

**Paul Solomon, PMP
3307 Meadow Oak Drive
Westlake Village, CA 91361**

October 25, 2011

The Honorable John McCain
Ranking Member, Senate Armed Services Committee
241 Russell Senate Office Building
Washington, DC 20510

Subject: Cost Controls on the F-35 and Need for Acquisition Reform of Earned Value Management

Dear Sen. McCain:

Thank you for pointing out that Lockheed Martin (LM) has done an abysmal job on the F-35 program, that the program hurts the credibility of our acquisition process and our defense industry, and that "there is no doubt there are scandalous cost overruns associated with it."

Although the F-35 is the prime example of abuse of the acquisition process, we have a systemic problem. I seek your help to reform a flawed process that is intended to track program performance and provide an early warning of cost overruns and schedule slips. It is not working. The acquisition regulations and process enable contractors to submit invalid, misleading information to the Government on all capital asset acquisitions, not just weapon systems. We need to improve transparency and accountability when contractors use a contractually-required Earned Value Management System (EVMS) on cost-reimbursement contracts.

This letter assesses the EVMS process and recommends fixes via changes to FAR and DFARS. It also describes how LM and Northrop Grumman (NG) agreed to abuse the EVMS process on the F-35 program.

EVMS Process and WSARA

EVMS is required by DFARS on certain cost-reimbursement contracts exceeding \$20 M. Contractors must submit monthly Contract Performance Reports (CPR) that show cost and schedule performance based on contractual guidelines in the industry standard, ANSI-748. ANSI-748 is maintained by the NDIA.

The EVMS guidelines are similar to Generally Accepted Accounting Principles (GAAP). However, GAAP protects investors but EVMS often fails to protect taxpayers. The standard has ambiguities and loopholes that should be removed. The two most important deficiencies are:

1. Contractors are able to overstate progress and understate final costs (called Estimate at Completion or EAC) by basing earned value on the quantity of work performed, not on technical performance or quality.
2. Contractors routinely use "Management Reserve" (MR) as a slush fund for additional budget to compensate for poor planning, to reduce reported cost overruns, and to provide additional budget for tests and rework to designs that fail to meet technical performance or quality objectives.

Sen. Collins said the following about EVM in the WSARA conference report: "GAO observed that contractor reporting on EVM often lacks consistency, leading to inaccurate data and faulty application of the EVM metric. In other words, garbage in, garbage out."

As required by WSARA, DoD submitted a report to Congress in September 2009. It concluded the "Utility of EVM has declined to a level where it does not serve its intended purpose." It stated that:

1. Contractors may circumvent proper EVM practices to keep EVM metrics favorable and problems hidden.
2. Engineering community should establish technical performance measures (TPM) that enable objective confirmation that tasks are complete.
3. Systems Engineering and EVM should be integrated, not stove-piped.

In two years, there has been little improvement. In the latest high level assessment of contracts with EVMS reporting requirements, NAVAIR concluded that:

1. Most of its contracts are Red in cost, schedule, or EAC performance.
2. Nearly half are executed at contractor sites with significant EVM implementation issues, including misuse of management reserve.

Navy shipbuilders have reported similar compliance problems.

Systemic Deficiencies in EVMS that Transcend Compliance Issues

Even if contractors were compliant, deficiencies in the guidelines permit contractors to submit inaccurate reports. While many critics complain that the Government is over-regulating business, I contend that simple changes to DFARS would increase the validity of CPRs, provide more management value to program managers (PM), and save money for the taxpayer.

NDIA has not fixed these problems. Recommended to fix ANSI-748 are described in the table at <http://pb-ev.com/ANSIEIA748rev.aspx>.

Acquisition Reform

I have been proposing acquisition reforms that would remove the loopholes in DFARS. I have first-hand knowledge of the effectiveness and shortfalls of EVMS. My credentials include:

- Performed EVM oversight with DCMA on the F-35, B-2, Global Hawk, and MP-RTIP programs.
- Received DoD David Packard Excellence in Acquisition Award for teamwork on ANSI-748.
- Served as U.S. Army Finance Officer during Vietnam War.

Neither PMs nor the OSD PARCA Office can be assured that a contractor's performance metrics are valid or accurate. Neither the GAO nor any agency has ever validated that a contractor's use of EVM will

- Integrate cost, schedule and quality/technical performance.
- Provide an early warning of real or pending issues that require corrective action.
- Ensure accurate status and EAC.

EVM can be a reliable acquisition management tool. Today, EVM costs the taxpayers dearly for contractor implementation, consultants, software, and government oversight. We do not get sufficient value in return.

Thanks to a mark up by former HASC Chairman Ike Skelton, the 2011 NDAA includes my provision that requires DoD to assess its acquisition process regarding earned value and to submit a report on EVM to SASC and HASC in September, 2011. The provisions (Sections 864 a, b, and c) require DoD to review acquisition guidance to "consider whether measures of quality and technical performance should be included in any EVM system." I expect that DoD will endorse the need for technical performance measures. However, any fixes to acquisition guidance will not solve the problems because DoD guidance is not applicable to contractors.

Specific Abuses on the F-35 Program

I have evidence that LM and NG wrote a contractual Memorandum of Agreement (MOA) that, in my opinion, circumvented EVMS guidelines. They understated the EAC and the resultant, revised budget. In my opinion, the purpose of the MOA was also to maximize potential award fee. The MOA included the following:

1. The EAC and budget of final Systems Design and Development costs were intentionally understated. They were based on undefined corrective action plans and unrealistic assumptions. The EAC was not the “most likely” estimate that is required by the guidelines.
2. NG was authorized to transfer budgets between work breakdown structure elements without transferring work.
3. LM agreed to issue additional budget to NGC from MR or other budget sources in the event that NG failed to achieve budgeted performance parameters.

Not surprisingly, NG failed to achieve their contractual targets and LM issued additional budget to NG. The award fee criteria between the JSF contracting officer and LM for certain periods provided for part of the award fee to be based on *improved* cost and/or schedule performance. After additional budget was transferred by LM from MR to NG, improved cost performance was reported in the CPRs. I am unable to determine if the contractors received higher award fees based on that reported, improved performance.

It is also an affront to the taxpayers that the contractors spent effort to *manage the numbers* instead of managing the program.

Requested Actions by SASC and/or HASC

For additional, technical information and specific recommendations, please ask your staffer to read two of my articles that are in recent DoD journals, the Journal of Software Technology and Defense AT&L:

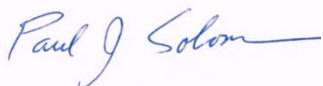
1. “Improving the Quality of EVM Information” Link: <http://journal.thedacs.com/issue/58/195>
2. “Path to EVM Acquisition Reform” Link: <http://www.dau.mil/pubscats/ATL%20Docs/May-June11/Solomon.pdf>

Then, please take action to spark the SASC or HASC, as appropriate, to do the following

1. Review DoD’s submittal of the NDAA-required report to see if DoD plans to take corrective actions.
2. Request GAO reviews to assess:
 - a. The validity, management value, and cost-effectiveness of EVMS, including verification that CPRs provide early warning of cost and schedule issues.
 - b. The need for reform or other actions to prevent further abuses of EVMS guidelines related to the F-35 MOA discussed above.
3. Propose regulatory changes as described in the articles and at <http://pb-ev.com/OMBpolicyFARDFARS.aspx>.
4. Develop and propose other regulatory changes to prevent or detect abuse of Management Reserve.

Letters to Congress, OMB, and DoD, including my letter to Sen. Levin on the F-35, are at <http://pb-ev.com/DoDEVImplementationReport.aspx>. This letter to you is also posted there.

I would be happy to discuss this with you or your staff. I believe the recommended acquisition reform will benefit the taxpayers and war fighters.



Paul J. Solomon, PMP
818-212-8462
Paul.solomon@pb-ev.com