



**PRECISION STRIKE
ASSOCIATION**
Affiliate, National Defense
Industrial Association

2nd Quarter
2008
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"From Cruise Missiles Association to Precision Strike Association we have been dedicated to advancing the art and science of precision engagement concepts and technology for 20 years."

VISION STATEMENT

We aspire to be the premier association dedicated to advancing the art and science of precision engagement concepts and technology.

To accomplish this, we will promote the development of systems and procedures in order to locate, fix, track, target, and attack fixed, moving, and relocatable targets.

We recognize that battlespace management, the network within which it functions, and the adjunct command and control requirements are crucial to success on the battlefield.

PSA has a global perspective and welcomes international participation.

Joint Service Capabilities is Focus of Upcoming Fire Power Forum

The Precision Strike Association's Armaments Technology Fire Power Forum (PEO-08), to be conducted in cooperation with the NDIA Picatinny Chapter, is scheduled for June 10-11, 2008 at the Parsippany Hilton Hotel in Parsippany, NJ.

U.S. Army Brigadier General William Phillips, PEO Ammunition and Commanding General at Picatinny Arsenal, will host this premier Forum, which leads off a series of events, including a golf tournament, trap/skeet shooting competitions and presentation of the 33rd Firepower Benefit and Scholarship Award. The Forum's theme, "Precision Fires as an Enabler for Force Dominance" will emphasize the role of precision weapons for maximum effects while minimizing collateral damage.

To that end, we are extremely fortunate to have assembled an outstanding group of expert speakers from the military services and defense agencies who will provide participants a review of current activities involving their munitions programs.

Our keynote speaker, USAF Major General David Eidsaune, Commander, Air Armament Center and Air Force Program Executive Officer for Weapons, will discuss the latest in Air Force precision munitions.

You will also hear about the evolution of artillery, the current status of developing new Army precision weapons programs, the effectiveness of currently deployed precision missiles and munitions and Ft. Sill's role in precision fires.

Attendees will gain knowledge of the exciting cutting edge technology being developed within the Picatinny Arsenal laboratories—the Malcolm Baldrige National Quality Award winner for 2007. In addition, we will hear about Joint Munitions Command activities and munitions related logistics support lessons learned from Iraq and Afghanistan. Army Ammunition requirements and safety were two of many other timely issues discussed.

Navy speakers will describe breakthroughs in the Navy's electromagnetic gun program. Further, the status of the BRAC directed move of many munitions related Navy R&D programs into the Picatinny Arsenal area will be briefed.

All these topics and more await our attendees for this "not to be missed" event. We look forward to seeing you at Picatinny in June. ■



U.S. Army
Brigadier General
William Phillips



USAF Major
General David
Eidsaune

IN THIS ISSUE

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Chairman's Column

For those Precision Strike Association (PSA) members who were able to attend the

Precision Strike Annual Programs Review (APR) in mid-April at Waterford Receptions, I'm sure you'll agree with me that it was a superb event.

I'd like to extend kudos to Ginny Sniegon, PSA Programs Chair, U.S. Navy CAPT Pete Murphy, PSA Programs Vice Chair, LTC Ken Britt, USA (Ret), Annual Programs Review Event Chair, and the rest on the APR team who were responsible for putting together this excellent two-day event!

I'd like to also mention that ADM Giambastiani, through Ginny Sniegon, sent us a very nice note of appreciation for our award to him of the first PSA Gold Medal in recognition of his contributions to precision engagement over his distinguished career.

At the annual membership meeting on April 15 we recognized several newly elected members of the PSA Board of Directors. Returning to the Board for a second term are: Ken Britt, Doug Detwiler, Maureen Koerwer, and Lance Moore. First-term Directors are: KC Albright from Whitney, Bradley & Brown, Erik Ballinger from ATK, Mark Ogren from Orbital Sciences, and Gary Seyster from Aerojet. We thank all of our Directors and their organizations for the support and expertise they provide to PSA and the precision engagement community.

Finally, I'd like to draw your attention to a special upcoming event in June.

For many years, NDIA's Picatinny Chapter has conducted a Firepower Forum in conjunction with its annual Firepower Benefit.

This year, PSA will conduct an Armaments Technology Fire Power Forum (PEO-08) in cooperation with the Picatinny Chapter June 10-11 at the Parsippany Hilton Hotel in Parsippany, NJ. The Chapter will then conduct the Firepower Benefit on June 12 with a golf tournament, trap/skeet competitions and an evening banquet.

We're excited about the opportunity for PSA and NDIA's Picatinny Chapter to partner in this effort. Please see the PSA website (www.precisionstrike.org) for more details and to register for what will be an informative and enjoyable three days. We hope to see you all in the Garden State in June!



Bill Dalecky
Chairman of the Board
Precision Strike Association

Annual Programs Review Roundup

The Precision Strike Association (PSA) held its 2008 Annual Programs Review (APR) on 15-16 April at Waterford Receptions, Springfield, VA. This year's APR focused on *Acquisition Excellence for Precision Strike Through Teamwork*.

PSA Chairman of the Board Bill Dalecky opened the Review, saying that "the association's focus is on those capabilities that improve the kill chain for the Warfighter." He noted that 2008 is the 20th Anniversary of the organization that "morphed" from the Cruise Missiles Association into the Precision Strike Association "as the weapons and capabilities have grown."

To mark the occasion, PSA honored two defense leaders "who did a lot to maintain the momentum that precision strike has had in the world of military capability," said Dalecky.

Leading off the first day of the APR was **USAF Brig. Gen. Gregory A. Feest**, Deputy Director for Force Application, J-8 Force Structure, Resources & Assessment Directorate, The Joint Staff, who set the agenda for the annual two-day event.

Feest said "success" is defined "as a state in which your problems are forever changing. As you tackle the big issues, the lesser issues emerge as the next priority. If you accept this definition, the next two days will convince you that PSA is succeeding in its mission to understand and promote national defense policy and military strategy in precision strike."

He said the event's theme "couldn't be more on target. None of us can deliver on today's challenges alone. We must team up or risk stagnating in a world where adversaries are advancing in quantum leaps."

Feest said the use of laser-guided bombs in Operation Desert Storm "made precision strike look easy." But few realized how limited U.S. military forces were in delivering precision weapons at the time. He noted that most aircraft couldn't deliver laser guided weapons, and none could do so in adverse weather. "The lion's share of the work was done by dumb bombs and cluster munitions," he stated.

Since then, "the demand for guided weapons has skyrocketed and Warfighters want to use them on every target...success has spawned harder problems, including

the need to limit collateral damage, hit moving targets and tailor effects on extremely well-defended targets." He said the Joint Air-to-Ground Missile (JAGM) and Small Diameter Bomb II will seek out and destroy moving targets with tri-mode seekers. "They will be far more capable than today's weapons, doing their work with very small warheads tailored to the task while minimizing collateral damage..." said Feest.

"But with increased capability comes more challenges, perhaps the biggest being cost and reliability. We require technical miracles that are both affordable and reliable. We have no blank check from Congress..." said Feest.

"We've come a long way over the past 15 years. The world now expects extreme precision in U.S. military operations...in showcasing our transformational capabilities, we've moved our problems to the next level. These magic weapons often rely on a myriad of supporting systems within the kill chain. We can't ignore these issues anymore than we can ignore budget constraints."

"In a very real sense, we have succeeded, but as victims of our success moved on to new problems, such as the extraordinary demand for precision in all operations and associated cost," Feest concluded.

Attendees were then treated to a keynote address from the **Honorable James S. Gilmore, III**, chairman of the Congressional Advisory Commission on Terrorism, WMD & Domestic Response, a former governor of Virginia and a current candidate for the U.S. Senate.

Gilmore discussed the enduring requirements of the war on terrorism and the policy implications. He said it will be a long war that will need more military personnel, more materiel and more exceptional military technology.

He noted that "PSA is dedicated to high technology and its capacity to be an enhancer of American capability. I'm proud of that. The war on terrorism is a war of ideals. Who ultimately wins will be the nation that is on the high ground."

As an essential element of the National Military Strategy, protection of Cyberspace is essential, says **USN Captain Daryl L. Caudle**, division chief, Cyber Policy, Plans & Strategy, Strategic Plans & Policy Directorate (J-5), The Joint Staff.



BG Gregory A. Feest,
USAF



The Honorable
James S. Gilmore, III



CAPT Daryl L. Caudle, USN

Caudle said there are policy issues as regards Cyberspace protection. “Policy is key because it is emerging. If we don’t understand what we want to do, then we can’t set the right policy in place.

“Partnership within the intelligence communities is essential. We need to leverage money in a fiscally responsible way. We must make sure planners are treating

cyberspace as any other instrument of national power and ensure that we are buying the right technology. Cyberspace must be merged into planning and warfighting efforts just like air strikes and ground forces,” Caudle said.

The Army’s Kill Chain Systems Session was chaired by Lt. Col. Kenneth Britt, USA (Ret), who did double duty as the APR Event Chair. Panel members included: LTC(P) Thomas Payne, USA, product manager, Joint Attack Munitions Systems; Max Allegretta, deputy of the Future Combat Systems (FCS) Division, Force Development Directorate, Army G-8; LTC Mark Pincoski, USA, product manager, Precision Fires Rocket & Missile Systems; and William J. Gnacek, program manager, High Energy Laser Technology Demonstrator Program, U.S. Army Space & Missile Defense Command.



Army Kill Chain Systems Panel:
Max Allegretta, LTC(P) Thomas Payne, USA, LTC Mark Pincoski, USA,
William J. Gnacek, LTC Kenneth Britt, USA (Ret)

Payne discussed how Unmanned Aerial Systems (UAS) are being integrated into the Army force structure. The Viper Strike munition currently arms the Hunter UAS while the Hellfire missile is the weapon of choice for the USAF’s Predator and Reaper UAS. He said the JAGM is a candidate for the Army’s Extended Range/Multiple Purpose (ER/MP) UAS. He said the Army’s armed UAS are currently limited in payload and engagement envelope.

Allegretta described the sensors portion of the FCS package. He said every element of the FCS is an information node, whether manned or unmanned ground vehicles or piloted or pilotless aircraft. “FCS will offer a quantum advancement in situational awareness, providing one common picture,” he noted.

LTC Pincoski updated the attendees on various developments regarding the Guided Multiple Launch Rocket System (GMLRS) and Army TACMS (ATACMS) programs while Mr. Gnacek said his efforts will determine whether solid state high energy lasers will be of use to the Warfighter in defending against rockets, artillery and mortar projectiles.

The Precision Strike Association used the first day’s luncheon to present the PSA Gold Medal to Admiral Edmund Giambastiani, USN (Retired) “for perfecting the process by which we take capability and turn it into joint requirements and for protecting transformational capabilities in the face of budget constraints,” said Dalecky.



ADM Edmund Giambastiani, USN (Retired)

The former vice chairman of the Joint Chiefs of Staff and past commander, U.S. Joint Forces Command, thanked PSA for “the great honor” and discussed resourcing of precision engagement systems, which he believes is more important than the actual weapons. “They are every bit as important, if not more important, than the actual weapons and platforms. You only know this when you have to use them,” Giambastiani concluded.

USN Rear Admiral David “Decoy” Dunaway, commander, Naval Air Warfare Center, Weapons Division, China Lake, led off the first day’s afternoon session. He discussed how the Navy is closing the loop from Warfighter capabilities to the budget process.



RADM David “Decoy” Dunaway, USN and Captain Harold “Bud” Bishop, USN

He said developing “effect” usually involves acquisition of multiple components that are unstrung. “The acquisition process is not systematically designed to connect them to achieve that effect. We don’t do the math on connecting the dots,” he believes. Complicating the problem is the complexity of new weapons, more complex threats and the need for measured effects.

“Naval aviation aims to organize to think systematically about the problem. We must figure out a way to create a construct where people are accountable and we must empower them to connect the systems together. We need to expand beyond the kill chain to the effects chain,” Dunaway added.

“The program acquisition process results in stove-piped developments. So, the challenge is to string legacy and new/future platforms, sensors, weapons and datalinks into warfighting capabilities. Capability-based analysis using kill chain analysis and STAR chart assessments is a systematic and technically rigorous way to meet this challenge,” Dunaway concluded.



Air Force Kill Chain in OIF/OEF Panel:

LtCol Joseph Badalis, USAF, Col Eric Nelson, USAF, Brig Gen Stephen Mueller, USAF, TSgt Jim Spreter, USAF, Col Gary Mausolf, USAF

Perhaps the most interesting presentation of the 2008 APR was the **Air Force’s Kill Chain in OIF/OEF Session** chaired by **Colonel Gary Mausolf, USAF**, a PSA U.S. Military Chair. Session members included: **Brigadier General Stephen Mueller, USAF**, director, Joint Integration, AF/A5R-J; **Colonel Eric “Willie” Nelson, USAF**, commander of the 4th Operations Group, 4th Fighter Wing, Seymour-Johnson AFB; **LtCol Joseph Badalis, USAF**, commander, 14 AS; and, **USAF TSgt Jim Spreter**, a Joint Terminal Attack Controller (JTAC).

Mueller recently ran a combined air operations center in theater while Nelson headed the 455th Expeditionary Operations Group, Bagram AB, Afghanistan. As skipper of an air support operations squadron, Badalis trains and employs tactical air control parties and air liaison officers who support ground forces. Spreter had multiple combat tours in Iraq and Afghanistan. Collectively, they provided a real-world operational perspective on how the Air Force is currently executing the kill chain in Afghanistan.

Spreter brought along his ‘tools’ including the ROVER device that has put the “P” in Precision. Tactical jet jockeys and ground pounders in Iraq and Afghanistan today

share live video of battlefield targets, collaborating on precision air strikes not possible a scant six years ago. The Remotely Operated Video Enhanced Receiver (ROVER), with companion ruggedized laptop and antennas, allows JTACs on the ground to coordinate more accurate air strikes.

With the ROVER, a JTAC can see on his Panasonic Toughbook laptop a real-time video feed from an unmanned aerial vehicle or a tactical aircraft’s targeting pod of an intended bombing target. Before the pilot executes an air strike, the pilot gains permission from a JTAC who confirms the location of the air strike to ensure minimal collateral damage and avoid injury to friendly forces.

In the past, the pilot communicated with a JTAC via radio, describing what he saw from the air. The JTAC then compared it to his view from the ground, and if everything matched up, the JTAC gave the pilot permission to ‘go hot.’

On the second day of the 2008 APR, **Jim Pennock**, MDBA Missile Systems, chaired the **International Perspective Session**. He was joined by: **Christoffer Drevstad**, vice president for international sales, Taurus Systems; **Halfdan Gloerud**, principal systems engineer, Kongsberg Defence & Aerospace; and, **RAF Squadron Leader Dan Yeoman**, UK MoD, requirements manager, Defence Equipment and Support, Surface Attack Heavy.

Drevstad described his firm’s Taurus KEPD 350—a high precision standoff weapon designed to penetrate dense air defense systems to destroy high value, hardened, stationary and semi-stationary targets.



International Panel: Christoffer Drevstad, Halfdan Gloerud, Squadron Leader Dan Yeoman and Jim Pennock

Developed by Taurus Systems, a EADS/LFK (67 percent) and Saab Bofors Dynamics (33 percent) joint venture, the firm was formed to meet the requirements of the German Air Force. The weapon has evolved into a family of missiles that can be launched from a wide range of

land, sea and/or airborne platforms. Textron Defense Systems and TAURUS Systems recently teamed to offer the TAURUS missile system to U.S. government customers.

Gloerud discussed the Naval Strike Missile (NSM)—an anti-ship and land-attack missile chosen by the Royal Norwegian Navy. Lockheed Martin and Kongsberg have entered into a joint marketing agreement to market an air-launched version of the NSM. The 1,000 pound stealthy missile, to be called the Joint Strike Missile (JSM), is designed to be carried internally and launched externally from the F-35 Lightning II aircraft.

Yeoman described the UK’s planned acquisition of the Joint Combat Aircraft and a Deep Persistent Offensive Capability and various smart munitions, such as the Brimstone, Paveway IV and Storm Shadow. He said the Selective Precision Effect at Range (SPEAR) requirement may be filled by the Small Diameter Bomb (SDB).



The Honorable James I. Finley

The second day’s keynote speaker, Honorable **James I. Finley**, deputy under secretary of defense for acquisition and technology, sees a pressing need to reduce the procurement cycle, simplify and streamline the acquisition system and increase competitiveness. “Forums like this are absolutely essential in getting the word out,” he noted. Finley focused on the

premise for teamwork and stated that commitment to trust and integrity are imperative. Further, he emphasized



Keith Sanders

the need for open and transparent communication and the will to change.

Keith Sanders, deputy director, Portfolio Systems Acquisition (Air Warfare), Office of the Deputy Under Secretary of Defense (A&T), discussed the acquisition process and its effect on the precision strike kill chain. He said “network-enabled kill chains will be coming to a theater near you sooner than expected.” Sanders said strike, ISR and command and control platforms must collaborate in order to achieve an integrated kill chain, but that technical and management issues must be resolved.



Dr. Charles E. McQueary

Dr. Charles E. McQueary, director of operational test and

evaluation, OSD, congratulated PSA for “twenty years of honorable service to the precision strike community and the nation. PSA has worked hard to enhance the science of accurate standoff weapons.”

He discussed the keys to weapons that work from the testing community’s perspective, noting that “even with our best weapons, we are still finding ourselves revisiting effectiveness issues after they are put into service.”

The second PSA Gold Medal went to the Honorable Gordon R. England, the deputy secretary of defense, for recognizing the importance of precision engagement and keeping transformational programs alive. Dr. McQueary accepted the award for the deputy secretary who was unable to attend the ceremony.



Theron Anders

Theron Anders, director, Information Integration Office, National Geospatial-Intelligence Agency, discussed how his organization is supporting combat operations and disaster relief.

The **Acquisition Reform Panel**, chaired by **Wayne Savage**, PSA Chairman Emeritus, included: **Jim Riley**, VP, Land Combat Systems, Raytheon Missile Systems; **Richard H. Edwards**, a Lockheed Martin Missiles & Fire Control VP; Boeing’s **Steve Morrow** and **Steve Roerman** with Lone Star Aerospace. Wayne’s industry team highlighted impacts on immediate battlefield needs related to acquisition reform. The panel focused on supporting the warfighter and how to gain efficiencies throughout the acquisition cycle. The panel noted that industry—not Defense—has been the primary source of R&D for the past 20 years. While technology accelerates, DoD product development times are getting longer.



Industry Panel: Jim Riley, Richard H. Edwards, Wayne Savage, Steve Morrow, and Steve Roerman

The concluding speaker was USN RADM Jim Hart, commander, Combined Joint Task Force, Horn of Africa, who said his job is “to prevent, promote and protect utilizing defense, diplomacy and development.” He provided insight into AFRICOM policy objectives and goals. RADM Hart noted that CJTF-HOA was initially formed in November 2002 as a seafaring force aimed at blocking terrorists fleeing Afghanistan from establishing a new safe haven in Africa. But within six months, the task force moved ashore and its mission morphed into a blend of military cooperation, military-to-military training and humanitarian assistance over a massive region. ■



RADM Jim Hart, USN



Dr. Charles McQueary accepts the PSA Gold Medal on behalf of The Honorable Gordon R. England by Bill Dalecky, PSA Chairman



Presentation of PSA Gold Medal to:
ADM Edmund Giambastiani, USN (Ret) by Bill Dalecky, PSA Chairman



Brig Gen Stephen Mueller, USAF, LTC Ken Britt, USA (Ret), Ginny Sniegon, Bill Dalecky, ADM Edmund Giambastiani, USN (Ret), LTC(P) Thomas Payne, USA, CAPT Daryl Caudle, USN and Col Gary Mausolf, USAF



COBHAM's Exhibit

PSA would like to thank the following sponsors and exhibitors for supporting the 2008 Annual Programs Review:

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- Honeywell, Kaman Fuzing,**
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- Orbital Sciences Corp.,**
- Raytheon, The Boeing Company**



**PRECISION STRIKE ASSOCIATION
presents the GOLD MEDAL to**

**ADMIRAL EDMUND P.
GIAMBASTIANI, JR., USN (RET)**

Under Admiral Edmund P. Giambastiani's "Watch" as the Nation's Seventh Vice Chairman of the Joint Chiefs of Staff, our armed forces transitioned to a predominately precision guided munitions capable military. Admiral Giambastiani uniquely synchronized the efforts of the defense requirements definition and the defense acquisition communities to deliver essential precision engagement capabilities urgently sought by our joint warfighters.

Because of his farsighted leadership, the Department of Defense achieved extraordinary progress in attaining highly effective precision engagement systems including the Joint Direct Attack Munition, Tactical Tomahawk, and most recently the Guided Multiple Launch Rocket System. Admiral Giambastiani's effective collaborative leadership style with the Service Chiefs and the Congress testify to the universal respect afforded his vision and dedication to field affordable and robust precision strike weapons systems.

Admiral Giambastiani's transformation of the Joint Requirements Oversight Council and continued implementation of the Joint Capabilities Integration and Development System continue to create synergy between Service requirements generation for precision guided weapons system capabilities and the joint utilization of these precision munitions by our Combatant Commands. The resulting transformation remains a lasting legacy to his vision and leadership.



Bill Dalecky, Chairman

15 April 2008



**PRECISION STRIKE ASSOCIATION
presents the GOLD MEDAL to**

**THE HONORABLE
GORDON R. ENGLAND**

As the 72nd and 73rd Secretary of the Navy and as the 29th Deputy Secretary of Defense, the Honorable Gordon R. England continuously sought the enhancement of the Nation's precision engagement capabilities. His transformative efforts in directing the Department's pursuit of joint weapons programs ensured the affordability and interoperability of precision strike weapons systems.

Under his farsighted leadership, extraordinary progress continues in attaining highly effective precision engagement systems including the Joint Direct Attack Munition, Tactical Tomahawk, and most recently the Guided Multiple Launch Rocket System. Secretary England's singular success in effective, collaborative leadership with the Chairman, the Service Chiefs, and the Congress attests to the universal respect and support for his vision and dedication to affordable development and prompt fielding to our warfighters of a robust precision engagement capability.

These critical capabilities significantly reduce the effects of collateral damage and at the same time provide our warfighters accurate affordable solutions to promptly counter evolving threats. Under Secretary England's oversight, the Department of Defense developed and fielded essential precision engagement systems to win the fight against terrorists while saving civilian, U.S. and Allied forces lives.



Bill Dalecky, Chairman

16 April 2008

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This year, we celebrate the 20th anniversary of the Cruise Missiles Association's (CMA) incorporation as a non-profit organization in July 1988.

One purpose of the organization, then and now, is to "provide a forum whereby the views and perceptions of its members can be focused and expounded to the enlightenment of the membership, interested parties, and the general public".

The first CMA Symposium was held in April 1988 and was keynoted by Senator Dan Quayle (R-Indiana). He spoke of the need to develop a new generation of cruise missiles and to upgrade existing versions. Sen. Quayle also foresaw a need for long-range conventional cruise missiles in the 1990s. Other speakers included representatives from the Office of the Secretary of Defense, the Defense Advanced Research Projects Agency, the Defense Science Board, the U.S. Navy, and the U.S. Air Force.

In September 1988, we published the first issue of the *Cruise Missiles Digest* with news about our members, precision strike missile developments, defense studies and quarterly luncheon meetings.

A guest speaker was USAF Lt. Gen. George L. Monahan, Jr., the Air Force's principal deputy for acquisition. Our activities in 1988 concluded with a luncheon speech by R. James Woolsey, a former under secretary of the navy, and later a director of the Central Intelligence Agency.

During changes in Administrations, senior Pentagon officials and other U.S. government leaders continued to support cruise missile systems despite attempts by the USSR and arms control zealots to terminate US cruise missiles programs.

The combat successes starting with the 1991 Gulf War bolstered our support. Moreover, consideration of other precision strike weapons revealed the similarity of technology

and components; e.g., guidance, avionics, controls, ordnance and propulsion. This justified that these weapons be viewed as a universal class.

In late 1992, Ray Preston, then the CMA President, convinced the members of the CMA Board Directors to increase the scope of the charter beyond cruise missiles to include virtually all the precision strike weapons community to include standoff weapons, fire-and-forget munitions, precision-guided bombs, smart submunitions and associated employment planning and weapons control systems.

In January 1994, the name of the *Cruise Missiles Digest* was changed to *The Precision Strike Digest*, the change reflecting the broadened charter of the Precision Strike Association, emphasizing the entire spectrum of precision strike weapons — the only professional organization to do that. ■

Submitted by Admiral Walt Locke, USN (Ret)—original founder/member of Cruise Missiles Association and Emeritus member of the Precision Strike Association.

PSA Board Members Brief Rep. Wittman

At the invitation of U.S. Representative Rob Wittman—recently elected to his first term in the U.S. Congress from Virginia's First District—PSA Board Members Bill Dalecky, Ginny Sniegion, Captain Pete Murphy, USN, and Mike Otterblad met with Rep. Wittman on April 24 to discuss precision strike weapons and the

Precision Strike Association's role in this area. As a new member of the House Armed Services Committee, Rep. Wittman sought PSA's perspectives on providing the Joint Force Commanders the ability to employ these weapons.

After an overview on the association by the visiting PSA leadership, Captain Pete Murphy, from the

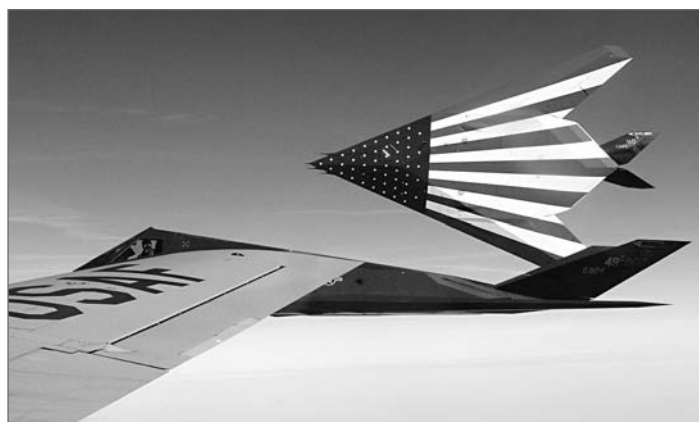
Portfolio Systems Acquisition Office in OSD, presented highlights regarding Precision Weapons and the Kill Chain to the congressman. Following a discussion regarding the attributes of precision strike weapons systems and kill chain implementation, Rep. Wittman thanked the PSA board members for an enlightening and informative session. ■

F-117 Nighthawk Stealth Fighter Retires

After 25 years of storied service, the Lockheed Martin F-117A, the USAF's first stealth fighter, has slipped quietly into history. The Nighthawk was the first of its kind, a fact anyone who has spent time around the aircraft is quick to point out.

Since it officially became a part of the Air Force in 1981, the Nighthawk began making an impression on military officials. Not just because it was "funny" looking, but because the aircraft brought many new capabilities to the battlefield. Fifty-nine were built.

The inky black Nighthawk, after all, was the stuff of science fiction. It could fly across enemy skies and through the world's most advanced radar systems without being detected. This capability allowed the aircraft to perform reconnaissance missions and bomb critical targets, all without the enemy knowing who or what had hit them.



Stealth fighter shows true colors.

The single-seat Nighthawk was a vital part of the Air Force's various campaigns. It saw service in Panama, Iraq, Afghanistan and Bosnia.

The Air Force decided to retire the F-117 fleet because a new generation of stealth aircraft including the B-2 Spirit, F-22 Raptor and soon-to-be-fielded F-35 Joint Strike Fighter have better capabilities, and because the F-117 is expensive to fly and maintain.

Modern technology may have caught up with the F-117, and new aircraft may be set to take its place on the tarmac, but none will ever be able to replace it. Holloman AFB became the F-117's home in 1992. 49th Fighter Wing pilot and maintenance teams launched their last "four-ship" of stealth fighters on April 21, making a brief stop at the F-117s logistics support center in Palmdale, CA, before retiring to Tonopah Test Range, NV, where their wings and tails were removed and the aircraft stored in protective hangars. A portion of the fleet will be rapidly recallable to fly again, if ever needed. ■

PSTS-08 CALL FOR PAPERS

DESIRED TOPICS

Persistent ISR
Data Fusion
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Precision Electronic Attack
Non-Kinetic Effects
UAVs (ISR and Lethal)

Deadline for Abstracts: 13 JUNE 2008

**Acceptance Notification sent by E-mail:
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B-1B Continues to Perform

May 2 marked 20 years since the last B-1B Lancer was delivered to the U.S. Air Force, and today commanders consider it one of the most valuable aircraft in Iraq.

Since 2003, the once-nuclear-weapon-carrying bomber has maintained a continuous presence in Southwest Asia after the USAF modified it to carry numerous conventional bombs.

The Lancer's efficiency in urban ground combat is peculiar considering its designers never envisioned it for such a job, said Lt. Col. James Johnson, Air Combat Command B-1 weapons system chief. The bomber, he said, was designed to make flights around the globe from four garrison bases to deliver nuclear ordnance.

Now it's an inter-theater aircraft trading long-range sorties for loiter time in Iraqi air space.

"Upgrades enabled it to use smaller bombs and more of them," said Senior Master Sgt. Chuck Klein, Air Combat Command B-1 aircraft manager. "The B-1 uses precision smart bombs to support troops in contact."

Operating at approximately 20,000 feet, the B-1 waits patiently with up to 35 tons of precision-guided bombs. When ground troops encounter the enemy it can engage in minutes because of its readiness and speed.

In the first six months of Operation Iraqi Freedom, the bomber delivered

almost 40 percent of the bomb tonnage in only five percent of the sorties. Nearly five years later, the B-1 sorties increased by 25 percent, and Air Force officials dubbed it the

Despite the B-1's age, its effectiveness in Iraq prompts the Air Force to keep a sharp technological edge on the Lancer. Upgrades to the B-1 are ongoing initiatives that modify



A B-1B Lancer lifts off from the runway of an air base in Southwest Asia. The B-1B is a multi-role, long-range bomber capable of flying intercontinental missions without refueling. It can perform a variety of missions, including that of carrying conventional weapons for theater operations.

most valuable aircraft for OIF in March 2007.

Other Air Force bombers have their advantage: the B-2 Spirit boasts stealth and the B-52 Stratofortress is low cost to operate.

But the B-1 earned its popularity by trumping those bombers in speed, range and payload, said Klein. Those attributes are what make it a perfect fit for the war in Iraq.

"The airplane can do the job continuously and has the right mix of weapons," he said, adding that its long loiter time and massive payload make it a fast lifesaver for ground troops.

the airframe with the latest technology, according to Johnson. Currently B-1s are being equipped with the Sniper Advanced Targeting Pod, which allows pilots to identify tactical targets at greater ranges.

Other accomplishments of the B-1 include the breaking of 51 world records. Klein said many of these records include carrying large amounts of weight at fast speeds from one point to another.

"It's been the bomber of choice for Central Air Forces" he said. "It's the right bomber for the mission in Iraq, which is close-air support." ■

News Briefs

ATK Delivers AARGM Test Bed Aircraft

Alliant Techsystems, the U.S. Navy, the Italian Air Force, and Vitrociset S.p.A., have fielded a second Beechcraft King supporting development and testing of the Advanced Anti-Radiation Guided Missile (AARGM). The test bed aircraft was developed as part of the AARGM System Development and Demonstration. The aircraft will be delivered to conduct tests on Italian ranges.

This second AARGM test aircraft is identical to the first, which has been operating on U.S. ranges over the past few years. Each aircraft has a modified nose assembly carrying the AARGM guidance section to support airborne testing of the sophisticated sensor suite. ■

Successful PGK Flight Tests

Alliant Techsystems and the U.S. Army recently conducted a series of successful flight tests of the company's 155mm Howitzer Precision Guidance Kit (PGK) at the Yuma Proving Grounds, Yuma, AZ.

PGK is a GPS guidance kit with fuzing functions for artillery projectiles. It allows the projectile to steer itself toward a tight, pre-programmed position, thereby accomplishing reduced ballistic dispersion of artillery projectiles.

PGK features a GPS-based, fixed canard guidance and control package with gun-hardened electronics, a self-generated power supply, and a minimum number of moving parts that fits into the existing fuze well of 155mm high explosive projectiles.

The successful tests are milestones in the rapid System Design and Development-phase of the program,

supporting a Critical Design Review (CDR) this summer. ■

Successful ATACMS Test

Lockheed Martin successfully launched an ATACMS Unitary missile from a HIMARS launcher equipped with a Universal Fire Control System (UFCS) during a flight test on March 20 at White Sands Missile Range, NM. The missile flew the planned trajectory and hit the target, which was at a range of 75 km.

It was the second Follow-on Production Test of the new ATACMS Unitary configuration that allows Warfighters to use the missile in a vertical attack trajectory, an essential new capability for urban environments where low collateral damage is desired.

BACN Leverages Raptor

Northrop Grumman has successfully accomplished the first-ever real-time download and distribution of sensor information from an F-22 Raptor fighter to F-15 and F-16 aircraft via an airborne network and an F-22-unique datalink.

Northrop Grumman recently demonstrated this in-flight data transfer capability with its Battlefield Airborne Communications Node (BACN). Downloading and distributing situational awareness data from the stealthy F-22's forward deployed positions leverages the Raptor's sensor capabilities as a force multiplier and as a future enabler for enhanced effects-based planning. BACN played a critical role in substantiating the operational utility and technical performance of Internet protocol-based airborne networking. ■

New Bunker-Busting Technology

Raytheon has developed and tested a new conventional warhead

technology to defeat hardened and deeply buried bunkers. The new technology, called Tandem Warhead System, consists of a shaped-charge precursor warhead combined with a follow-through penetrator explosive charge.

In a test early this year, the newly developed 1,000-pound-class warhead set a record when it punched through 19 feet, 3 inches of a 20-foot, 330-ton, steel rod-reinforced concrete block rated at 12,600 pounds per square inch compressive strength. In fewer than 10 milliseconds, the explosion delivered into the target more than 110 million foot-pounds of energy via a high-velocity jet of molten metal.

CALENDAR OF EVENTS

Armaments Technology Fire Power Forum

Date: June 10-11, 2008

Theme: "Precision Fires as an Enabler for Force Dominance"

Location: Hilton Parsippany, Parsippany, NJ

Precision Strike Technology Symposium (PSTS-08)

(To be conducted at the SECRET/NOFORN level)

Date: October 28-30, 2008

Theme: "Compressing and Integrating the Kill Chain"

Location: Johns Hopkins University Applied Physics Laboratory, Laurel, MD

Precision Strike Annual Review

Date: March 10-11, 2009

Location: Waterford of Springfield, Springfield, VA

* Please note next year the Precision Strike Winter Roundtable and Annual Programs Review is being combined into one event. The William J. Perry Award will be presented at this event.

Sponsorships and exhibition opportunities available for all events. For more information email info@precisionstrike.org or visit our website: www.precisionstrike.org

Raytheon's large shape-charged test was the first against a target built to withstand more than 10,000 psi. Most conventional weapons in the same weight class as Raytheon's precursor warhead cannot penetrate targets rated at more than 6,000 psi. ■

LM to Demonstrate C-RAM Interceptor

Lockheed Martin has received \$8.6 million from the U.S. Army to demonstrate a Counter Rockets, Artillery and Mortar (C-RAM) interceptor system. Work on the contract will be completed by November 2008.

Lockheed Martin's concept features a compact, vertically launched missile that offers the Warfighter significant operational and tactical advantages against RAM threats. The system encompasses the interceptor, fire control sensor, launcher and battle manager, and will ultimately interface with the latest battlefield surveillance systems. ■

The Netherlands Acquires Enhanced Paveway II

The Netherlands is buying the combat-proven Enhanced Paveway II precision-guided munition (PGM). The contract, which is a direct commercial sale for an undisclosed sum, will provide the Netherlands with 200 kits to convert 500-pound "dumb" bombs into the GBU-49, a precision weapon that has been used extensively in Iraq.

Enhanced Paveway II is an affordable, all-weather, dual-mode GPS/laser-guided precision munition that has successfully been used in combat by the U.K. Royal Air Force during Operation Southern Watch, Operation Enduring Freedom, and Operation Iraqi Freedom. ■

France Acquires Hellfire II

The governments of France and the United States have signed a Letter of Offer and Acceptance for the sale of Lockheed Martin's precision-strike laser-guided HELLFIRE II missiles to France. The agreement authorizes the sale of multiple warhead variants of the modular HELLFIRE II, with options, for the French Army's Helicoptere d'Appui Destruction (HAD) Tiger attack helicopter fleet. Contract value and missile quantities were not disclosed.

HELLFIRE II is currently fielded with the armed forces of the U.S. and 13 other nations. The modular HELLFIRE II includes four semi-active laser warhead variations: the high-explosive anti-tank (HEAT) missile, or AGM-114K; the AGM-114M blast fragmentation missile; the metal augmented charge missile, or AGM-114N; and, the recently introduced augmented HEAT warhead, AGM-114K-A. ■

PEOPLE

President Bush has nominated Air Force Lt. Gen. **Donald J. Hoffman** for promotion to the grade of general with assignment as commander of Air Force Materiel Command, succeeding General **Bruce Carlson** who will retire ending a 37-year USAF career.

The President has nominated Navy Rear Adm. **David J. Dorsett** for appointment to the grade of vice admiral and assignment as director of naval intelligence. Navy Rear Adm. **Kevin M. McCoy** has been nominated for appointment to the grade of vice admiral and assignment as commander, Naval Sea Systems Command. Navy Rear Adm. (lower half) **Robert S. Harward Jr.** has been nominated for appointment to the grade of vice admiral and assignment as deputy commander, U.S. Joint Forces Command.

Navy Vice Adm. **Melvin G. Williams Jr.** has been nominated for assignment as commander, Second Fleet, Norfolk, VA. Navy Rear Adm. **Joseph D. Kernan** is being assigned as commander, Fourth Fleet, Jacksonville, FL. The re-established Fourth Fleet will be responsible for U.S. Navy ships, aircraft and submarines operating in the Caribbean, and Central and South America.

Army Maj. Gen. **John F. Mulholland Jr.**, has been nominated for appointment to the rank of lieutenant general and assignment as commanding general, U.S. Army Special Operations Command, Fort Bragg, NC.

The White House has nominated Army Maj Gen. **Patrick J. O'Reilly** for appointment to the rank of lieutenant general and assignment as the director, Missile Defense Agency, Washington, D.C. the current MDA Director Air Force Lt. Gen. **Henry A. Obering** is scheduled to retire in the fall.

Air Force Maj. Gen. **Paul J. Selva** has been nominated for appointment to the grade of lieutenant general with assignment as assistant to the Chairman of the Joint Chiefs of Staff.

Petraeus-Odierno Team Nominated to Lead in CentCom, Iraq: Army General **David H. Petraeus** is slated to become the next U.S. Central Command commander. Army General **Raymond T. Odierno** is expected to succeed Petraeus as Multinational Force Iraq commander.

PRECISION STRIKE ASSOCIATION AND THE NDIA-PICATINNY CHAPTER PRESENT THE ARMAMENTS TECHNOLOGY FIRE POWER FORUM

"PRECISION FIRES AS AN ENABLER FOR FORCE DOMINANCE"

JUNE 10-11, 2008

PARSIPPANY HILTON, PARSIPPANY, NJ

THIS SYMPOSIUM SEEKS TO SHOWCASE THEIR REMARKABLE ACCOMPLISHMENTS BY FOCUSING ON:

- EVOLUTION OF ARTILLERY FOR INCREASED EFFECTIVENESS
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- NAVY INTEGRATED SPECIALTY SITE FOR GUNS AND AMMUNITION
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- FORT SILL'S ROLE IN PRECISION FIRES
- GUIDED MISSILES OVERVIEW
- ARMY AMMUNITION REQUIREMENTS
- MUNITION LOGISTICS SUPPORT
- MUNITIONS SAFETY

PRECISION STRIKE TECHNOLOGY SYMPOSIUM (PSTS-08)

"COMPRESSING AND INTEGRATING THE KILL CHAIN"

OCTOBER 28-30, 2008

JOHNS HOPKINS UNIVERSITY APPLIED PHYSICS LAB KOSSIAKOFF CENTER

PSTS-08 will be conducted at the SECRET/NOFORN level all 3 days

PSTS-08 WILL FOCUS ON EIGHT TECHNICAL TOPICS:

Persistent ISR * Data Fusion * Decision Support * Engaging Moving Targets
Defeating WMD * Precision Electronic Attack * Non-Kinetic Effects * UAVs

KEYNOTE & EXECUTIVE-LEVEL SPEAKERS PRESENTATION TOPICS WILL HIGHLIGHT:

- INTELLIGENCE UPDATE ON THE THREAT
- STRATEGIC OBJECTIVES FOR COMPRESSING & INTEGRATING THE KILL CHAIN
- NATIONAL SECURITY OBJECTIVES
- THE IRAQI PERSPECTIVES PROJECT UPDATE
- PROMPT GLOBAL STRIKE (PGS) CAPABILITIES
- PRECISION STRIKE INTELLIGENCE CAPABILITIES & TECHNOLOGY IMPROVEMENTS
- B-52 CAPS UPDATE & LONG RANGE STRIKE
- TECHNOLOGY TO ENHANCE THE ENTIRE TARGETING CYCLE
- END GAME FOR GLOBAL WAR ON TERROR
- THE FUTURE OF HARD TARGET DEFEAT
- COUNTERMEASURES ASSESSMENTS OF PRECISION GUIDED WEAPONS
- COMBAT SUPPORT ROLE—THE TARGETING LANDSCAPE
- IED SITUATION & USE OF ROBOTIC SYSTEMS
- ADVANCED TACTICAL DATA LINK
- U.S. SPECIAL OPERATIONS COMMAND ISSUES/OPTIONS/CHALLENGES SESSION

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