

BBP 2.0 Spotlight Awards

Marine Air-Ground Task Force Electronic Warfare (MAGTF EW) Integrated Product Team Lead

Team Members:

Lieutenant Colonel Jeffrey Rothstein USMC (Team Leader)

Bill Mellen NAWCAD 1.3.3.3, MAGTF EW IPT Lead

John Cholewin NAWCAD 1.3.3.3, MAGTF EW Deputy IPT Lead

Major Russell Strange USMC, MAGTF EW Military Deputy IPT Lead

Henry Nicholes NAWCAD 4.5., MAGTF EW Systems Engineer

Summary of Accomplishments

The Marine Air-Ground Task Force (MAGTF) Electronic Warfare (EW) IPT demonstrated superior program management and accomplishment in the successful execution of Better Buying Power (BBP) initiatives to deploy state-of-the-art airborne electronic attack (AEA) capability to MAGTF commanders in direct support of combat operations. Headquarters Marine Corps (HQMC) highlighted critical deficiencies of existing MAGTF EW capabilities in a series of Joint Urgent Operational Needs Statements (JUONS), and stated the overarching requirement to produce an airborne EW capability that is relevant versus today's evolving target set and that is adaptable to tomorrow's predicted target set. In response, the MAGTF EW IPT artfully employed several of the BBP efficiencies and associated initiatives to rapidly and cost-effectively develop and deploy the AN/ALQ-231(V) Intrepid Tiger II (IT II) EW weapon system. The IT II is a state-of-the-art, family of communications jamming payloads that mark the first implementation of a platform agnostic, net-enabled AEA system that provides the MAGTF Commander with an organic, expeditionary capability to degrade and deny the enemy's use of the electromagnetic spectrum. Specific accomplishments include:

Reducing Non-Productive Processes and Bureaucracy. Executing the disciplined but streamlined Rapid Deployment Capability (RDC) acquisition process, the MAGTF EW IPT was able to effectively implement the BBP incentive of *reducing cycle times while ensuring sound investment decisions*. Capitalizing on past investments, the team resourcefully transitioned core technologies previously developed under a Joint Capabilities Technologies Demonstration (JCTD) and innovatively integrated Commercial Off-The-Shelf (COTS) components to compress the timeline from capability conception to product fielding. This approach enabled swift progression from design concept to Early Operating Capability (EOC) deployment in only 20 months, four months sooner than requested by JUONS to meet critical operational timelines. As a result, urgent EW capability was made available for expeditionary deployments on the AV-8B in direct support of Overseas Contingency Operations (OCO), including the first ever first

operational deployment of organic AEA capability with a Marine Expeditionary Unit (MEU) on-board LHA/LHD Class Amphibious Ships. The system went on to fly over 590 combat hours, providing Electronic Attack missions with a remarkable 94% operational reliability. In addition, the team's approach enabled it to successfully develop a follow-on block upgrade of the system that added Electronic Surveillance (ES) capability and integration on all USMC AV-8B and F/A-18A++/C/D aircraft, plus repackage the capability into a new form-factor for rotary-wing integration that went from design concept to ground test of a fully operational pod on UH-1Y aircraft in just 8 months, with an RDTE budget of less than \$5.4M. Subsequently, the upgraded system flew over 150 flight hours on more than 90 operational sorties without a single mission failure. Today, team's fielded systems continue to support Marines actively engaged in combat operations on its 13th consecutive deployment, including four simultaneous, geographically dispersed MEU detachments responding to OCO missions worldwide.

Targeting Affordability and Controlling Cost Growth. The team calculatingly developed a platform agnostic EW payload that utilizes existing aircraft interfaces and previously tested and approved pod form-factors to allow the system to have "plug-and-play" adaptability on multiple host platforms while reducing risk and schedule. This approach is in concert with the BBP incentive to *eliminate redundancy within warfighter portfolios* by delivering a single capability that can be distributed among any MAGTF air asset. The team demonstrated the practical utility of this approach by completing successful integration of the IT II pod onto USMC F/A-18 platforms in less than seven months following the initial deployment on the AV-8B at a cost of under \$575K in non-recurring engineering. Concurrently, the team developed an Electronic Warfare Services Architecture (EWSA) that supports the net-centric capabilities of the IT II system. The EWSA allows EW ground operators to control the IT II pod remotely through secure, ad-hoc tactical networks and enables agile response to changing mission requirements through real-time network reprogrammability of the pod in-flight. This adaptability and flexibility allows the warfighter to not only counter today's target-sets, but also have the capability to dynamically and quickly adapt to new threats as they emerge, thus indefinitely extending the militarily usefulness of the IT II system by keeping its capability relevant without costly redesign. Moreover, through the EWSA, the team has established an enterprise environment that has become the standard upon which all subsequent systems can now build to ensure up-front interoperability of future investments.

Promote Effective Competition. The MAGTF EW IPT took a deliberate Modular Open Systems Approach (MOSA) to implement the BBP incentive to *enforce open systems architectures and effectively manage technical data rights*, and to ensure that the IT II system is designed for affordable change. The IT II system has an open architecture for both network connectivity and hardware integration. The team established a Government Lead System Integrator (LSI) to seamlessly and cost-effectively incorporate the latest COTS and non-developmental Government Off-the-Shelf (GOTS) solutions into a single modular pod design with widely supported open,

non-proprietary standards that are conducive to future competitive technology insertions and upgrades. What's more, through the BBP incentive to *employ appropriate contract types*, the team leveraged industry internal research and development (IR&D) investments and utilized a full range of contract types to reach an appropriate allocation of risk between the Government and industry while achieving the best value for the Government. This strategy included a hybrid Indefinite Delivery Indefinite Quantity (IDIQ) structure to provide multiple Fixed Priced orders on production hardware and Cost Plus Fixed Fee orders for engineering services to nine different local vendors to promote the BBP of *increased small business roles and opportunities* as well as *maintaining a competitive environment* for increased efficiency and future capability at the subsystem level. Furthermore, the team stood up a web-based repository on which it publishes and shares EWSA Software Development Kit (SDK) documentation that can be readily accessed by industry partners to foster competition for EWSA-compatible upgrades to the IT II system, and create indirect competitive pressure for substitute or follow-on, net-ready EW payload solutions.

Marine Air-Ground Task Force Electronic Warfare (MAGTF EW) Integrated Product Team

Since this is a large team mostly located in NAWCWD Pt. Mugu, CA, you will be meeting with seven PMA representatives: CAPT John Bailey, Mr. James Smith, LtCol Jeffrey Rothstein, and Mr. Bill Mellen. If time permits, you are invited to meet with the rest of the team members.

Captain John Bailey, PMA 234 Program Manager (PM):

Captain Bailey is the Airborne & Electronic Attack (AEA) Systems and EA-6B Program Office(PMA 234) Program Manager with over 14 years' experience as an Aerospace Engineering Duty Officer. CAPT Bailey has served three tours as a test project officer as well as tours in Precision Strike Weapons (PMA 201), Presidential Helicopters (PMA 274), F/A-18 &EA-18G (PMA 265), E-2/C-2(PMA 231), and Air Warfare Mission Area/From-The Air (PMA 298). He became PMA 234's PM in January 2014.

Mr. James Smith, PMA 234 Principal Deputy Program Manager (DPM):

Mr. Smith began his professional career as an Engineer at NAVSEA in 1989 after graduating from the University of Maryland. In 1996 he transferred to NAVAIR where he led the Reliability and Maintainability team for the Advanced Tactical Aircraft Protection Systems Program Office. He later served as the ALR-67(V)3 IPT Leader in that office. In 2003 he moved to the F/A-18 Program Office to lead the development of the EA-18G and transitioned to the Deputy Program Manager for Spectrum Dominance Programs for all F/A-18 Programs. In 2008 he moved to the Airborne Electronic Attack Systems and EA-6B Program Office as the Deputy Program Manager.

Lieutenant Colonel Jeffrey Rothstein, Airborne Electronic Attack (AEA) Products DPM:

LtCol Rothstein began his career in the United States Marine Corps in 1994 as a Battalion Adjutant. In 1998, he was designated a Naval Flight Officer and went on to qualify as an EA-6B Electronic Counter-Measures Officer. LtCol Rothstein is a graduate of Weapons and Tactics

Instructor (WTI) course and the USN Naval Test Pilot School and has held previous assignments as AEA projects officer and Advanced Systems IPT Lead.

Mr. Bill Mellen, MAGTF EW IPT Lead:

Mr. Mellen began his career in United States Navy in 1992 as a Navy MH-53E pilot and retired as a CDR in 2012 after 20 years of active duty service. Mr. Mellen came to NAVAIR in 2006 and has previously served as the H-53 Class Desk and Sustainment IPT Lead for PMA-261 where his team earned the 2009 NAVAIR Commander's Award.

Complete listing of all MAGTF EW Team Members

NAVAIR Program Office (PMA 234) Team Members:

LtCol Jeffrey Rothstein (AEA DPM)
Bill Mellen (MAGTF EW IPT Lead)
John Cholewin (MAGTF EW Deputy IPT Lead)
Maj Russell Strange (MAGTF EW Military Deputy IPT Lead)
Henry Nicholes (MAGTF EW Systems Engineer)
John Holland (AEA Deputy Assistant Program Manager for Logistics)
Allan Wagaman (AEA/MAGTF EW Business Financial Manager)

NAWCWD Pt. Mugu Team Members:

Lynne A. Clarke (Project Lead)	Justin Rhodes (SW Developer)
Catherine Dutcher (Deputy Lead)	Josh Ulrich (SW Development Engineer)
Michael Herrera (Operations Analyst)	James Mello (Test Lead)
Allissa Hyun (Business Financial Manager)	Arthur Yesayan (Flight Test Engineer)
Peter Hasset (Engineering/Project Support)	Patricio Pino (Flight Test Engineer)
Jason Dutcher (Information Technology)	Joe Kim (Jammer Technique Engineer)
Huy Tran (Information Assurance)	Mitchell Morrow (Jammer Test Lead)
Roger Ellis (Electrical Engineering Lead)	Ruben Pacheco (Production Lead)
Michael Morford (Systems Eng Lead)	John Vanderkamp (Production Engineer)
Mark Roach (Electrical Engineer)	John Slayton (Production Engineer)
John Nash (Control Interface Unit Engineer)	Derek Brooks (Inventory Manager)
An Le (Radio Frequency Engineering Lead)	Jim Gavlik (Draftsman)
Mauricio Pinto (Electrical Attack Engineer)	Amy Knestaut (Logistics Lead)
Tom Miner (Electrical Attack Engineer)	Percy Madriz (Logistics Manager)
Andrew Richen (Antenna Engineer)	Bruce Stenger (Test Equipment Manager)
Adam Ninnemann (SW Engineering Lead)	Bonnie Gojkovich (Configuration Manager)
David Corcoran (SW Developer)	Stephanie Garcia (Logistics Manager)
Eric Peterson (SW Developer)	John A. Johnson (Fleet Training Lead)
Christopher Gudea (SW Developer)	Derek Baxter (Operations Engineer)
Tyler Dihn (SW Developer)	Steven Neese (Operations Engineer)
Steve Dahl (SW Developer)	

Summary of Accomplishments

I would like to express my sincere appreciation to the Marine Air-Ground Task Force (MAGTF) Electronic Warfare (EW) IPT for its speed and agility in responding to the urgent requirement for a reconfigurable airborne electronic attack solution that can effectively counter the evolving threats on today's battlefield and be readily adaptable to tomorrow's target set.

The MAGTF EW Team effectively capitalized on prior technology investments and the streamlined Rapid Deployment Capability acquisition process to control costs and reduce acquisition cycle times to quickly deliver the new capabilities of the AN/ALQ-231(V) Intrepid Tiger II (IT II) EW weapons system to the fight, marking the first successful implementation of a platform agnostic, net-enabled Airborne Electronic Attack payload that provides the MAGTF Commander with an organic, expeditionary capability to degrade and deny the enemy's use of the electromagnetic spectrum. The team resourcefully developed a multiple award, indefinite delivery/indefinite quantity, small business, best value strategy to solicit state-of-the-art Commercial-Off-The-Shelf components from industry; then established a Government Lead System Integrator to innovatively integrate technology from several vendors into a single, a modular open systems design solution. This approach enabled the team to rapidly field solutions to surmount critically urgent EW capability gaps faced by Marine Corps users in direct support of combat operations.

Further, capitalizing on a system designed for affordable change, the team showcased the adaptability of its solution by seamlessly and cost-effectively integrating the IT II system onto four additional type/model/series aircraft in fewer than nine months with a RDTE budget of less than \$5.4M. Today, the team's fielded systems continue to effectively support Marines actively engaged in combat operations on their 13th consecutive deployment, including four simultaneous, geographically dispersed MEU detachments responding to OCO missions worldwide.

Please accept my heartfelt appreciation on a job well done!