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July 2, 2009
CODSIA Case 8-09

Mr. Shay D. Assad
Director, Defense Procurement & Acquisition Policy
3060 Defense Pentagon
Room 3B855
Washington, DC 20301-3060

Ref: DoD Report to Congress on Implementation of Earned Value Management: Request for Industry Input

Dear Mr. Assad:

The undersigned members of the Council of Defense and Space Industry Associations (CODSIA) are pleased to provide industry views on the implementation of Earned Value Management (EVM) by the Department of Defense, as requested in your letter of May 18, 2009. Your letter notes that this information will be used in the preparation of a report to Congress, as required by Section 887 of the FY 2009 National Defense Authorization Act.

Formed in 1964 by industry associations with common interests in the defense and space fields, CODSIA is currently comprised of seven associations representing over 4,000 member firms across the nation. Participation in CODSIA activities is strictly voluntary; a decision by a member association not to participate in a particular project is not necessarily an indication of dissent.

Executive Summary:

Industry and the DoD face unique challenges in implementation of EVM systems (EVMS). Industry believes, first and foremost, that the DoD must recognize a company's inherent need for a consistent set of management processes within its business units, and as such, the DoD should exercise restraint in directing industry processes. A consistent set of management processes across operating units improves data quality, allows cost efficiencies through the standardization of processes and related training, and results in a stronger, more resilient industry to support our services in time of national need. The potential for industry to upgrade information technology systems and to constantly improve and expand the availability of integrated management information to internal and external users requires governmental support for processes that facilitate such improvements.

It has been well documented, and industry agrees, that implementation of EVMS has atrophied in recent years. Performance reporting provided by contractors, and/or government

program managers has, on many programs, been superficial and this has hurt, rather than helped program execution. There is, however, no viable alternative to EVMS for managing risky, complex programs and contracts. EVM, when applied properly, has repeatedly proven to be the most effective process for managing complex, development programs.

While a significant program management tool, EVMS alone cannot fix a contract that is ill defined, ill funded, and poorly scoped. EVMS will measure and highlight issues, but it cannot control cost growth unless requirements are clearly understood by the customer and contractor, requirements "creep" is controlled, and program funding is stable. The apparent legislative and Defense Support Team's perceived focus on EVMS as "the problem" (i.e., as the cause of cost and schedule overruns) is misinformed; this focus gives insufficient attention to the root causes of scope and cost growth.

Contributing factors to inefficient EVM implementations include:

A. People – Both the government and industry are challenged by a limited pool of available resources with the skill sets necessary for integrated program management, particularly scheduling and EVM. The development of a training program, with support by academia, to build a pool of these critical resources would be beneficial to both the government and industry.

B. Process –
   1) Instability of requirements and funding of programs inhibits the effective implementation of EVMS. Industry recommends that more focus be placed on pre-award contract activities, and funding of pre-award Integrated Baseline Reviews (IBR), to ensure that a program has a reasonable probability of successful execution.

   2) The DoD should perform a cost/benefit analysis of the current oversight process. Currently, the emphasis is on strict compliance rather than the efficient management and use of program performance data, by contractor and customer alike, for effective decision-making.

   3) Numerous guidance documents or operating procedures used in the oversight process are becoming de-facto policy, the content of which impacts industry's cost effective/value-added program management capability, including EVMS. The DoD should be judicious in its creation of additional EVM guidance.

   4) Reciprocity between DoD elements and/or oversight functions concerning a common interpretation and approach for EVM implementation and use is a necessity. The current business environment is fractured by competing visions as to "how to implement" EVM by the various entities within the DoD.

C. Tools – Contractors are working to improve the capability, usefulness, and efficiency of program management tool sets. Industry encourages the DoD to continue to enhance and modernize their internal systems to adequately use, summarize, and analyze the schedule and cost data that industry provides.

Industry remains interested in the identification of an Ombudsman at the Office of the Secretary of Defense (OSD) level. The contemplated purpose of the Ombudsman was not just to deal with EVMS issues, but also to address challenges within the procurement process as a whole. The identification of the Ombudsman and the concept of operations as to how the ombudsman process would work will expedite the resolution of the many program management related challenges.

Including insights from industry and its experience with EVMS implementation issues can result in a more balanced report to the U.S. Congress. In our view, the National Defense Industrial Association's Program Management Systems Committee (PMSC) is uniquely qualified to provide industry input on EVMS implementation and use. Joint DoD/PMSC efforts were recognized in 1998 with the Packard Award and led directly to the development of the American National Standards Institute (ANSI) Electronic Industries Alliance (EIA) Standard ANSI/EIA-748, Guidelines for Earned Value Management. Such successful DoD and industry collaborations have included several EVM-related studies and surveys. Visibility into the results of these earlier studies and surveys could significantly improve the DoD response to Congress. Therefore, the PMSC has consolidated this information and will provide it separately as a data disc to aid the DoD in this important endeavor. While there is much that can be learned from the many past EVMS studies, the conclusions continue to support the value of EVMS and its role in proper contracting, integrated planning, scope and schedule control, and the establishment of adequate funding.

Detailed Response:

1. Earned Value Management regulations and guidance

Industry participation and collaboration on government EVM regulations and guidance has been mixed. Opportunities to collaborate have primarily resulted from policy documentation made available for public comment through the *Federal Register* process. Industry generally has not had the opportunity to collaborate on the development or coordination of many guidance documents emanating from the DoD. These guidance documents or operating procedures subsequently become *de facto* policy, the content of which impacts industry's cost effective/value-added program management processes, including EVMS.

To thoroughly assess industry's views of DoD regulations and guidance applicable to the use and implementation of EVM, industry proposes that a survey be conducted to address both existing and planned DoD EVM regulations and implementation. Such a survey would reveal that confusion and fear exist among contractors and DoD personnel both concerning EVMS implementation and use, and would provide useful insight into needed improvements and/or clarifications in guidance. Once these views become available, it is recommended that a senior-level industry working group be established to work with DoD leaders to develop one common, well-understood, and integrated set of regulations and guidance, which would be recognized by all of the DoD components.

The DoD will need to be judicious in its creation of additional EVM guidance to avoid conflicts with existing policy, direction, and guidance that is relied upon by the oversight and contracting communities in applying and assessing proper EVMS. In lieu of developing further guidance, it is highly recommended that the DoD adopt the guides referenced by the Office of Management and Budget (OMB) in the Capital Programming Guide, which says:

> "The Agency EVM process should be consistent with the guidelines and processes in the National Defense Industrial Association (NDIA) EVMS related guides. These guides can be found on the Defense Acquisition University EVMS web site or the NDIA web site."

Any DoD-perceived deficiencies in these guides should be collaboratively addressed by the DoD and NDIA.

2. Relative value of EVM as a tool for program managers and senior officials

EVMS alone, while a significant program management tool, cannot fix a contract that is ill defined, with changing requirements, and is poorly funded. EVMS will measure but cannot control cost growth and schedule uncertainty unless requirements are understood, requirements "creep" is controlled, and programs are fully-funded. The apparent legislative and DST focus on EVMS as "the problem" (i.e., as the cause of cost and schedule overruns) is misinformed; this focus gives insufficient attention to the root causes of scope and cost growth.

Industry believes a properly designed and implemented EVMS provides significant value to both industry and DoD program management. Well-planned baselines and timely progress data enable the discovery of variances indicative of performance trends. By implementing corrective action plans to manage technical, schedule and cost risk, managers can improve the probability of achieving program objectives.

Industry recommends that more focus be placed on pre-award contractual activities, including funding of pre-award IBRs, to ensure that a program has a reasonable "probability of execution." As recommended by the OMB in its Capital Programming Guide, utilization of an integrated planning team including system engineering and EVM expertise, will help ensure adequate requirements definition, assessment of risk, and more accurate initial cost/schedule estimates, to ensure program executability. Pre-award IBRs are recommended to ensure that contractors understand the program requirements and risks, and adequately estimate the cost and schedule required to execute them. The conduct of a post-award IBR to verify the established baseline is also an excellent method for determining program executability.

In the IBR process, the contractor prepares the baseline and, together with the DoD program manager and technical staff, verifies that all of the technical content of the scope of work is included, that it is logically scheduled, and that costs are integrated into an optimistic, yet achievable plan. The technical personnel from both the customer and vendor organizations jointly achieve a common understanding of execution risks. The IBR establishes a plan from which change can be managed while monitoring risks. We recommend strengthening this process with internal government reviews that assure that technical people lead the IBR with

support from EVMS/scheduling personnel so that the IBR does not become another compliance evaluation.

Additional emphasis on the pre-award phase, pre-award IBRs, and shorter-duration contracting that is limited to specific requirements would increase the probability of successful program execution. Although pre-award IBRs are recommended, when they are not used, the DoD should optimize the post-award IBR to ensure that all program risks are identified and adequate plans for risk mitigation or elimination are in place. If the Performance Measurement Baseline (PMB) and management reserves are inadequate for successful program performance, then the program should not be allowed to proceed until corrections have been made. A poorly planned and insufficiently funded program will not achieve its cost, schedule, and technical objectives, regardless of the quality of the any process used to manage it. Finally, for an IBR to be successful, contract definitization must be timely and the IBR must occur shortly after the contract authorization is given.

3. Challenges in using EVM and the criteria for evaluating the success of EVM in delivering program objectives

Instability in requirements definition and funding of programs inhibits the effective implementation of EVMS. While it would be ideal to have an environment where there is no confusion as to program requirements and program funding, this is not realistic; regardless of how an acquisition is planned, some changes will occur. EVMS is the process needed to implement and track those changes, provided the changes are definitized in a rapid fashion.

Success in handling program instability is predicated on a flexible, agile set of EVMS processes. This is an area where potential regulatory and interpretation improvements can encourage and enable industry to develop EVMS processes that provide a quick response to those changes. More importantly, this is an area where an overly rigid or single interpretation by oversight organizations inhibits efficient EVM implementations.

The DoD should perform a cost/benefit analysis of the current oversight process, with its emphasis on strict compliance versus efficient management and use of program performance data, by contractor and customer for effective decision-making. The question that should always be asked is: are we addressing the root cause of the problem or are we merely attempting to fix a symptom? We must first understand the over-arching root cause.

The multiple organizations involved in EVMS oversight for the DoD hold various interpretations of what it means to meet the intent of the ANSI/EIA-748 guidelines. While the DoD has vested responsibility in Defense Contract Management Agency (DCMA) as the Executive Agent for EVMS, a single interpretation of “compliance” with DoD implementation of ANSI/EIA-748 does not yet exist. Conflicting interpretations among DoD customer elements lead to significant, non-value added effort on the part of the contractor, who is required to formally respond and correct issues arising from interpretations that often have little or no merit. Further, many of these interpretations serve to limit the contractor’s flexibility in implementing its process in a cost-efficient way that effectively meets program needs in providing performance trend data for management decision-making purposes.

DoD oversight must move away from strict compliance toward trend analysis and assessment of whether the data provided reliably reflect program trends and enable focus on areas that require management attention. Government and industry have become “data rich” and “management information poor.” The current pursuit of perfection in contractor EVMS implementation and its resultant data provides limited benefit at considerable cost.

Senior level management stakeholders from both DoD and industry must sponsor EVMS and demonstrably show that EVM information is being used to manage programs. Clear lines of responsibility and accountability, supported by well-defined consequences for failing to use information responsibly, will reinforce acceptable management behavior. When contractor and customer management use EVM data to monitor program progress and make decisions, program teams are motivated to ensure these data are reliable. Lack of interest on the part of the customer or senior contractor management does adversely impact process discipline and erode the utility of the data it provides. In addition, inappropriate contractual incentives, such as focus on incentivizing or penalizing contractors based on performance data, promote poor behavior in the establishment of program baselines and EVMS implementations. An example would be the continuing use of incentives based on reported performance metrics, such as the cost performance index (CPI) and/or schedule performance index (SPI). Industry recommends a revision to the Defense FAR Supplement (DFARS) that prohibits the use of EVMS performance metrics as award fee criteria or performance incentives.

4. Training

Both the DoD and contractors face a significant challenge in ensuring their personnel are trained and have the qualifications to perform the responsibilities of their respective roles. The expansion of EVMS requirements to civilian agencies by the OMB combined with retirement of seasoned DoD and contractor personnel has resulted in a significant manpower resource challenge. The shortage of qualified practitioners with a background in integrated planning and EVMS has often led to poor program planning. Management systems are made up of people, processes, and tools; adequate training, including the reinforcement of the tenets of integrated program management embodied in EVMS, would greatly improve future program success.

Raising awareness of project management personnel training needs at senior levels within the DoD is essential. EVMS is not a financial reporting requirement. It is an important element of integrated program management and needs to be included in the DoD’s program manager and contracting officer training curricula. The DoD could benefit from improved training for its senior personnel in EVMS implementation processes and guidance, use of earned value data, and EVMS oversight responsibilities. Training, however, is not enough. There is also a required experience component that must be achieved for an individual to be truly qualified to use earned value data to perform a role in program management, administration, or oversight.

Consider initiating a true integrated program management curriculum, for both the government and industry, that includes all key program management processes — EVMS, scheduling, risk management, cost estimating, and contracting — and perhaps lead to an

integrated program management certification. Both the government and industry are challenged by the limited pool of available skill sets necessary for integrated program management, particularly scheduling and EVM. The development of a training program to build a pool of these critical resources would be beneficial to both government and industry. A business case should be made to educational institutions indicating the importance of this need and how those institutions would benefit from developing and offering this program of instruction.

5. EVM implementation, including data quality issues and IT systems, and the accuracy of EVM data and its impact on the ability to meet DoD program objectives

Industry agrees that data accuracy is important for program objectives to be met, but the emphasis should be on timely, reliable, and actionable information. That said, there have been unacceptable data anomalies in performance reporting provided by contractors and/or government program managers. Industry is collaborating with government agencies to develop and train many individuals involved in the data delivery process.

Program management tool sets used by contractors have significantly improved in their capability, usefulness, and efficiency. Much of this is a result of individual contractor investment in corporate tool sets or add-ons/enhancements to commercial off-the-shelf (COTS) EVM and scheduling software. Industry encourages the continual sharing and deployment of "best of breed" tools to facilitate the understanding and use of management information. Industry has also collaborated with the DoD in leading the effort to develop the UN/CEFACT XML schemas to enable faster, easier transmission of EVM data to all stakeholders, including DoD's Central Repository. Tool vendors are deploying the new schemas, which — once DoD contracting issues are resolved — will enable improvement in the accuracy of the data transmitted to the Central Repository. Industry also encourages the DoD to continue to enhance and modernize its own internal systems to adequately use and summarize the schedule and cost data that industry provides. The continued enhancement and use of tool-set neutral data-exchange standards, such as ANSI X12 and the more robust UN/CEFACT XML schemas, is also recommended for the typical report formats, such as the Contract Performance Report (CPR), as well as for the data calls that occur as part of a surveillance review or IBR. This reduces the time and effort required to produce an expected set of program management related data that all stakeholders can freely import and export using their tool set of choice. Industry encourages the DoD to continue its involvement in joint working groups and to communicate requirements for improving the best available tools, which in turn will enable continued improvement in data integrity.

6. Challenges with the acquisition process/approach

EVMS will not prevent poorly planned and constructed contracts from missing their cost, schedule, and technical objectives. Improvements in contracting would enable optimal use of EVMS to keep a program on track to meet these objectives. Acquisitions must be well-planned with well-structured contracts. The contracts must include: firm, clear requirements; the appropriate contract type for the effort involved given its inherent risk; appropriately-applied management requirements; realistic cost and schedule targets; a work breakdown structure appropriate for program execution/management; adequate, stable funding; and appropriately-applied contractor data requirements lists (CDRLs) and a contract structure that facilitates accurate and complete electronic data submittal to the DoD's Central Repository.

The DoD's plan for reforming acquisition and requirements processes — including increased funding stability, increased use of competitive prototypes, improved system engineering, increased development test and evaluation, improved technological maturity, and better cost estimating — will reduce the risk and volatility that have plagued DoD contracts and prevented the optimal use of EVM. By enabling the development of realistic, stable PMBs and the predictive use of earned value metrics to enable informed management decision-making, programs will successfully meet their cost, schedule, and technical objectives. Baseline volatility can erode the utility of earned value data for accurately predicting cost, schedule, and technical outcomes.

Well-engineered, well-defined requirements, along with a pre-award IBR, help ensure realistic cost and schedule estimates and enable the award of a contract to the contractor with the best understanding of the risk. Cost overruns and schedule slips can subsequently be minimized through good risk management. Only then will a well-implemented EVMS enable the program manager to develop an achievable PMB; keep the effort on-track to meet the program's cost, schedule, and technical objectives; and provide management with timely, reliable, and actionable information if the objectives are not being met.

This approach will require that the DoD adopt a greater preference for "best value" proposals with high "probability of execution" rather than "low cost/low bidder" proposals in the award of competitive procurements. Aspects of "best value" and "probability of execution" would need to include the individual contractor's commitment to program management, including EVMS. Conversely, "low cost/low bidder" solutions work against the achievement of the desired culture that incorporates robust program management along with adequate program resources to plan, execute, monitor, and control the program in accordance with the documented EVMS.

To oversee and ensure that the desired improvements in contracting are achieved, industry recommends that the DCMA mission be expanded to include assessing the effectiveness of DoD contracting actions. This would include, for example, systematically gathering and reporting data on the misuse of contract incentives, poor definitization practices, and other behaviors that are too often misattributed to a contractor's EVMS.

7. Alternatives to EVM

Simply stated, there is no viable alternative to EVMS for managing risky, complex programs and contracts. EVM repeatedly has proven to be the most effective common language for managing complex, development programs. It is a process that, along with other program management processes and metrics, such as risk management, provides the ability to: gauge program performance, focus management attention, enable timely corrective action, and more accurately predict program cost, schedule, and technical outcomes. For many years, it has proven to be an effective management tool for development and production programs. In fact, there is no other management technique that provides insight into program progress like EVM.

EVM, however, is not necessarily an appropriate management technique for all types of contracts and is often inappropriately required on contracts that do not benefit from its use (e.g., fixed price level of effort [LOE] or time and materials [T&M] contracts). Assuming that the contract type has been correctly selected for the type of effort involved, T&M or LOE contracts are more suitably managed using some other technique, such as performance-based acquisition (PBA). It is recommended that consideration be given to excluding (pre-award) or removing (post-award) the EVMS requirement from certain contract types that, by their requirements and characteristics do not benefit from EVMS implementation. It is useful to note that certain management elements encompassed in EVMS are also required for PBA, such as work breakdown structures and budgets; however, the key element of EVMS (i.e., performance measurement or earned value) is unnecessary in a LOE situation. Further, many T&M contracts are issued to acquire skilled resources to augment customer staff and perform under customer direction. In these situations, the EVMS can be applied at the program level, by the customer, rather than on the contractor's T&M contract.

8. Reciprocity

Reciprocity between DoD elements and/or oversight functions concerning a common interpretation and approach for EVM implementation and use is a necessity. The current business environment is fractured by competing visions as to "how to implement" EVM by the various entities within the DoD.

Industry requests that the DoD address the issue of reciprocity of contractor EVMS acceptance and oversight within its own department (e.g., within the DCMA, Defense Contract Audit Agency [DCAA], and Intelligence Community). Industry recommends a streamlined compliance and surveillance process to reduce the considerable time spent addressing differences of interpretation among DoD entities regarding what is meant by "compliance" with ANSI/EIA-748. Since there are a variety of ways in which the intent of the ANSI/EIA-748 guidelines can be met, the oversight process is frequently driven by individual interpretation and belief rather than fact. The methodologies used to plan schedule reserve into program schedules provides just one example. Various DoD elements have different, yet strong opinions as to what constitutes proper scheduling with regard to the treatment of schedule reserve, making it impossible for a contractor to use a standard schedule reserve methodology when doing business with more than one of these customer elements. The DoD needs to enable consistency in interpretation or recognize that the contractor can elect one of many possible approaches, as applicable to its own business environment, to meet the intent of the ANSI/EIA-748 guidelines.

9. Ombudsman

Almost two years ago (September 2007), industry expressed a desire for an Ombudsman to help resolve EVMS-related issues and differences in interpretation between DoD and industry, as well as among DoD elements, and between the DoD and other non-DoD agencies. An Ombudsman would enable communication in a non-attributive environment that could better facilitate the program management related decisions made during the procurement and execution phases of programs critical to the warfighter. In addition, the contemplated purpose of the Ombudsman was not just to deal with EVMS issues, but also to address challenges within the procurement process as a whole. The program decisions referenced in industry's request, at the

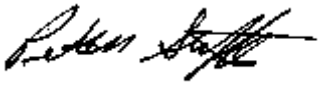
time, also included program processes, in addition to EVMS, such as contracting, system engineering, program management, and procurement. Industry envisioned that the Ombudsman would also help resolve the second major cause of program failures, "scope creep." While there has been much discussion within the OSD, there has not been a formal response to industry's original request. Given the environment of change that the government and industry are currently experiencing, an Ombudsman would expedite the resolution of the many program management related challenges.

Summary:

We applaud the efforts that the Defense Support Team has initiated to improve the implementation of EVM across the contractor base, as well as the DoD. We strongly insist that EVMS by itself cannot make a poorly-planned, ill-defined, and inadequately-funded program successful. As stated in our Detailed Response above, prior to contract award, effort must be concentrated on understanding the executability of the program, improving system engineering to ensure the proper definition of requirements, and establishing adequate and stable funding for the contract. With regard to the management system, which is comprised of people, processes, and tools, we encourage a continued focus on training, the management use of earned value data, and the deployment of modern EVMS analytical tools that enable the program management discipline. These efforts — coupled with the well-planned, disciplined contracting and control of requirements — will allow the government and industry to provide the products that our warfighters need to maintain our nation's security.

If you have questions, or need additional information, please contact CODSIA Administrative Officer Ruth Franklin of NDIA at (703) 247-2598 or at rfranklin@ndia.org.

Sincerely,



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