contract associate you are viewed that way by your Nation. Never forget that you work as part of the most treasured work force in the world. The people of FRCSW are in fact a NATIONAL TREASURE.

On behalf of all of our Nation's Warfighters, thank you for your service!

*Timothy H. Pfannenstien*

TIMOTHY PFANNENSTEIN  
Captain, U.S. Navy  
Commanding Officer



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**MISSION**

DELIVER RESPONSIVE MAINTENANCE, REPAIR AND OVERHAUL PRODUCTS AND SERVICES IN SUPPORT OF NAVAL AVIATION AND NATIONAL DEFENSE OBJECTIVES.

**VISION**

BE THE PROVIDER OF CHOICE FOR AVIATION MAINTENANCE, COMMITTED TO CUSTOMERS, PARTNERS, WORKFORCE AND COMMUNITY.

**VALUES**

HONOR, COURAGE, COMMITMENT.

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**FRC SW**

# ALMANAC

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### *About the Cover*

Fleet Readiness Center Southwest sheet metal mechanic Loc Yu prepares to install a new faring to the windscreen of a legacy F/A-18 Hornet.

*Photo by Jim Markle*

An MQ-8B *Fire Scout* unmanned autonomous helicopter from Helicopter Maritime Strike Squadron (HSM) 35, Detachment 1 "Magicians", lifts off the flight deck of the littoral combat ship USS *Fort Worth* (LCS 3) during flight operations.

*Photo by MC2 Antonio P. Turretto Ramos*

# CANOPY SHOP GIVES HORNET PILOTS A CLEAR VIEW



A pilot assigned to Air Test and Evaluation Squadron Nine (VX-9), looks out the canopy of his F/A-18F *Super Hornet* as he conducts a low pop-up maneuver above the south end of Panamint Valley near China Lake, Calif.

*Photo by Cmdr. Ian C. Anderson*

## **What do F/A-18 *Hornet* fighter windscreens and canopies have in common with your sunglasses and collection of DVDs?**

They're all made from the same stuff: Polycarbonate and acrylic plastics. These two ingredients form the primary substances used in fabricating the aircraft cockpit transparencies of today's modern fighter jets.



Artisan inspector George Jaime and sheet metal mechanic Ana Font adjust the alignment fixture of an F/A-18 *Hornet* double canopy. The canopy is suitable for both legacy and *Super Hornet* models of the airframe. Photo by Jim Markle

Some of the best artisans in the business working with F/A-18 A-D *Hornet* and *Super Hornet* components are found at Fleet Readiness Center Southwest (FRCSW) in Building 250. It is their job to ensure the cockpit enclosures are safe, weatherproof, built to specification and provide a suitable working environment for the pilot and navigator.

The canopies and windscreens are repaired on an as-needed basis. Rework begins starting first with a complete evaluation by engineering and evaluation (E&E) personnel who determine the extent of damage, and whether a unit may be repaired or scrapped. E&E will establish a requirement for parts if needed and production control artisans will order the parts.

“The canopy transparencies are made from stretched acrylic. The acrylic is a naturally soft plastic. When stretched at the correct molten temperature in manufacturing that gives the material a greater strength. But the exchange will make it brittle and less pliable to impacts,” said canopy shop work leader Eugene Ellis.

“Most of the work that comes into the shop is desperately in need of a complete transparency replacement. The fleet has already tried buffing the canopies when permitted at the Fleet’s organizational and intermediate-level repair facilities. Both have a very limited capability to buff out scratches, pitting and small nicks. There may also be unreparable damage like heat exposure, gun gas erosion, lightning strikes and crazing as well,” he said.

Crazing is a conglomerate of fine internal cracks and is inherent to all acrylic plastics. Ellis said that only about five to 10 percent of inducted canopies have signs of crazing damage.

“When the transparency is directly exposed to the sun for years or exposed to chemicals, you can have signs of crazing damage. This appears like wood grain with little starbursts inside when the light hits it at the proper angle. When crazing attacks the transparency, it can become unsafe for flight if located in the wrong area, impairing the pilot’s vision. The canopy is no longer usable because it fails the optical requirements for flight. The pilot looks through this and if the sun hits it just right it can temporarily blind him,” Ellis said.

The Canopy Shop, part of the Aircraft Surfaces Department within the Structural Components and Manufacturing Division, overhauled approximately 195 windscreens, single and double canopies last year.

A typical canopy retrofit averages about 12 steps including E&E, blast shop, tear down, metal repair, drilling new transparency, installation of transparency, seam seal, and latch checks.

“If we can buff the transparency to repair it, we do to save money and time in the overhaul process. Otherwise, a complete overhaul for single canopies takes about 190 manhours, while the double canopies require around 200 manhours to complete,” Ellis said. “We have to remove the side fairings on the single canopies, but not on the doubles, so that’s why the process times are so close.”

Sheet metal mechanic Ana Font said that one of the most time consuming processes is fitting and drilling the glass. A single canopy has more than 200 fastener holes that require pilot drilling and then countersinking.

Since canopy frames are not precisely identical, each one requires a custom fit transparency. The first step is to secure the canopy frame in a holding fixture. The transparency is then trimmed to fit the frame by removing material from the edge of the transparency to achieve the desired fit prior to drilling.

“The skill level here is extremely high. It’s not like some sheet metal work where if you damage it, you might be able to perform a re-do, meaning keep repairing it till you get it right. Once you damage a glass beyond limits, it’s done,” Ellis noted.

When the canopy shop completes the build-up process, the canopy assembly is sent to the paint shop. When it returns, the environmental and pressure seals are installed before final sell. The completed component is then forwarded to supply as a ready-for-issue asset.

Since a new super Hornet double canopy (frame and glass) costs more than \$1.5 million and a legacy windscreen over \$110,000, retrofitting the units generates a substantial cost savings for the Navy.

“In past years, I have experienced several changes to the original production design of McDonnell Douglas into the next generation of transparencies and frames used on the F/A-18s. So the work is not always the same. It changes with the aviation industry, and that makes my job very interesting. I feel blessed working in the canopy shop at the FRCSW,” Ellis said. ▼

# FRCSW to Install Super Hornet Splicing, ISR Fixture

## *Will be Used in Historic Procedure*



An F/A-18C *Hornet* from the Stingers of Strike Fighter Squadron (VFA) 113 and an F/A-18E *Super Hornet* from the Fighting Redcocks of Strike Fighter Squadron (VFA) 22 fly in formation over the flight deck of the aircraft carrier USS *Carl Vinson* (CVN 70).

*Photo by MC2 George M. Bell*

**In** February 2013, Fleet Readiness Center Southwest (FRCSW) announced intentions to repair an 'E' model F/A-18 *Super Hornet* (E-060) fighter by splicing an existing section of the aircraft's fuselage from that of a donor 'F' model Super Hornet (F-079).

This type of repair has never been attempted on a Super Hornet.

FRCSW is now one step closer to undertaking this historic challenge by completing the fabrication of the alignment fixture that will be used to hold the E-060 in position.

Measuring more than 55 feet in length and approximately 28 feet wide, the alignment fixture is applicable to all F/A-18 E-F models and the EA-18G *Growler* airframe.



The legacy Hornet in-service repair (ISR) fixture is pictured in Building 378 where it will be disassembled to make way for the new Super Hornet alignment fixture that can handle Super Hornet and Growler ISR work and the historic E/F fuselage splice.

*Photo by Leandro Hernandez*



Its modular design will allow for fuselage disassembly in segments at existing manufacturing breaks from the Y383 bulkhead forward; Y453 to the Y524; Y524 to the Y591; and from the Y591 bulkhead and aft; as well as the left and right inlet assemblies, and the forward left and right leading edge extensions (LEXs).

“The Y453 to Y524 would be similar to a center barrel, but it’s not the same,” aerospace engineer Derrick Pettit said. “There is a center section on a Super Hornet, not a center barrel.”

“Everybody assumes that the Super Hornet is built the same way as the A-D legacies, but it is a completely different structure. A lot more composites were used on the Super Hornet, so a lot less substructure was used,” he said.

Under the auspices of FRCSW personnel the alignment fixture design and prototype production was contracted to D3Technologies, the same company that designed the Center Barrel Plus (CBR+) fixture in the 1990s.

The fixture will be made of steel and aluminum, and assembled in Building 378 where it will replace the legacy Hornet in-service repair (ISR) fixture that will be sent to the Defense Reutilization and Marketing Office. Three existing CBR+ stands will remain in place at the facility.

“Sometime in early December the fixture will be at 100 percent fabrication, and assembly will start at Votaw which is the company currently manufacturing the fixture,” Pettit said. “So by the end of December, it should be fully assembled and ready for tear down and re-assembly here in Building 378. In January sections of the fixture should start to show up for installation.”

“Several improvements were made from lessons learned using the Center Barrel Fixtures for the legacy F/A-18. One lesson learned was to make some of the drill fixtures that the artisans have to pick up and mount onto the stand out of aluminum. For weight purposes, it will be easier for the artisans to handle,” noted aerospace engineer John Suchy.

Like the legacy stand it will replace, the new alignment fixture will also be exclusively used for ISR work on the E and F Super Hornet and Growler airframe.

Pettit said that potential ISR work may include other innovative repairs such as service to the composite inlets and aft fuselage sections of the F/A-18 E/F and E/A-G airframe.

“The fixture will have a major impact on FRCSW capabilities,” he said. “Currently, no FRC can remove an inlet on the E-G models because we have no method of doing that: the capability of supporting the structure and removing an inlet assembly currently does not exist. We will have this capability once this fixture is in place. Same thing with the aft fuselage and the forward fuselage, we currently do not have the capability to do that.”

FRCSW will be the only naval facility with a Super Hornet alignment fixture and there are currently no plans to build another.

The targeted repair date for the E-060 is early next year.

# FRCSW Hosts First F/A-18 Non- Destructive Testing Forum



Materials engineer Cody Engstrand gives a demonstration on the Second Layer Eddy Current Inspection method. This method can potentially detect materials flaws where accessibility is a factor.

*Courtesy Photo*



Canadian NDT Officer Capt. Horan gives a Low Frequency Eddy Current Inspection Crack Sizing Demonstration. This method may allow for effective material flaw detection on various areas on the F/A-18 aircraft.

*Courtesy Photo*

**T**he Fleet Readiness Center Southwest (FRCSW) Materials Engineering Division hosted the first Non-Destructive Testing Working Group (NDTWG) in September.

Part of the F/A-18 International Structural Integrity Program, the program is sponsored by NAVAIR Systems Command (PMA-265).

FRCSW Materials Engineering Division Branch Head Ron Pangilinan coordinated the inaugural event.

“Being able to coordinate this event where F/A-18 Non-Destructive Testing (NDT) experts from the different participating foreign countries all meet in one room is an amazing opportunity for the F/A-18 technical community,” Pangilinan said.

“This experience will allow the forum to collaborate, share and solve existing F/A-18 NDT and structural integrity issues that are significantly affecting the Hornet fleet.”



The FRCSW NDI Engineering Team shows FRCSW's real-time radiography system and its application on F/A-18 components to detect material flaws. *Courtesy Photo*

Approximately 30 representatives from Canada, Finland, United States, Spain, and Switzerland participated.

"Each country definitely has different strengths when it comes to their NDT capabilities, capacity, resources and experiences. Coming together to share these strengths will allow us to solve some of the most complicated problems we are faced with today," Pangilinan said.

"Similar technical forums like the Composites Repair Engineering Development Program and the F/A-18 International Structural Integrity Forum have been meeting for some time now and have realized the benefits of this international partnership. It is our vision that this NDT forum will also realize these same benefits," he said.

Pangilinan noted that a clear vision, set of expectations and objectives were absolutely necessary to ensure the NDTWG ultimately satisfies the needs of the F/A-18 maintainers.

"Upfront planning and coordination with our foreign military partners and NDT subject matter experts were instrumental in developing this vision, expectations and objectives," he said. "We could not have done it without their input."

Materials engineer Dave Ottino noted that the meetings needed to take place at a facility where F/A-18 "depot" level maintenance is being performed, making FRCSW the perfect location to host the first event.

"Being close to the aircraft is a must as it will greatly facilitate the technical discussions, allow for NDT aircraft and component inspection trials, NDT method demonstrations, and aircraft accessibility assessments," Ottino said.

"This effort will allow for expansion of capabilities, update and improve NDT processes and methods. The goal here is develop and continue improving existing NDT inspection techniques," he added.

The value of participation from other disciplines was also instrumental in the success of the meeting.

"Collaborating with aerospace engineers, logistics management specialists, team leaders and program managers ensures the ideal NDI solution for the fleet," noted materials engineer Cody Engstrand.

FRCSW materials engineering technicians provided the technical forum with the needed "hands-on" experience.

"This event provided me the opportunity to give 'the artisan on the floor perspective' on various inspections," said materials engineering technician Marvin Frizell.

"This perspective allowed the working group the ability to compare and evaluate the suitability of techniques, view and conduct actual inspections for performance and reliability, and find ways to improve the reliability of inspection results."

The forum also enabled the collaboration with other NDT experts from within the NAVAIR community.

Materials engineer Nathan Trepal, who has worked at both FRCSW and FRC Southeast, said the meeting enabled a new dialogue between the two maintenance facilities.

"We rarely have enough time to reach outside our organization," he said.

"The NDTWG is a fantastic opportunity for our east/west teams to collaborate, to share technology and data, and to coordinate our work to avoid overlapping efforts. And by committing to future meetings, we'll be able to periodically review and redirect our efforts and maintain this cooperative environment."

"We feel that the meeting was a success as we were able to accomplish all of our objectives. We look forward to this international partnership and to the many accomplishments that this forum will achieve in the years to come," Pangilinan said.

Participating countries will take turns hosting the forums on an annual or biannual basis. The next meeting is tentatively scheduled for next March or April, Pangilinan said.

*Editor's Note: The FRCSW Materials Engineering Division would like to acknowledge support from FRCSW Production, Components, and Manufacturing Departments; FRCSW PAO, Legal, Security, Safety, and Transportation Offices; and the F/A-18 Fleet Support Team and F/A-18 EMS Team.*

# NAVAIR Employee Leads STEM Program, Advocates Education



**“If** you can inspire parents and have the parents believe in the hopes and dreams of their kids, then there’s a better chance for success,” Claudia Garcia said. “When I talk to parents I always share that my parents were my foundation, they were my cheerleaders.”



Claudia Garcia, Head of Avionics Engineering and Propulsion and Power ISSC North Island, Naval Air Systems Command (NAVAIR), holds the Mexican American Engineering and Science (MAES) Exelencia Award for business management success. MAES, an organization which honors the contributions of Latinos who are employed in the fields of science and engineering, presented Garcia the award October 28 at the San Diego Town and Country Resort Hotel. Pictured are (from left) Brian Frank, NAVAIR, Head of Research and Engineering Group, Garcia, Antonio Miguelez, NAVAIR, AIR-4.4 Propulsion and Power Director, and Dr. Ron Smiley, NAVAIR, AIR 4.5 Avionics Sensor and Electronic Warfare Director.

*Courtesy photo*

However you define “success,” odds are that Garcia will fit into your definition.

But for many people like her, oftentimes success is not found in possessions, positions or money: It is found in the success of others.

For the last 10 years Garcia has been the director of the Naval Air Systems Command’s (NAVAIR) Fleet Readiness Center Southwest/ North Island Science, Technology, Engineering, and Mathematics (STEM) outreach program which advocates the benefits of completing engineering and scientific educational goals to students throughout San Diego.

The STEM program relies heavily upon the volunteer efforts of NAVAIR engineers.

“At North Island, we have our nationally recognized NAVAIR Science Enrichment Program (NSEP). We’ve had this program for about 25 years, and it started out at Hancock Elementary School and only had 10 mentors. We now have around 50 NAVAIR engineers and scientists who help out in different community outreach efforts that we provide across San Diego,” Garcia said.

NSEP volunteers provide workshops designed to inspire and spark the interest in science and engineering to fifth grade students from six San Diego-area elementary schools, many with a high percentage of minority students. The team also participates in robotics, “career days” and science and technology events throughout San Diego County.

Dual-hatted as the NAVAIR Director of Avionics Engineering (AIR-4.5) and the Propulsion and Power Department Head (AIR-4.4) at North Island, Garcia leads a staff of approximately 70 engineers and technicians who primarily support the F/A-18 Hornet and E-2/C-2 Fleet Support Teams.

She successfully recruits new mentor/ volunteers for the NAVAIR STEM programs.

“I am impressed at how our new generation of engineers is so willing to take on new and creative STEM outreach projects. Once they are onboard, the next thing is to negotiate with their supervisors to make sure they can still balance their engineering projects with our community outreach events,” she said.

“It started as a collateral duty and I was only planning to spend a few hours a week, but the program became very popular. As we hire new engineers, we often invite them to join NSEP. Most are excited and interested to get involved. There is a passion about wanting to go out and do something for others; they are all about giving back. So the success we have comes directly from their energy and their excitement to inspire our future engineers.”

“Nationally, I’m also the STEM representative for the Fleet Readiness Center so I work with national STEM outreach coordinators throughout COMFRC and NAVAIR. North Island also helped launch the Jacksonville NAVAIR STEM program in 2008.

They heard about our NSEP program and liked what we did, so I flew there and helped them start their STEM program,” she added.

The North Island STEM program is now divided into six divisions that are run by the following Code 4.0 engineers: Valerie Dobrowski, Mentor Recruitment and Scheduling; Joan Jordan, Project Presentations and Supplies; Kathy Kucharski, Robotics Lead; Shane Paredes, Community and Technical Fairs; Alex Natchev, Special Events and New Outreach; and lead chemist Paul Johnson serves as the program’s School Liaison.

NAVAIR STEM programs occur throughout the year. But during the summer, Garcia said that much of her time is devoted to the local NAVAIR engineering student internship program. A similar student program, called CO-OP, launched her career at North Island in 1990 when she was a student intern in the materials laboratory.

She was permanently hired the following year as an F/A-18 ISE test program sets engineer after graduating from San Diego State University with a Bachelor of Science degree in electrical engineering.

The NAVAIR Summer Internship Program was established in 2009 when Garcia pitched her idea to 4.0’s engineering senior leadership. It employs both high school and college students for the summer.

# STEM Program

“In 2009 I brought up the idea to leadership here about the internship program as we didn’t have one. We were able to carve out some money, so we paid them directly using indirect funds. We started with five engineers. The following year the budget started getting tougher, so I started looking at other ways that we can pay for the interns, and ended up hiring three directly through our engineering program here. But I soon found a national program that was hiring interns, so I did two programs and had them hire interns for me nationally and then we continued to pay for some here.

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The program began with five local student interns who were paid through NAVAIR’s 4.0 North Island’s indirect funding. Budget constraints in following years required Garcia to find additional funding resources.

“I was fortunate to find the National Defense Education Program, which is part of the Office of Naval Research (ONR). With these funds we were able to fund summer interns and some of our robotics mentoring efforts. Last year, I was able to tap into ONR’s summer internship program which hosts the Naval Research Enterprise Internship Program for college students and the Science and Engineering Apprenticeship Program which is for high school students. We successfully used this program last year and plan to use it again this year. By using STEM ONR funds, we have saved hundreds of thousands of indirect 4.0 engineering dollars and have kept our program alive longer,” she said.

“A wonderful thing about this summer internship program is that we are now starting to hire some of the students who did their internships with us years ago. Our mentors not only inspire and motivate our local students to pursue STEM careers with the Navy, but this program has been a great pipeline for NAVAIR to be able to influence and grow a pool of qualified engineers for the future,” she said.

We are still in contact with a lot of the students we hired in 2009. It’s an amazing feeling to know they hold us as a huge

milestone for their inspiration when it came to completing their education. Now they are professional engineers and are giving back to the community, and ask us how we started the STEM program.

We are still in contact with a lot of the students we hired in 2009. It’s an amazing feeling to know they hold us as a huge milestone for their inspiration when it came to completing their education. Now they are professional engineers and are giving back to the community, and ask us how we started the STEM program.

“We are still in contact with a lot of the students we hired since 2009. It’s an amazing feeling to know they viewed NAVAIR and our STEM program as a huge milestone for their inspiration when it came to completing their education. Now they are professional engineers and they too, are giving back to the community.”

Since its inception, NAVAIR STEM volunteers have mentored and inspired more than 8,000 students.

Garcia’s drive to meld education with opportunity also extends directly to the Hispanic community of San Diego where she devotes much of her time to its students and their families.

“The challenges are that we need to get those kids inspired to go into science and engineering. One of the things I’ve learned is that it has to start with the parents. I’m doing workshops in Spanish for Hispanic parents trying to tell them my story and hoping that they’ll see their kids as future engineers. By sharing my life lessons and reminding them of the great opportunities that their kids have here in the United States, I see the parents and students light up with hope and enthusiasm for the possibilities that lay ahead,” she said.

Garcia’s family emigrated from Mexico when she was four-years-old. She is one of six children, and the first in her family to attend and graduate college.

Her efforts have included workshops in Spanish at universities and schools throughout San Diego’s South Bay including Castle Park Middle, Southwest Middle Schools and Los Altos Elementary School.

Last year, she coordinated a first-time event with the Sweetwater High School District. Over 250 students from six different South Bay high schools attended the Science and Engineering Dream Expo to advocate education and career choices in STEM.

She also participates and provides key note speeches and presentations in “Girls Day Out”

and “Adelante Mujer,” other STEM programs, designed exclusively for mothers and their daughters.

“I always mention the statistics of the Census 2010 where it is quite alarming to see how Hispanics are the fastest growing minority in the United States with the lowest number of graduating students,” Garcia noted.

“So we’re trying to inspire our young students, particularly Hispanics, to finish high school, go to college and be part of the workforce to help transform America because we’re going to be a majority pretty soon, and we might as well be part of the positive aspect of that transformation.”

*Editor’s Note: In addition to the MAES Exelencia Bravo award, Garcia has received numerous awards for her work in promoting education and the NAVAIR STEM outreach programs.*



# FRCSW Employee Honored at Women of Color Conference

By Career Communications Group, Inc.

**A** Fleet Readiness Center Southwest (FRCSW) employee was honored during the 2014 Women of Color (WOC) Sciences, Technologies, Engineering, and Mathematics (STEM) conference Oct. 23-25 in Detroit.

LaTonya Bowles, an FRCSW industrial engineering technician (IET) supervisor, received an award of special recognition in managerial leadership for her work within the command's IET organization.

Among her staunch supporters were Daniel Conley, NAVAIR, FRCSW production planning division; FRCSW Commanding Officer Capt. Timothy Pfannenstien; and former FRCSW Commanding Officer Capt. Don Simmons, III.

Bowles is Conley's branch manager of the IET group.

Conley said that Bowles' group "has developed a close-knit culture of mutual respect, and they all look to Ms. Bowles for the solution and her systematic approach to working on issues as they arise. This has led to inspiring her personnel to achieve goals and work outside of their basic expectations. Her people see her as a role model and look up to her as their voice in the organization. The Navy will benefit from her mentorship of her employees long into the future."

Conley also called Bowles a "go to" point of contact to the entire senior leadership, the FRCSW commanding officer and the executive officer.

"It is rare to find a talent that will take on both technical and soft skills issues and be able to resolve them equally well. I am certain she has a storied career ahead of her," Conley added.

Capt. Simmons said that Bowles' 24-man IET performs the work of 50 employees.

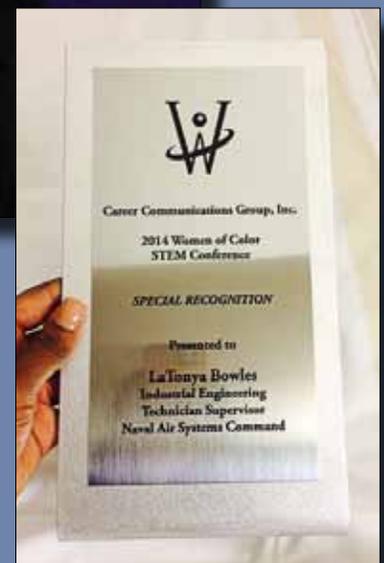
He attributed this exemplary performance to "her leadership, innovation, organizational skills and systematic approach to both strategic and tactical tasks that motivates her associates to work hard, overcome obstacles and work at a high level."

Capt. Pfannenstien added: "From day one, it was obvious to me this phenomenal employee would be an 'All-Star' regardless of assignment or task. She proves this each day through her exceptional leadership, team-building and analytical skills. In doing so, she has become a vital member of our team, and as a subject matter expert, she is laying the groundwork for Navy operations for decades to come."



FRCSW engineering technician supervisor LaTonya Bowles holds an award of special recognition in managerial leadership that was presented to her during the 2014 Women of Color Sciences, Technologies, Engineering and Mathematics conference held in Detroit in late October.

*Courtesy photo*



# FRCSW Tests New Paint Primers

*Will Reduce Hexavalent Chromium*



**T**o minimize the use of hexavalent chromium in its aircraft painting procedures, Fleet Readiness Center Southwest (FRCSW) is evaluating the effectiveness of non-chromated primers.

Hexavalent chromium, a known carcinogen, is used as a corrosion-inhibitor ingredient in liquefied primer coatings on aircraft and aircraft components. It has been used in the aerospace industry for more than 50 years.

But a 2009 memo from the Under Secretary of Defense directed DoD departments to find, test and qualify substitutes for hexavalent chromium in new program starts and to update maintenance procedures and processes for legacy platforms where alternatives exist.

Non-chromate coatings have been used in the private sector for more than five years, according to Naval Air Systems Command (NAVAIR) materials engineer Matt Minnick.

“There’s been a move by the Navy to get closer to where industry is in terms of using primers that do not contain chromates,” said NAVAIR materials engineer Richard Lee.

Illustration by Chuck Arnold

“However, there have been some concerns because hexavalent chromium is the best corrosion inhibitor. And operating in a marine environment, the Navy has a large corrosion problem, more so than any of the other military services.”

FRCSSW currently uses chromate primers.

Minnick said that the non-chromate primer projects are assessing two primers that are qualified to military specifications: Type 1 primer that is used under gloss paint schemes on aircraft like the E-2/C-2 airframe, and Type II primer that is used under flat paint schemes on aircraft such as the CH-53, SH-60 helicopters and the F/A-18 Hornet.

The primers are manufactured by Deft Inc. and Hentzen Coatings, respectively, and are designed to replace the current chromate primers.

Minnick said that prior to trials on aircraft NAVAIR tested the new primers in the laboratory with accelerated salt fog and beach exposure testing to ensure a performance level comparable to the current primers.

“These primers have been qualified we’ve determined that they perform the best among non-chromate candidates. With the approval from the Fleet Support Teams, program offices and class desks, we are applying them to aircraft and evaluating how well they’ve performed in a side-by-side comparison to chromate-primed aircraft. We are tracking them and visiting their squadrons to perform inspections,” Minnick said.

Aircraft selected for the primer demonstrations are E-2/C-2, P-3 Orions, CH-46E Sea Knight and CH-53E Super Stallion helicopters and legacy F/A-18 Hornets.

Planning for the E-2 demonstrations at FRCSSW began in 2007 with the Deft Type 1 non-chromate primer applied to four aircraft in 2009 and 2010.

The project concluded that the Type I non-chromate primer at least as well as the chromate version. The results are based on five aircraft carrier deployments.

“We submitted our final inspection report earlier this year, and I believe they (NAVAIR) are going to approve the Deft Type I non-chromate primers for all aircraft using a gloss paint scheme. If things go as planned, within a year we’ll be using it at North Island,” Minnick said.

“We used maintenance logs and compared the condition of the non-chromate primed aircraft to other chromate-primed aircraft in the squadron after each carrier deployment. That’s how we’re making our decisions. A flight hour is a flight hour but exposure in a desert, for example, as opposed to exposure on an aircraft carrier is entirely different,” Minnick noted.

Primer inspections by NAVAIR materials engineers and occur after major events such as carrier deployments. If an aircraft is not deployed, follow-up inspections at the squadrons are performed about once every six months.

On the CH-53E Sea Stallion, FRCSSW and FRC East applied the non-chromate primer to six aircraft – three apiece.

Both FRCs painted the aircraft using Hentzen Coatings Type II primer during their Preventative Maintenance Interval (PMI)-2 cycles.

“We are tracking them now,” Minnick said. “They are at (Marine Corps Air Station) Miramar and New River, and our hope is that a couple of them will have a deployment because that’s the real-world environment we’re interested in.”

Meanwhile, 14 legacy Hornets were added to the non-chromate primer study. Both Deft and Hentzen products will be used on the aircraft.

“When we agreed on this number of 14, we divvied up the work between us (10) and FRC Jacksonville (four). We had more aircraft at North Island that seemed to be good candidates,” Lee said.

Two of the FRCSSW Hornets have been painted with the non-chromate primer and returned to their squadrons, and the remaining eight are in various stages of maintenance.

Minnick said that conversion to non-chromate primers will gain the Navy cost savings relative to compliance with environmental, safety and occupational health.

“But it’s more than just costs,” he added. “It’s also about preserving the environment and protecting our fellow workers from hazardous materials.”

“Primers are the largest source of hexavalent chromium. We also have hexavalent chromium in some other products that we use on aircraft. It’s not going to completely eliminate it from our waste stream,” Lee noted, “but it’s a big start.”

# FRC SW's Got a Brand New Brand COMFRC updates logos, unifies identity



The new logos for Fleet Readiness Center Southwest and for FRC SW Detachments North Island and Point Mugu. The triangle echoes the COMFRC logo and designates Level III maintenance sites and headquarters, while the circular logos indicate Level II maintenance performed at detachments.

By Marcia Hart, Commander, Fleet Readiness Center Public Affairs Officer

**C**ommander, Fleet Readiness Centers (COMFRC) and Fleet Readiness Center Southwest are donning new looks to update their image.

The organization recently received approval from the Chief of Naval Operations, Air Warfare Division (N 98), to update its branding with new logos. The transformative project is scheduled for completion in the summer.

“We are in the process of redesigning and refreshing our logos because a majority of our customers and workforce did not understand who we report to and how our FRC organization was structured,” said Lt. Cmdr. Ian Espich, COMFRC flag aide and logo designer. “They did not understand the command breakdown or even that a command headquarters existed because we did not have a common identity that our customers could relate to or build upon.”

Changes to the COMFRC logo include replacing the unidentifiable aircraft in the previous design with the silhouette of an F-35 Joint Strike Fighter, signifying the future of Naval and Marine Corps aviation. Eight stars were added to the bottom of the logo to represent the major FRCs in the command and Professional Aviation Maintenance Officer (PAMO) wings were added to signify the command’s stance as the premiere maintenance execution arm of the Naval Aviation Enterprise (NAE).

“The COMFRC logo acts as the foundation for all of the major FRCs, which means that all command logos required a major departure from what they had, though they did maintain the triangle shape,” Espich said. “All of our sites provide world-class services and products, but each command had its own individual identity, which eliminated any chance at building a unified team. We set out to change that by establishing a common brand under COMFRC, so NAE will recognize the Fleet Readiness Centers enterprise as one unified team.”

All new FRC logos now share the basic design element as the COMFRC logo except FRC East (FRCE) and FRC Aviation Support Equipment (FRCASE); they do not have the PAMO wings. FRCE received an eagle, globe and anchor and a slight color change because it is commanded by Marines, and FRCASE received the Aviation Support Equipment badge since it is not a military command.

Each detachment received its own insignia, which use a round shape to signify that they are not an upper echelon command and do not have PAMO wings, per the Operational Navy Instruction (OPNAVINST) 5030.4G, Navy Aviation Squadron Lineage and Naval Aviation Command Insignia. Instead, each detachment selected an aircraft that best represented their base and line of work to feature on their logos.



# COMMANDER FLEET READINESS CENTERS



While implementation of the new logos has begun, it will take some time to ensure all old logos are phased out.

All digital logos, to include those on websites, Facebook, routing sheets, presentations, business cards and awards, should be converted by Jan. 1,” said Capt. Eric Simon, COMFRFC chief of staff. “All signage on buildings should be done by July 1.”

Sporting a new look is always nice, but this brand evolution takes on a deeper meaning.

“Branding is fundamental; it is basic; and it’s essential to building value and credibility,” said Rear Adm. Paul Sohl, COMFRFC. “How we are perceived by our customers matters – There is a great deal of value in perception – and especially in these challenging times of defense cuts and budget shortfalls. We need to be as valuable as possible in the eyes of the NAE, and a common brand identity is a sure way to make it happen.”

The COMFRFC workforce is the Navy’s shore-based, off-aircraft and depot-level aviation maintenance providers.

COMFRFC supplies the skills, processes and facilities needed to accomplish the maintenance, repair and overhaul of aviation assets to keep the NAE ready to train, fight and win. The more than 16,000 military, civilian and contractor aviation maintenance professionals assigned to the COMFRFC portfolio deliver safe and effective airborne platforms and ground equipment to the Sailors and Marines who defend our national interests around the globe.

Contact FRCSW Corporate Communications to obtain digital copies of the new logos.

### ***FRCSW Corporate Communications (Code 7.5)***

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## FRCSW Det Pt. Mugu Evaluates New Test Set

In September, the COM/NAV branch (WC 610) of Fleet Readiness Center Southwest (FRCSW) Site Pt. Mugu received the fleet's first AIC-14 system tester known as the UIM-1.

The AN/UIM-1 Telecommunication System Test Set Program is an intermediate and depot-level support equipment item used for testing, fault isolation, and diagnostics of the AIC-14 and AIC-14A intercommunication systems of CH-53E *Super Stallion* and MH-53E *Sea Dragon* helicopters; the KC-130F *Hercules* transport; and the E-2 *Hawkeye* and C-2 *Greyhound* airframes.

Because WC 610 subject matter experts provided integral feedback and support in the development of the test set, Steven Preiss, the AN/UIM-1 APMSE lead systems engineer from the Electronic Warfare Automated Test Equipment Design Branch, chose FRCSW Site Pt. Mugu to receive the first two test sets.

WC 610 will test the system, and their feedback will be used to evaluate the effectiveness and capability of the system prior to fleet-wide implementation.



AM1 John Villen and hydraulics mechanic Terry Absher work with a new emergency rescue hoist test stand. Recently introduced by COMFRC Aviation Rapid Action Team, PMA-299 and FRCSW, the stand is to help keep the H-60 *Seahawk*, and eventually the H-53 *Super Stallion*, work at the intermediate level of maintenance to depot level workload. Once fully calibrated, the stand should yield more than \$1 million annually in cost avoidance savings. *Photo by Scott Janes*

## Golden Wrench Award

The FRCSW Golden Wrench Award is presented to military and civilian teammates who demonstrate outstanding contributions in support of the command's mission while in the performance of their duties.

Recent recipients of the Golden Wrench Award include:

AS2 Andrew Prebeg	Inthavo Khounborine
Michael Schultze	Sam Allen
Lakeyta Edwards	Gerald Cowell
Krista Slotto	Van Aglubat
Adam Kimmerly	

## Holiday Shutdown Schedule

Fleet Readiness Center Southwest personnel are reminded that the command will shutdown at the end of the year.

The shutdown days are  
Dec. 24 to Dec. 31, 2014,  
and Jan. 2, 2015.

Personnel will be placed in a  
Leave or LWOP (Leave Without Pay) status  
on these days.

Dec. 25, 26 (by Executive Order) and Jan. 1 are paid holidays.

# FRCSW Holds 2<sup>nd</sup> Annual Memorial Park Ceremony

FRCSW Commanding Officer Capt. Timothy Pfannenstien delivers his remarks at the 2nd annual Memorial Park ceremony Sept. 18 as FRCSW Executive Officer Capt. Craig Owen looks on. A photo of Lt. Mark Williamson is displayed to the left.

*Photo by Jim Markle*



Members of Fleet Readiness Center Southwest (FRCSW) gathered September 18 for the second annual Memorial Park ceremony honoring all FRCSW employees who lost their lives while serving their country.

Located adjacent to Building 94 the park was initially dedicated to the memory of Lt. Mark Williamson, who served as the F-14 Tomcat fighter project officer from 1983 to 1986 of the then-Naval Rework Facility.

FRCSW Executive Officer Capt. Craig Owen opened the ceremony at 7:45 a.m. and referenced a memorial board, posting the names of former employees designed to represent all FRCSW employees in the history of the command who had passed.

“There have been a number of civilian and military personnel who have been seriously injured, or who have made the ultimate sacrifice in the line of duty. Many, but not all of them, are listed on the board next to me,” Capt. Owen said.

Afterward, he introduced keynote speaker Capt. Don Simmons III, former FRCSW commanding officer.

Capt. Simmons spoke of the dangers associated with naval aviation, and cited the recent crash September 12 involving two legacy F/A-18 Hornets assigned to the USS *Carl Vinson* (CVN 70) in the western Pacific Ocean.

“As you know, aviation is an inherently dangerous business. Unfortunately, we were reminded of that again last week when two F-18s crashed and a young aviator was lost,” Capt. Simmons said.

“On September 3, 1986, this command suffered a tragic loss. An FA-18 being delivered to (NAS) Miramar crashed off of the coast of Pt Loma. Lt. Williamson, who was the F-14 project officer at the time, did not survive the accident,” he said.

Simmons, who had re-dedicated the park in a ceremony one year earlier, noted that the business of naval aviation was not only dangerous for those who flew aircraft, but also for those who maintained aircraft.

“Though it is a sad occurrence which brought about the creation of this park, it is more than just a reminder of the past, it is also a reminder that what you do is important for the health of our country and that we must always adhere to our safety policies. After all, FRCSW is only as good as the people who work here, and the command needs all of you to continue that tradition of success,” he said.

The final speaker, FRCSW Commanding Officer Capt. Timothy Pfannenstien, spoke of two artisans listed on the memorial board: Michael Ruiz and Khamphoune Soimany.

Ruiz worked in Building 466 and was a member of the paint shop lean team, a paint tour representative and a safety specialist.

“Like many of the people who came before him, Mike set high standards of performance for himself, and more important, as an exemplary employee, he set high standards for those he worked with,” Capt. Pfannenstien said.

“Michael left us on November 6, 2013. He is missed by many.”

Soimany, a journeyman sheet metal mechanic, worked in Building 94 and other hangars throughout the plant, Pfannenstien said.

“He also worked in Building 378 on (F/A-18) center barrels. And he was integral in our High Flight Hour program. He put structures and returned aircraft to service when he worked in Building 27, so he has a legacy and footprint all over the command,” Pfannenstien said.

Soimany passed away on June 6.

“But those are just two of the names of the many on this list. We cherish their service; honor their service to the country and most importantly the tenacity and dedication they committed to the warfighter,” Pfannenstien said.

“It is with that spirit and their knowledge embodied in our current employees at FRCSW, that will ensure that we will continue to perform the functions of aviation support for the next 95 years,” he said.

The ceremony concluded with one minute of silence.



AE3 Miguel Santana, assigned to the Battle Cats of Helicopter Maritime Strike Squadron (HSM) 73, signals an MH-60R *Seahawk* helicopter from the flight deck of the aircraft carrier *USS Carl Vinson* (CVN 70).

*Photo by MC2 John Philip Wagner, Jr.*