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NEW GAO COST ASSESSMENT GUIDE COVERS EARNED VALUE

The Government Accountability Office (GAO) has published a GAO Cost Assessment Guide, *Best Practices for Estimating and Managing Program Cost*. It includes three chapters on Earned Value Management (EVM) with clearly explained methods, best practices, useful checklists, and case studies.

This is the first guide that links cost estimating and EVM. It offers transparency into how GAO will conduct an audit of a program's cost estimate, and it offers EVM data and tips on how to develop reliable Estimates at Completion (EACs) using cost estimating techniques.

A list of other topics discussed in detail follows:

- Managing the technical baseline and requirements
- EVM best practices checklist
- Probing schedule variances for activities on critical path
- Determining data reliability
- Determining if contractor's EAC is feasible
- Developing and executing a program surveillance plan
- Integrated baseline reviews.

The guide is an exposure draft. GAO will collect comments before issuing a final version. Browse or download the guide at <www.PB-EV.com>. Click on "Basic EVM."

AIR FORCE MATERIEL COMMAND (JULY 30, 2007) AUTOMATED SYSTEM WILL IMPROVE PURCHASE REQUEST PROCESS

Pam Sutton and Larry Darbyshire

WRIGHT-PATTERSON AIR FORCE BASE, Ohio—For those in Air Force Materiel Command whose job requires them to manually prepare purchase requests and get them to the local contracting office, life is about to get better.

Air Force Materiel Command is preparing to introduce a new, electronic, Web-based system called the Purchase Request Process System, or PRPS. The system will automate the front end of the purchase request acquisition process and provide a paperless link to contracting, bridging the gap between requirements and contacts processes.

Delivery of PRPS capability will occur in spirals, which are like building blocks. Deploying in August, Spiral 1 supports National Stock Number-related documentation activities

such as the screening analysis worksheet, contract repair screening analysis worksheet, quality, first article, and numerous others that may be required to complete a purchase request package. In addition, an ongoing effort will begin to populate a document repository with completed activities for historical purposes.

Spiral 1 also provides for the retirement of two legacy systems: J023, the automated purchase system that provided limited computer processing for purchase requests; and J090A, the acquisition screening system that automated AFMC Form 761. Future spiral releases will provide generation of purchase request, delivery order request, military interdepartmental purchase request, or MIPR, and associated activities from the repository. This will include funding certification and the electronic hand-off of the purchase request to contracting.

AFMC is implementing PRPS because it provides the Air Force an automated solution for purchase request, delivery order request, MIPR and activities processing. It also supports Air Force Logistics Transformation goals and objectives.

In addition to the automation benefit, an estimated 5,000 users of PRPS will improve the efficiency and effectiveness of their support to warfighters by reducing administrative lead time by an estimated 22 days. In addition, it will provide visibility of contract assets and availability as well as due-in asset visibility.

A functional user group consisting of subject matter experts from AFMC's three air logistics centers and the Cryptologic Systems Group helped to develop PRPS.

Group member Lindsey Robertson said that PRPS truly places the AFMC acquisition process into the 21st century.

"Do not fear change and embrace a greater way to do business," said Robertson, a program controller at Warner Robins ALC, Robins AFB, Ga.

To prepare for field testing of PRPS, the developer of PRPS, Computer Sciences Corp., recently conducted "train-the-trainer" classroom sessions for selected site personnel at ALCs. Additional users will complete computer-based training that is integrated within the PRPS application. They will also have access to online training, reference documents, and other training aids. To assist users in their daily jobs, PRPS also includes online, context-sensitive, page-level, and field-level help.

BOOK REVIEW: *The Simplicity Cycle*, by Dan Ward

Defense and the National Interest (DNI) Review by Chet Richards, Editor (July 26, 2007)

*'Tis the gift to be simple, 'tis the gift to be free,
'Tis the gift to come down where we ought to be ...*

Coffee this morning was brewed by the best pot I've ever owned. The coffee was fine, but the machine, a fairly new Braun, is fantastic because it has only one control: an "On" switch. Ah, simplicity, just what you need at 5 a.m.

Dan Ward's entertaining little primer on the subject won't teach you anything about simplicity that you don't already know, but it may remind you of some ideas you've forgotten. One of these, probably the most important, is that simplicity requires lots of hard work—conscious, ruthless, and creative work. As Stephen Wolfram demonstrated (and demonstrated and demonstrated) in *A New Kind of Science*, complexity is the natural order of the universe. Left to themselves, even very simple systems will produce complexity. If you want simplicity, you have to fight for it.

It turns out, according to Ward, that any project will eventually encounter a fork in the road. A system always starts out simple—hard to get more simple than a blank sheet of paper—but then people start adding features to give it capability. After a while, it's no longer obvious how to make the thing work, and even worse, interactions between the components begin to spawn unintended consequences. At some point—the fork in the road—the people working on the project have a choice to make: Add more structure in an attempt to control the behavior of the system, or start taking things out in order to make the system more predictable and easier to use. The first choice is the easiest, since it doesn't involve difficult decisions and trade-offs, but it turns a complex system into a complicated and often useless one. The second can turn a complex system into an elegant one.

I see this in writing projects. At some point, if the book or article is going to be any good, revisions start taking more out than they put in. Words, sen-

tences, paragraphs, sometimes even whole chapters disappear, and style and meaning begin to emerge. It can be pretty exciting. Ward's point is that if your project hasn't reached this stage, then it's still more complex—if not more complicated—than it needs to be.

Although Ward limits his discussion to design projects, complexity is also a mischievous demon in the world of strategy. As author and military historian John Boyd noted:

Complexity (technical, organizational, operational, etc.) causes commanders and subordinates alike to be captured by their own internal dynamics or interactions—hence they cannot adapt to rapidly changing external (or even internal) circumstances.

Patterns of Conflict, p. 176

Maneuver warfare, the doctrine of the Marine Corps and a modern development of blitzkrieg tactics, rests on a foundation of simplicity. General Hermann Balck, whom the Germans considered as one of their best field commanders, told Boyd that the big advantage of basing a "command and control" system on intent, trust, and initiative was that it fosters an "internal simplicity that permitted rapid adaptability," which is always useful when facing a thinking opponent.

Ward, in the manner of another system simplifier, Sun Tzu, doesn't offer up a cookbook for creating systems. Instead, he proposes and, by using clever graphs, illustrates several themes that, if you ponder them, can set you on the path to designing emotionally rewarding systems. Like Sun Tzu or Jonathan Livingston Seagull, or *The Elements of Style*, this is a little tome that you can keep in the center drawer of your desk and take out from time to time just to glance through. The book is obviously the product of its own advice: simple, functional, elegant.

Maj. Dan Ward is assigned to the Air Force Research Laboratory in Rome, N.Y. A prolific author and writer, Ward is a frequent contributor to Defense AT&L magazine.

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To help users, PRPS roadshows have taken place at Tinker AFB, Okla., and Robins AFB. Plans are under way to conduct a PRPS Roadshow at Hill AFB, Utah.

For more information, visit the PRPS Newsstand Web site <<https://afkm.wpafb.af.mil/ASPs/CoP/OpenCoP>>.

Sutton and Darbyshire are with Air Force Materiel Command Logistics Directorate.

DEPARTMENT OF DEFENSE NEWS RELEASE (JULY 31, 2007) **2007 MAINTENANCE AWARD WINNERS ANNOUNCED**

The Department of Defense today announced the 2007 winners of the Secretary of Defense Maintenance Awards at the depot and field levels. These awards are presented annually to recognize outstanding achievements in military equipment and weapon systems maintenance.

The Robert T. Mason Depot Maintenance Excellence Award recipient is the Dedicated Design and Prototype Effort Team at the U.S. Marine Corps Maintenance Center, Albany, Ga. The team provided exceptional and responsive maintenance support to our warfighters by demonstrating the ability to be responsive, resourceful, agile, and creative by designing and prototyping multiple systems in support of Operation Iraqi Freedom.

The depot-level award is named in recognition of Robert T. Mason, a former assistant deputy under secretary of defense for maintenance policy, programs, and resources. Mason served as the champion of organic depot maintenance for three decades, while helping to transform DoD organic depot-level operations.

There are six field-level awards presented in the categories of large, medium, and small units (two each). The recipients of this year's Secretary of Defense Field-level Maintenance Awards are as follows: for the large category, the 1st Maintenance Battalion, Marine Corps Base, Camp Pendleton, Calif., and the 56th Maintenance Group at Luke Air Force Base, Ariz. Winners in the medium category include the Marine Aviation Logistics Squadron 16, Marine Corps Air Station, Miramar, Calif., and the 1st Aircraft Maintenance Squadron, Langley Air Force Base, Va. Small category winners include the Navy's Aircraft Intermediate Maintenance Detachment, Mayport, Fla., and Army's Charlie Company, 501st Military Intelligence Battalion, Wackernheim, Germany.

The awards will be presented to the winners at the Secretary of Defense Maintenance Awards banquet on Nov. 15, 2007, during the 2007 DoD Maintenance Symposium and Exhibition at the Rosen Shingle Creek Hotel in Orlando, Fla. Additional information regarding the 2007 DoD Maintenance Symposium and Exhibition can be found at <www.sae.org/dod>.

AIR FORCE PRINT NEWS (AUG. 9, 2007) MODELING, SIMULATION EXPERT RECEIVES LIFETIME ACHIEVEMENT AWARD

Capt Ulric Adams Jr., USAF

WASHINGTON—Dr. Jacqueline R. Henningsen received the Air Force Modeling and Simulation Moody Suter Lifetime Achievement Award during a ceremony at the Pentagon Aug. 9. Henningsen is the director for studies and analyses, assessments and lessons learned. Secretary of the Air Force Michael W. Wynne made the presentation.

The award recognizes military and government leaders who significantly contributed to modeling and simulation throughout their career. Henningsen was recognized for 20 years of work in advancing modeling and simulation throughout the Air Force and DoD.

Among her notable accomplishments, during Desert Storm, as chief of assessments at then-Strategic Air Command headquarters, which became United States Strategic Command, Henningsen used M&S to evaluate and improve logistics processes to support the warfighter in theater.

In 1995, she was instrumental in establishing the Air Force Agency for Modeling and Simulation through then Air Force Chief of Staff Gen. Ronald Fogleman's Air Force 4-star M&S Summit.

Recently, Henningsen used modeling and simulation to provide the acquisition community with critical data on fielding and life cycle support during F-22 Raptor weapon system development.

"The Air Force is a Service with a heritage of leveraging technology to gain military operational advantage," said Henningsen in her remarks after being honored.

More specifically, she tied the value of M&S back to early Air Force history and the many benefits gained by partnering with the scientific and research and development communities from the 1940s to today.

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Henningsen is only the second person to ever receive this prestigious award. The award is named after the late Richard "Moody" Suter, a retired Air Force colonel who is considered the father of the Red Flag exercise, regarded by many as the premier air combat exercise in the world. His vision revolutionized combat training for Air Force aircrews and has been expanded to include Green, Blue, and Virtual Flag exercises.

Adams is with Air Force Agency for Modeling and Simulation.

DEFENSE ADVANCED RESEARCH PROJECTS AGENCY NEWS RELEASE (AUG. 9, 2007) **DARPA PRESENTS AWARDS FOR EXCELLENCE IN PERFORMANCE**

Dr. Anthony J. Tether, director of the Defense Advanced Research Projects Agency (DARPA), presented the 2007 DARPA Awards for Excellence at DARPATech 2007 in Anaheim, Calif.

BAE Systems Advanced Technologies, Washington, D.C., received the award for Significant Technical Achievement for outstanding leadership and engineering innovation in the design, construction, and activation of the High-Frequency Active Auroral Research Program (HAARP) instrument in Gakona, Alaska. The HAARP instrument is critical to the understanding and prediction of space weather for satellite operations at low earth orbit and is invaluable as a ground-based test bed for applications requiring a flexible source of high frequency, extremely low frequency, and very low frequency radiation.

Phiar Corp., Boulder, Colo., received the Award for Small Business Innovation Research for their innovation excellence in creating a new electronic device technology that



Secretary of the Air Force Michael W. Wynne presents the Air Force Modeling and Simulation Moody Suter Lifetime Achievement Award to Dr. Jacqueline R. Henningsen, director for Air Force studies and analyses, assessments and lessons learned.
U.S. Air Force photograph by Sandra Guthrie

scientific expertise he and his team provided under the DARPA Surviving Blood Loss program. Roth and his team successfully demonstrated a hydrogen sulfide therapy involving the reversible reduction of a mammal's metabolic activity without long-term side effects. The results of this effort have led to technology that will dramatically improve the survival rate of wounded warfighters and provide revolutionary improvements in the prevention and control of other medical complications on the battlefield.

The Award for Sustained Excellence by a Government Agent was presented to selected Air Force Research Laboratory, Wright Patterson, Ohio, personnel for their support of DARPA's Tactical Targeting Network Technology (TTNT) and Quint Networking Technology (QNT) programs. Recognized AFRL staff were **Dawn Ross**, **Capt. John Tate**, **John Woods**, **Mark Minges**, and **Lt. Michael Clark**. TTNT is an Internet protocol-based, high-speed, dynamic, ad hoc data link network designed to enable tactical aircraft

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enables affordable, low-power sensor and communication operations. Using new nanotechnology-based quantum tunneling principles, Phiar's technology offers a potential solution to the speed and power limitations of semiconductor-based devices. It also offers higher performance generated from existing mainstream manufacturing technologies.

Fiberstars, Solon, Ohio, received the Award for Small Business Innovation Research for developing innovative arc source multi-layer coatings that more than double lighting systems lifetime without affecting performance. Fiberstars developed the innovative technology as part of DARPA's High Efficiency Distributed Lighting program, which is aimed at improving survival, deployment, and maintenance levels of lighting systems for Navy ships. Fiberstars' technology lowers life cycle costs of lighting systems by extending the interval between lighting replacements. The savings realized are substantial and will improve productivity and efficiency in a variety of military efforts.

Dr. Miguel Nicolelis, Duke University, Durham, N.C., received the award for Sustained Excellence by a Performer for his work advancing the understanding of the relationship between the brain and motor control leading to innovative possibilities for thought-controlled prosthetic devices. His accomplishments provided scientists with techniques to decode the brain's motor signals with such fidelity that movements of a robotic arm can be achieved entirely by direct brain control. As a result of Dr. Nicolelis' efforts, DARPA initiated a program to create a fully functional prosthetic arm that will dramatically improve the quality of life for the men and women in uniform who were injured while serving our nation.

SRI International, Menlo Park, Calif., received the Award for Sustained Excellence by a Performer for leading a team that pioneered cognitive systems technologies in machine learning, machine reasoning, perception, man-machine dialogue, and cognitive system architectures. In support of this effort, SRI International developed the Personalized Assistant that Learns (PAL), the world's first integrated cognitive assistant that learns on the job and adapts on its own. The PAL team's work provides a template for further development of robust, adaptive intelligent systems in a wide range of military and commercial settings.

The Award for Significant Technical Achievement was presented to **Dr. Mark Roth**, of the Fred Hutchinson Cancer Research Center, Seattle, Wash., for the leadership and

to quickly target moving and time-critical targets. QNT is a modular network data link program focused on providing a multiband modular capability. These dedicated Air Force personnel helped develop advanced technologies that dramatically improved airborne networking among tactical aircraft, ground control nodes, and the Global Information Grid. As a result of the team's efforts, the Joint Forces will have enhanced network-centric capabilities for combat situational awareness and engagement of fleeting targets with minimal risk of collateral damage.

The Award for Sustained Excellence by a Government Agent was also presented to selected members of the U.S. Marine Corps Wasp Micro Air Vehicle Flyaway Cell team of the Marine Corps Warfighting Laboratory, Quantico, Va. Recognized team members included **Sgt. Aaron W. Smith**, **Gunnery Sgt. Tyrone Butler**, **Maj. Jeffrey M. Dunn**, and **Maj. Tiley R. Nunnink**.

This team conceived, developed, and implemented the training and logistical support for a Marine Corps battalion to conduct a comprehensive evaluation of Wasp in actual combat operations. Wasp is a DARPA experimental prototype air vehicle weighing less than one pound and equipped with global positioning system navigation and a color camera. It is designed for front-line reconnaissance and surveillance over land and sea.

Media point of contact is Jan Walker at jan.walker@darpa.mil.

AIR FORCE PRINT NEWS (AUG. 7, 2007) CENTER DELIVERS NEW ACCOUNTING, MANAGEMENT SYSTEM

HANSCOM AIR FORCE BASE, Mass.—A state-of-the-art financial management system that serves the Air Force and U.S. Transportation Command came to fruition last month when the Defense Enterprise Accounting and Management System Increment 1, Spiral 1 was successfully fielded at Scott Air Force Base, Ill.

The DEAMS program, a vision four years in the making, was developed by members of the 554th Electronic Systems Group located at Wright-Patterson AFB, Ohio, with its parent organization, the 554th Electronic Systems Wing, headquartered at Hanscom AFB.

DEAMS Spiral 1 provides an accounting and finance capability to TRANSCOM and Air Mobility Command users at Scott AFB, and completes the initial phase of the DEAMS technology demonstration.

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Based on ORACLE e-business commercial software, DEAMS provides the primary financial system with automated audit trails to TRANSCOM in support of the warfighter. DEAMS will replace several antiquated systems, considerably reducing the time to process and track financial transactions.

“This marks a significant step toward transitioning from accounting and financial management legacy systems to a more efficient, enterprise-wide commercial-off-the-shelf-based solution,” said Lt. Gen. Charles L. Johnson II, the ESC commander.

Further, Spiral 1 was delivered on time and on cost, said Frank Weber, the 554th ELSW director.

“The DEAMS Spiral 1 deployment represents a milestone in fielding warfighting capabilities using ORACLE’s commercial-off-the-shelf Enterprise Resource Program, 11i e-Business Suite,” Weber said. “The commercial software approach couples defense and industry best practices for improved financial management processes, reduces acquisition costs, and provides improved operations and maintenance over a dedicated software development effort.”

The achievement was made possible through a collaboration of TRANSCOM officials, Secretary of the Air Force financial management members, Defense Financial and Accounting Service financial experts, and Air Force Materiel Command acquisition professionals whose talent and dedication made this initial deployment a success, Weber said.

“We are very excited to have reached this important milestone, and are equally excited to mature this new capability,” said Alan Bentley, director of TRANSCOM Program Analysis and Financial Management.

Subsequent spirals in Increment 1 will provide increased financial management capabilities across TRANSCOM, AMC, Military Sealift Command, and Surface Deployment and Distribution Command. These capabilities plan to be delivered by 2010.

DEAMS Increment 2, still in the requirements identification and acquisition development phases, will deliver financial management capabilities throughout the Air Force.

ROCK ISLAND ARSENAL–JOINT TECHNOLOGY & MANUFACTURING CENTER RECEIVES ARMY SUPERIOR UNIT AWARD (JULY 31, 2007)

Galen Putnam

ROCK ISLAND ARSENAL, Ill.—The Rock Island Arsenal Joint Technology and Manufacturing Center received the Army Superior Unit Award at an awards ceremony presided over by Gen. Benjamin S. Griffin, U.S. Army Materiel Command commanding general.

The Army Superior Unit Award is one of the Army’s highest unit-level honors. The award is bestowed upon units that exhibit outstanding meritorious performance while executing a difficult and challenging mission under extraordinary circumstances in a geographical area in which combat awards are not authorized.

The unit must display such outstanding devotion and superior performance of exceptionally difficult tasks that it sets itself apart from and above other units with similar missions.

“The Army Superior Unit Award is the most prestigious non-combat zone award the Army can bestow on an organization,” Griffin said after reciting a litany of RIA-JMTC accomplishments and commending the workforce.

“The [RIA-JMTC] flag will forever carry this streamer. One hundred years from now that streamer will still be there, and people will be reminded of your accomplishments.”

The award takes on an added significance considering the organization has never received a Department of the Army-level unit award, despite continued service since the Civil War.

“This award highlights the fact that proximity to the battlefield does not predicate the importance an organization plays in support of those fighting on the front lines,” said Col. Bruce Elliott, RIA-JMTC commander, who accepted the award from Griffin.

“Having been firmly planted here since 1862, the Rock Island Arsenal Joint Manufacturing and Technology Center is not designed to pack up and deploy to the fight like frontline Army units; rather, our one-of-a-kind manufacturing facility supports our military forces worldwide from our humble home right here in the heart of America—every day.”

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Gen. Benjamin S. Griffin, U.S. Army Materiel Command commanding general, places the Army Superior Unit Award streamer on the Rock Island Arsenal Joint Technology and Manufacturing Center flag during an awards ceremony at the facility.

U.S. Army photograph by Galen Putnam

The RIA-JMTC is one of the Army's most unique entities. It is the only vertically integrated metal manufacturing facility in the Department of Defense and is the Army's only remaining foundry.

It is also the Army's only Shingo Gold Prize Award Winner for Excellence in Manufacturing. The Shingo Gold Prize is considered the "Nobel Prize" of manufacturing.

Perhaps the most unique aspect of the RIA-JMTC is its personnel—one soldier, Elliott, and more than 1,200 civilian employees.

Elliott emphasized the important role his civilian "soldiers" play.

"This award recognizes the hard work, ingenuity, and overall dedication of our highly skilled workforce. It is to all of you this award is truly dedicated," he said.

In the citation, the RIA-JMTC was lauded for outstanding meritorious service in support of the Global War on Terrorism.

"Every aspect of the center's core expertise was applied to the achievement of its success in the production of army, artillery, small arms, and mobile maintenance platforms that supported the U.S. warfighters. The U.S. Army Rock Island Arsenal-JMTC's

demonstrated commitment and performance of duty reflects great credit upon the center and the United States Army."

Putnam writes for Rock Island Arsenal-Joint Technology and Manufacturing Center Public Affairs.