



2012 Johnson Trophy Recipient

**David
Keith
Sanders**

A Little About Keith

- David Keith Sanders leads NAVAIR's Acquisition/Program Management Competency
 - Responsible for six program offices executing over 90 ACAT II-IV programs
- Appointed to the Senior Executive Service in February 2003
 - Over 40 years of service with the Navy
- Navy roles have been varied, and have touched wide range of Precision Strike programs – hundreds of products
- Assignments at Naval Weapons Support Center, Crane, Indiana, NAVAIR in Crystal City and Patuxent River NAS, and, at OSD in the Pentagon
- 1970 Aeronautical Engineering degree from Purdue, MBA from George Mason University

Johnson Trophy Criteria

- **Primary Considerations; Notable technical innovation in the field of precision strike which advanced the defense of the United States**
 - Contributions as an individual
 - Technical contributions which advanced state of the art
- **Secondary Considerations; a legacy of personal technical innovation and accomplishment which:**
 - Transcends a single program
 - Has been widely felt by the warfighters who defend the United States
 - Has influenced other technologists as measured by factors such as imitation, and mentoring
 - Have made precision strike systems more widely available to warfighters who defend the United States
- **Other considerations**
 - A record of innovation found in publications, patents, and similar public domain sources
 - Contributions outside the field of precision strike
 - Recognition of accomplishments by other awards and honors
 - Cost effectiveness of innovations which reduced the cost of precision strike.

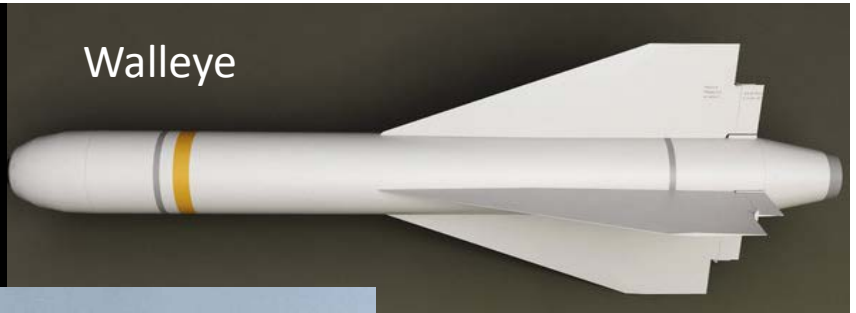
Transcending a Single Program

- Keith has been “in the right place at the right time” to participate in a wide range of Precision Strike efforts
- In October 1983, he moved to Naval Air Systems Command’s Air Armament Division as the senior systems engineer responsible for technical management of all 100 air-to-surface weapons and 800 emergency escape devices used on naval aircraft
- The jury found more than a dozen Precision Strike programs where people cited specific contributions
- Every NAVAIR PMA and PEO who has worked with Keith expressed support for his nomination; they are responsible for nearly all the cited programs

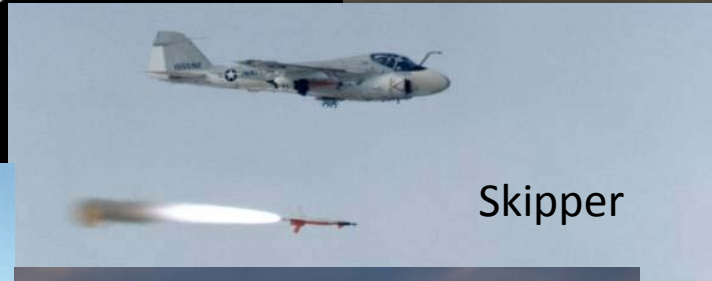
Some Programs Keith Influenced



Maverick



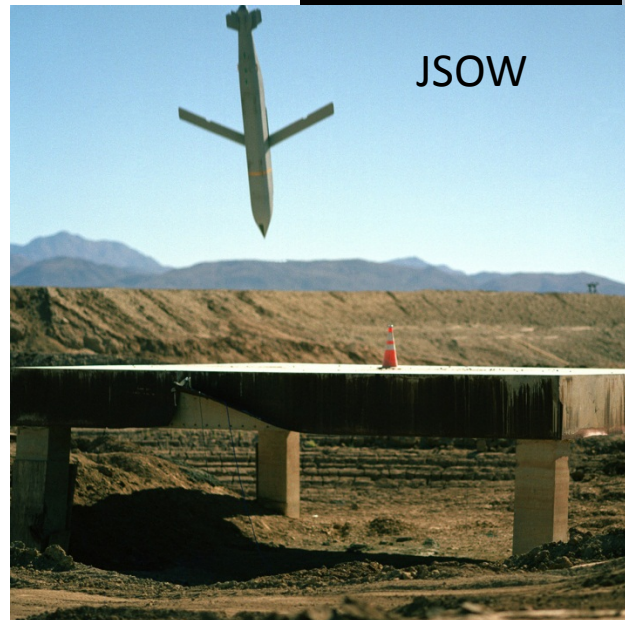
Walleye



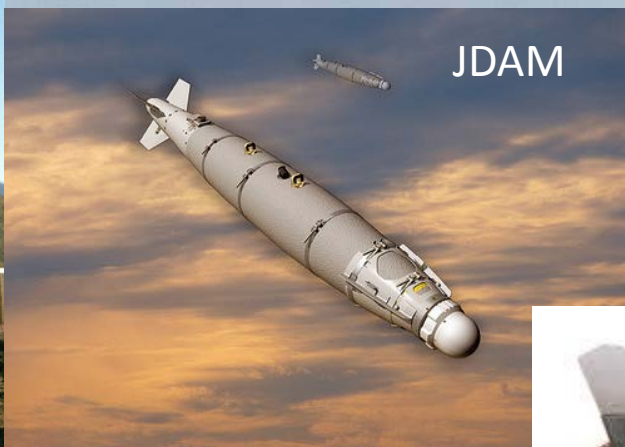
Skipper



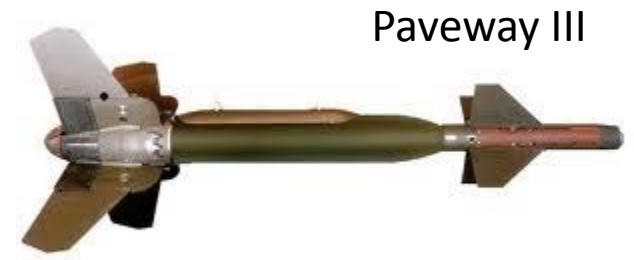
Paveway II



JSOW



JDAM



Paveway III

More Programs Influenced by Keith

Tomahawk



HARM



AMRAAM



SLAM & SLAM-ER



Special Forces Gunship



Harpoon



JSTARS



Technical Contributions As an Individual

- A current Flag Officer make the following comment, typical of PEO's and PMA's who Keith has worked with:

He, more than most, was a very technical manager. Guys like me would tell you he was too technical ... If the emphasis of the award is to reward the use of tech expertise in the advancement of DoD programs, he's a worthy cause.

- A retired PEO and PMA said:

Keith brought his practical Purdue engineering mindset to all of his roles, whether he was formally an engineer, or called a manager. He is known for this ability to work his way through tough technical issues. His specific accomplishments are too numerous to articulate...on almost every air-launched weapon in DoD's inventory.

- Examples were emphatically cited to the jury

JDAM & JSOW

ABF

GPS Guidance

Tomahawk as Deputy PEO

Deputy PEO – Strike Weapons

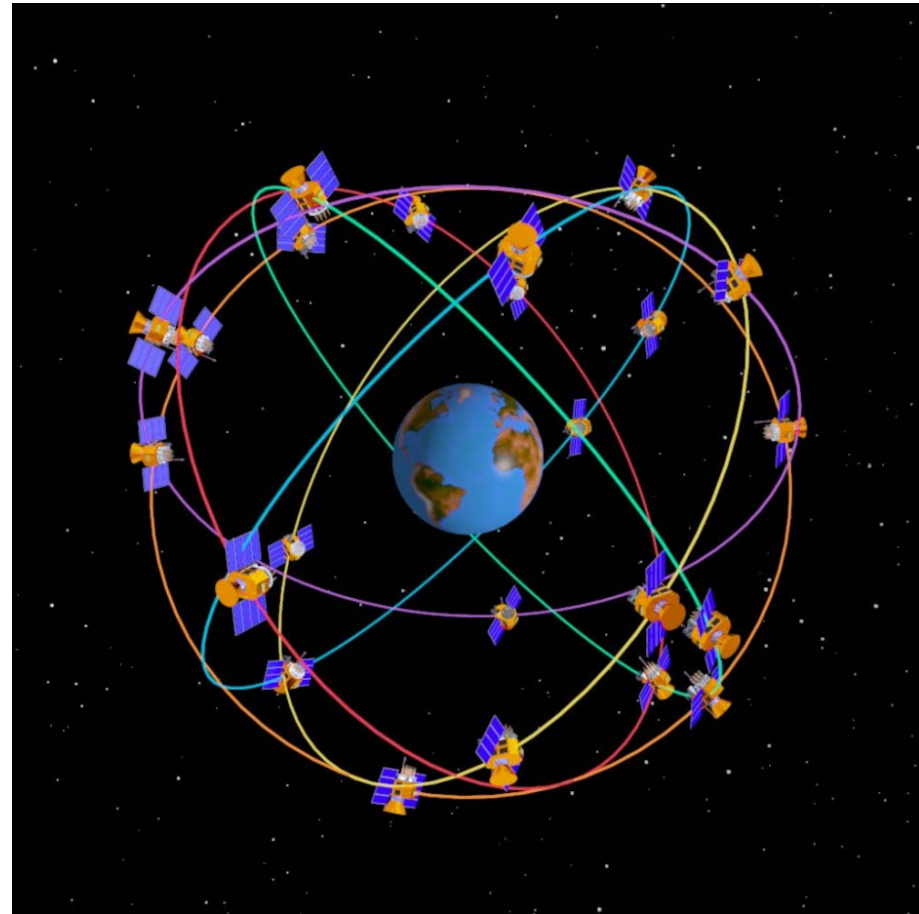
- While DPEO for Strike Weapons, Keith was instrumental to the success of flight testing
- He chaired pre-launch reviews for test launches
 - Reviews were very detailed; many took a day to complete
 - This technical discipline and other personal contributions were cited as examples of impact to a number of programs, in particular to Tomahawk

Advanced Bomb Family

- ABF was a 1990 era program with legacy has spanning two decades
 - First serious look at GP bombs since the 1950's conversion to the Mk-80 family from WW II bombs
- Keith personally led all the technical work, pulling the best thinkers, technology, and solutions, whether they happened to be in the Navy or not
 - Emphasis on Cost and Operational Effectiveness (COEA) analysis & Modeling
 - ABF was the genesis for advanced explosive fills and fuzing
 - Questioned the logic of the Mk-80 family's weapons sizes.
- ABF did not survive - It was far ahead of its time
 - The rock solid trade studies, seed technology funding, and employment analysis was foundational for programs that followed
 - Nearly every direct attack weapon since that time was influenced by ABF, whether that influence was acknowledged or not.
 - Other nations have copied the advances ABF championed

GPS Guidance

- Today it seems inevitable that we'd use GPS in JDAM, JSOW, Tomahawk and SDB, but it might not have happened if technical and architectural solutions had not been found
- No one person "owns" this achievement - Keith is one of a handful who helped forge a fact based consensus
- Critical systems engineering trades/approaches had to be accepted across several different platforms and communities
- Keith's role: an example of what can ONLY be done with technical leadership in government



Seeds of the UAI



- Keith provided systems engineering leadership for the first low cost smart weapons; JSOW and JDAM
- Universal Aircraft Interface (UAI) is based on the near-common interface of JSOW/JDAM
- The jury was told Keith's quiet, competent leadership enabled consensus between the USAF, Navy, and two different primes and that without Keith, consensus might have been impossible

Influence Extending Beyond Precision Strike



Large Aircraft Infrared Countermeasures
(LAIRCM)



Advanced Threat Infrared Countermeasures
(ATIRCM)

Mentoring & Influence

- A number of people who worked for and with Keith have gone on to successful careers
 - SES
 - Flag Officers, PMAs, PEOs
 - Corporate/Industry colleagues
- These individuals appreciate
 - Low key, low drama coaching
 - Management by fact
 - Focus on the goal; good for the warfighter, good for the taxpayer
- Keith's successful, collaborative style has influenced a number of other people who learned to imitate his style; not because he demanded it, but *because they learned it worked*

Recognition: Other Awards and Honors

Keith has received:

- Secretary of Defense Exceptional Civilian Service Award in 2009 and 2010
- William J. Perry Award in 2006
- David Packard Award in 2001 and 2005
- National Daedalian Weapons System Award in 1999 and 2004
- Navy Superior Civilian Service Award in 2003
- Special Commendation of the Canadian Forces
- Navy Meritorious Civilian Service Award in 1999

Summary

- Keith is an excellent representative of the kind of person the Richard H. Johnson Award seeks to honor – a great fit by *all the jury criteria*
- Keith worked on many of the same systems Dick influenced
- ***The Precision Strike Association is very pleased to name Keith Sanders the winner of the 2012 Johnson Trophy***