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EARNED VALUE MANAGEMENT SYSTEM (EVMS)

[This Guide describes suggested nonmandatory approaches for meeting requirements. Guides are not requirements documents and are not to be construed as requirements in any audit or appraisal for compliance with the parent Policy, Order, Notice, or Manual.]



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FOREWORD

This Department of Energy (DOE) Guide is for use by all DOE elements. This Guide intends to provide approaches for implementing the Earned Value Management System (EVMS) requirements of DOE O 413.3A, *Program and Project Management for the Acquisition of Capital Assets* in compliance with the American National Standards Institute/Electronic Industries Alliance (ANSI/EIA)-748, *Earned Value Management Systems*. DOE Guides, which are part of the DOE Directives System, provide supplemental information for fulfilling requirements contained in rules, regulatory standards, and DOE directives. Guides do not establish or invoke new requirements or are they substitutes for requirements.

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SECTION I—INTRODUCTION

1. GOAL

To support DOE's initiatives to improve program, project, and contract management through the implementation and surveillance of a contractor's EVMS that is in conformance with DOE O 413.3A and the American National Standards Institute/Electronic Industries Alliance (ANSI/EIA)-748, *Earned Value Management System*.

The primary audience of this Guide is the FPD. It is critical that the federal project director (FPD) understands the EVMS process and procedures and utilizes the EVMS information as an effective project management system to ensure successful project execution and to fulfill their roles and responsibilities as outlined in DOE O 413.3A.

2. OBJECTIVE

To provide an overview of the DOE EVMS that:

- a. Describes the EVMS and associated critical information available to the FPD, federal program manager, other senior leaders, and contractors, and suggests how to use them. To these ends, this guide:
 - (1) Suggests a common reporting format to communicate EVMS consistently across DOE.
 - (2) Promotes implementation of EVMS as early in a project life cycle as practical.
- b. Describes the certification process for a contractor's EVMS. See SECTION III.
- c. Describes the EVMS surveillance process to ensure ongoing EVMS compliance. See SECTION IV.
- d. Describes EVMS-related lessons learned. See SECTION V.

This guide is not intended to be a comprehensive training document, a detailed system requirement, or a contractual implementation requirement. Those issues are beyond the scope of this guide; however, FPDs and other DOE elements are encouraged to contact the Office of Engineering and Construction Management (OECM) for consultation. Additional references are listed in APPENDIX A.

3. APPLICABILITY

To FPDs and other DOE elements, including contractors, for which EVMS is required by DOE O 413.3A and contractual requirements. Federal Acquisition Regulation (FAR) 52.234-4 requires compliance with the current version of ANSI/EIA-748 at the time of contract award.

SECTION II—EVMS

1. DESCRIPTION

a. What is an EVMS?

EVMS is an integrated set of policies, procedures, and practices to support program and project management as a decision enhancing tool and a critical component of risk management. An EVMS:

- (1) Effectively integrates a project's work scope, cost, and schedule into a single performance measurement baseline (PMB).
- (2) Reliably tracks:
 - (a) planned value (PV) of work to be performed or the budgeted cost for work scheduled (BCWS),
 - (b) earned value (EV) of actual work performed or the budgeted cost for work performed (BCWP), and
 - (c) actual cost (AC) of work performed (ACWP).
- (3) Provides performance measures against the PMB.
- (4) Provides means of identifying, reviewing, approving, and incorporating changes to the PMB.
- (5) Provides trend analysis and evaluation of estimated cost at completion.
- (6) Provides a sound basis for problem identification, corrective actions, and management re-planning.

b. What is the purpose?

EVMS measures actual performance of work scope and the associated cost and schedule versus an agreed to baseline plan, while using disciplined means of baseline change control for documenting any changes to the agreed to baseline plan.

c. Why use it?

EVMS is a best practice and standard adopted by the Federal Government and the project management industry. DOE O 413.3A, the Office of Management and Budget (OMB), and the Federal Acquisition Regulation (FAR) require EVMS.

Projects requesting funds are required to provide EVMS data as part of the business case per OMB Circular A-11.

- d. When is it used?
- (1) EVMS should be implemented as early as possible in a project's life cycle.
 - (2) By no later than CD-2, the performance baseline (PB that includes the contractor's PMB) must cover the entire project life cycle, i.e., through CD-4 or through the near-term baseline for EM cleanup projects.
 - (3) DOE O 413.3A requires its use for projects with a total project cost (TPC) greater than or equal to \$20M, and its EVMS data be entered into the DOE Project Assessment and Reporting System (PARS) after CD-2.
 - (4) For projects that do not utilize an EVMS, e.g., firm fixed price contracts, an alternative performance management system must be described in the project execution plan (PEP) that is approved by the acquisition executive.
- e. When is certification of an EVMS required?
- (1) DOE O 413.3A requires for projects greater than or equal to \$20M that the contractor employ an ANSI/EIA-748 compliant EVMS by CD-2. The contractor's EVMS should be certified as soon as possible, but no later than CD-3. In most cases, EVMS certification will be a condition for CD-3 approval. Therefore, efforts need to be made to plan and execute the certification process on a schedule that can meet this requirement.
 - (2) Certification applies to the following:
 - (a) projects with a TPC between \$20M and \$50M (DOE O 413.3A requires self-certification by the contractor);
 - (b) projects with a TPC greater than or equal to \$50M (DOE O 413.3A requires certification by OECM; this does not preclude contractors from obtaining certification by OECM for projects with a TPC less than \$50M); and
 - (c) new contractors who have replaced contractors with certified EVMS or who require certification.
 - (3) The certification process should be scheduled in advance in anticipation of referenced CDs and new contractors.
- f. What are the criteria?
- (1) EVMS needs to comply with DOE O 413.3A, ANSI/EIA-748, and contractual requirements.

- (2) Additional clarification on ANSI/EIA-748 is provided by the National Defense Industrial Association (NDIA), Program Management Systems Committee (PMSC), *Earned Value Management Systems Intent Guide*.
 - (3) Additional references are listed in APPENDIX A.
- g. When should certification be scheduled?
- (1) Contractors and their programs/Program Secretarial Officers (PSOs) should determine the level of certification required, i.e., not applicable, self-certification, or OECM certification; review the contractual requirements; and conduct a self-evaluation.
 - (2) If OECM certification is required, OECM should be contacted to coordinate the review schedule.

2. CRITICAL INFORMATION AND SUGGESTED USES

Following are some critical items that FPDs and other DOE elements should closely monitor to ensure successful EVMS implementation and continued compliance. Refer to APPENDIX B for EVMS calculations.

- a. Variances
- (1) Identifies cost, schedule, and estimate at completion (EAC) deviations from the PMB and should be reviewed to ensure that their causes, corrective action plans (CAPs), and impacts to the project are clear, meaningful, and attempt to recover negative deviations from the plan and address reasons for significant positive deviations from the plan.
 - (2) FPDs should ensure that variances are accurately reported for the current month, cumulative-to-date, and against the budget at completion (BAC) and should monitor the variance analysis reports and the effectiveness of corrective actions.
 - (3) In addressing variances, historical performance against the plan must not be erased, unless to correct errors, routine accounting adjustments, effects of customer or management directed changes, or to improve the baseline integrity and accuracy of performance measurement data. Together with the remaining management reserve (MR) and DOE contingency, updated EACs, and other factors, it is critical to understand whether a project is in danger of exceeding the contract budget base (CBB) or the PB.
 - (4) Possible cost variance (CV) causes include the following
 - (a) rate changes (i.e., labor, overhead),
 - (b) vendor discounts or price increases,

- (c) quantity discounts,
 - (d) material cost changes, and
 - (e) requirement changes.
- (5) Possible schedule variance (SV) causes include
- (a) poor baseline schedule (does it reflect reality?),
 - (b) subcontractor/vendor cannot deliver when needed,
 - (c) more/less effort than planned,
 - (d) insufficient resources (staffing),
 - (e) labor disputes/work stoppage,
 - (f) resource availability (is it there when I need it?), and
 - (g) requirement changes.

b. Indices

- (1) Indices measure how efficiently a project has executed the PMB to the present time. They should be closely monitored. They are good indicators that could predict future performance but they do not stand alone (e.g., by themselves they do not monitor whether the critical path work is being performed as planned).
- (2) Schedule performance index (SPI) indicates how much work you have accomplished against the planned work. “How am I doing against my plan?” Current or cumulative month data should be assessed and trended.
- (3) Cost performance index (CPI) indicates how much effort you are getting for every dollar spent. “Am I getting the best bang for the buck?” Current or cumulative month data should be assessed and trended.
- (4) Work remaining (WR), budget remaining (BR), and estimate to complete (ETC) should be checked to assess if adequate resources are available to complete the project.
- (5) To complete performance index (TCPI) indicates the budget for work remaining versus the estimate for work remaining. $TCPI_{BAC}$ indicates the level of efficiency that must be achieved for the cost at completion to equal the BAC. $TCPI_{EAC}$ indicates the level of efficiency that must be achieved for the cost at completion to equal the EAC.

c. Baseline Management

Baseline management is crucial for properly documenting, approving, and implementing changes to the PMB and for understanding if the project is in danger of exceeding the CBB or the PB.

3. TOOLS

Additional tools to better understand the terms and concepts are clarified below.

a. DOE Gold Card

APPENDIX B provides a comprehensive summary of key EVMS terms, their interrelationships, and measurement of project progress versus the plan. These terms are the foundations for reports including contract performance reports (CPRs) in APPENDIX C.

b. Contract Performance Reports

CPRs provide critical information from the contractor to their management and DOE about their performance in an organized, easy to understand format. CPRs are management reports that provide timely, reliable data that is used to assess the contractor's current and projected performance, to quantify and track known or emerging problems, to determine the contractor's ability to achieve the PMB, and to assist in decision making. It is important that the CPR be as accurate as possible so it may be used for its intended purpose, which is to facilitate informed, timely decisions.

CPRs are provided monthly and pertain to all authorized work including priced and unpriced efforts.

FAR 34.201(c) requires the contracting officer to require contractors to submit EVMS monthly reports for those contracts for which EVMS applies. The contract requirements should be consulted.

APPENDIX C provides five CPR formats. These formats are not required by DOE. If used, they should be tailored to meet the needs of the project. When viewed in total and over a period of time, these formats can provide significant insight regarding project performance. The following are the five CPR formats:

- (1) Format 1: WBS
- (2) Format 2: Organizational Categories
- (3) Format 3: Baseline
- (4) Format 4: Staffing

(5) Format 5: Explanation and Problem Analyses

c. CPR Checklist

APPENDIX D provides a checklist of items for the FPD to review to ensure that CPR formats 1 to 5 are properly prepared.

d. PARS

The following information should be entered into PARS, as applicable.

- (1) Complete PV or BCWS profile.
- (2) Monthly EV or BCWP and AC or ACWP. PARS automatically calculates the monthly and cumulative indices.
- (3) Variance analysis and monthly status reports.
- (4) Latest revised estimate(LRE).
- (5) Contingency remaining.
- (6) Updates of other data fields, i.e., FPD, contractor project manager, project description, etc.

SECTION III—CERTIFICATION OF A CONTRACTOR'S EVMS

1. WHAT CERTIFICATION MEANS

Certification is a process that involves reviewing and certifying that the design and implementation of a contractor's EVMS is in conformance with ANSI/EIA-748 primarily for DOE O 413.3A projects. The certification is not to verify how well projects or the programs are doing, but to assess the capability of the system to provide an objective measure of progress and the effective use of the system by the contractor and for the Department. Project data are simply means of demonstrating EVMS compliance. Elements of the EVMS (i.e., the design as reflected by policies, procedures, and processes; and the implementation as reflected by reports and other documents) are evaluated individually and as a whole to ensure that they meet the intent of ANSI/EIA-748.

2. CERTIFICATION REVIEW SCOPE

Certification review scope encompasses a project's statement of work as reflected by a project specific contract and/or PEP.

- a. When a contractor has multiple projects, certification may be accomplished on a single or multiple project basis, with this decision being dependent primarily on the types of projects being managed and where each project is in its life cycle.
- b. An overriding objective in making this decision is to ensure that the review is conducted using data from projects that are sufficiently mature and provide a representative sampling of the contractor's total efforts to implement an ANSI/EIA-748 compliant EVMS.

3. SELF-CERTIFICATION

- a. DOE line management oversight of the self-certification is preferred as the means to gain confidence in the contractor's EVMS implementation.
- b. In addition to providing the standard and basis by which an EVMS is to be certified, ANSI/EIA-748 section 5.1 provides the following methods of self-evaluation that may be used as basis for self-certification. It is recommended that all methods be utilized;
 - (1) contractor's internal resources,
 - (2) a peer group from the contractor's internal resources and/or other organizations,
 - (3) an outside organization to assist with evaluation, and
 - (4) associated DOE program representatives to assist with evaluation.

- c. Once self-certified, the primary program/PSO should formally notify OECM of the self-certification.

4. OECM CERTIFICATION PROCESS

a. Points of Contact

The following points of contact (POCs) should be involved with the certification process.

(1) OECM EVMS Lead should —

- (a) Serve as primary certification POC.
- (b) Develop the EVMS certification review schedule milestones by working with the contractor and program/PSO.
- (c) Lead the OECM on-site review team and coordinates the review team.

(2) Contractor POC should —

- (a) Typically be the head of the project controls department.
- (b) Assess contract to determine if contractor requires OECM certification. If so, consults with the program/POC and the FPD/site office, to schedule certification.
- (c) Ensure that contractor has a mature EVMS supported by its project controls department.

(3) Program/PSO POC should —

- (a) Assess project CD status to determine if contractor requires OECM certification. If so, contact OECM, in consultation with the contractor and FPD/site office, to schedule certification with those projects planned to be provided as certification review documentation.
- (b) Assist in the scheduling the contractor and FPD/site office resources to support the review efforts.
- (c) Assess contract status to determine if new contractor is anticipated. If so, contacts OECM, in consultation with the contractor and the FPD/site office, to determine if certification should be scheduled.

- (4) FPD/Site Office should —
 - (a) Assess project CD status to determine if contractor requires OECM certification. If so, contacts appropriate program/PSO, in consultation with the contractor, to schedule certification with those projects planned to be provided as certification review documentation.
 - (b) Assess contract status to determine if new contractor is anticipated. If so, contacts appropriate program/PSO, in consultation with the contractor and other site office personnel, to determine if certification should be scheduled.

b. Milestones

This section provides a high-level overview of the following major milestones of the OECM administered EVMS certification process.

- (1) M01—Readiness Assessment (RA)
- (2) M02—On-Site Review
- (3) M03—CAP Analysis & Acceptance
- (4) M04—CAP Implementation and Follow-Up Review
- (5) M05—Certification

c. M01—Readiness Assessment

- (1) The RA is an on-site meeting with the contractor to ensure that the contractor is ready for an EVMS certification review. It should be approximately one day or longer and scheduled two or more months prior to the on-site review. The contractor should have conducted some form of self-certification prior to the RA. The on-site review may be postponed based on the RA or failure to address critical issues identified in OECM's RA report.
- (2) The RA primarily consists of discussion of the general scope of the projects for which a review of the EVMS is conducted; the purpose, scope, and requirements of the certification review including DOE expectations; the on-site review process including required documents, interview schedule, timeframe for the on-site review, and all administrative support needed to conduct a quality review; and comments to certification review documentation provided by the contractor.

(3) Deliverables

- (a) Certification Review Documentation—The contractor should provide OECM certification review documentation (APPENDIX E) approximately 30 working days prior to the RA.
- (b) RA Report—OECM should provide the contractor, program/PSO, and FPD/site office with a report of the RA approximately 5 working days after the RA.

d. M02—On-Site Review

- (1) The on-site review with the contractor is to assess compliance with ANSI/EIA-748. It should be approximately 5 working days.
- (2) The on-site review primarily consists of interviews by the OECM on-site certification review team (APPENDIX F) of the contractor's control account managers (CAM), functional managers, and senior managers and of data traces to determine if they support the certification review documentation.
- (3) At the end of the on-site review, the review team should provide an out-brief. The goal is to identify all findings. A finding is documented in the form of a corrective action request (CAR). Other issues may be documented in the form of a continuous improvement opportunity (CIO).
 - (a) A CAR is a systemic or limited occurrence of an ANSI/EIA-748 non-compliance or a significant impact to reporting, and requires a CAP.
 - (b) A CIO is a recommended improvement or expansion of good practices for wider application and does not require a CAP.
- (4) It is critical for the contractor to inform OECM of any changes to the EVMS after the on-site in-brief.
- (5) Deliverables
 - (a) Certification Review Documentation—The contractor should provide OECM certification review documentation (APPENDIX E) approximately 40 working days prior to the on-site review.
 - (b) On-Site Review Report—OECM should provide the contractor, program/PSO, and FPD/site office a report of the on-site review with the CARs and CIOs approximately 5 working days after the on-site out-brief.

e. M03—CAP Analysis and Acceptance

- (1) Based on the CARs, the contractor should prepare and submit a CAP for each CAR. A CAP represents the proposed action to address the CAR. A CAP clearly documents assumptions and constraints. Failure to provide a CAP for each CAR within 60 working days of the on-site review out-brief may result in a new certification review.
- (2) If OECM's CAP analysis concludes that the CAP logically outlines in sufficient detail the proposal to remedy the ANSI/EIA-748 non-compliance or a significant impact to reporting, OECM may accept the CAP.
- (3) It may take more than one CAP submission before OECM accepts the CAP.
- (4) The contractor is cautioned about implementing CAPs prior to OECM's acceptance for it may result in the need for even further changes and thereby be non-productive.
- (5) Deliverables
 - (a) CAP—The contractor should provide OECM CAP for each CAR approximately 20 working days after the on-site review out-brief.
 - (b) CAP Acceptance—OECM should respond to the contractor regarding the acceptability of the CAP approximately 10 working days after the receipt of the CAP.

f. M04—CAP Implementation and Followup Review

- (1) Based on OECM acceptance of the CAP, the contractor should implement the CAP immediately. At a minimum, the EVMS description should be updated accordingly.
- (2) Concurrently, evidence files (depending on the nature of the CARs, a minimum of 3 months of supporting documentation including CPRs) of the implementation that remedy the CAR should be sent to OECM and the follow-up review should be coordinated with OECM. Failure to provide sufficient evidence files within 5 months of CAP acceptance may result in a new certification review.
- (3) Upon receipt of all the evidence files, OECM should conduct an implementation analysis and document the results in the implementation report.

- (4) The implementation report may conclude that the CAR
 - (a) has not been adequately addressed (resulting in another submission of evidence files) or
 - (b) has been adequately addressed which necessitates coordination of a follow-up review.
- (5) Followup Review
 - (a) The follow-up review with the contractor is to assess compliance with ANSI/EIA-748. It should be approximately a one or two day on-site review, or OECM may substitute with a video conference depending on the complexity and the number of CARs, but may involve further discussions with the contractor CAMS and senior management and on-site review.
 - (b) The follow-up review primarily consists of interviews of the contractor's CAMs, functional managers, and senior managers to determine if they support the evidence files and close the CARs.
 - (c) The follow-up review should result in another implementation report which may conclude that another submission of evidence files is required for EVMS certification. Failure to obtain EVMS certification within 6 months of on-site review out-brief will result in a new certification review assuming OECM promptly responds to the contractor's submissions as noted.
- (6) Deliverables
 - (a) Evidence Files—The contractor should provide OECM evidence files approximately 85 working days after the on-site review out-brief. There should be a set of evidence files for each CAP.
 - (b) Implementation Report—OECM should provide contractor, program/PSO, and FRP/site office a report of the implementation analysis approximately 20 working days after receipt of the evidence files.

g. M05—Certification

- (1) Based on a successful follow-up review, OECM should provide the contractor a letter of certification, a significant achievement, with the expectation that the contractor maintains its EVMS, e.g., conducts surveillance as part of their integrated management system and with continuous improvement.

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- (2) It is expected that an EVMS should be ready for certification within six months of the on-site review. If the time between the on-site review and certification is longer than six months, then another on-site review may be necessary. In no case, should it extend beyond one year without restarting the certification process.

- (3) Deliverables

Letter of EVMS Certification—OECM should provide contractor letter certifying that the contractor's EVMS is in compliance with ANSI/EIA-748 approximately 10 working days after the successful follow-up review.

SECTION IV—EVMS SURVEILLANCE

Surveillance is the recurring process of reviewing a contractor's EVMS to ensure continued compliance with ANSI/EIA-748. DOE uses, as a guide, the NDIA PMSC, *Surveillance Guide*. An effective surveillance process ensures that the key elements and the use of an EVMS are maintained over time and on subsequent applications (e.g., on new projects). The purpose of surveillance is to ensure that the contractor is continuing to use their EVMS effectively to monitor and manage cost, schedule, and technical performance. Through the process of surveillance, successful practices may be shared as part of the lessons learned process.

1. CONTRACTOR SURVEILLANCE

The contractor has the primary responsibility for implementing and maintaining a surveillance program to ensure continued compliance of the system with ANSI/EIA-748.

An acceptable approach to surveillance planning could begin with the establishment of a comprehensive surveillance plan prepared by the contractor and provided for information and comment to the program/PSO and FPD/site office. The surveillance plan includes a clear definition of the scope of surveillance, the responsibilities, methods for conducting, and the schedule. The plan typically spans multiple years, is supplemented by an annual schedule with additional detail regarding the planned surveillances, and the projects selected for review. Responsibility for EVMS surveillance should be within an organization separate from the project manager's line management.

2. DOE LINE MANAGEMENT OVERSIGHT

While the contractor has the primary responsibility for EVMS surveillance, DOE line management (i.e., the FPD/site office up through the program/PSO) also shares in the responsibility. DOE line management should assess the results of the contractor surveillance program to determine if additional DOE-led surveillances are necessary. To this end, in reviewing the results of the surveillances, DOE line management may decide to initiate program office directed surveillances or it may request (through its program office) that OECM lead a surveillance review.

3. DOE OECM OVERSIGHT

As part of DOE's continuous effort to institutionalize EVMS across the Department and export best business practices across programs, OECM will conduct periodic surveillance reviews similar to the certification review. Many events, such as a request from the field or program office, negative performance indicators, and OECM schedules can trigger reviews. This does not abrogate the responsibility of the contractor and DOE line management to establish their EVMS surveillance program. The DOE headquarters surveillance program is one of oversight.

SECTION V—LESSONS LEARNED

The EVMS lessons learned contained within this section originate from CARs and CIOs identified during certification and surveillance reviews. They may also arise from external independent reviews (EIRs), independent project reviews (IPRs), day-to-day execution, and other industry sources. The following are ten common lessons learned issues that merit discussion.

1. ACQUISITION PROCESS

The request for proposal should specify what is required of the contractor as it relates to EVMS, and should make specific reference to ANSI/EIA-748, FAR, and DOE O 413.3A contractor requirements.

2. BUDGET VERSUS FUNDS AND PERFORMANCE MEASUREMENT BASELINE

The following basic concepts are often confused and can result in non-compliance.

- a. Funds are a monetary resource provided to execute the plan.
- b. Budget equates to the plan. The PMB represents the performance plan against which the contractor is measured as the contractor executes the total, not just the annual project scope of work. It is the summation of the time-phased budgets for all control accounts (CAs), summary level planning packages (SLPPs), applicable indirect budgets, and any undistributed budget (UB). For traditional projects, the PMB at CD-2 is required to encompass the entire project scope of work. For environmental management cleanup projects (especially long term projects), the PMB at CD-2 may be for the contract period, a near-term baseline, or the life cycle period. Contractors must not zero out past variances within the PMB to manage funds. Historical performance against the plan must not be erased, unless to correct errors, routine accounting adjustments, effects of customer or management directed changes, or to improve the baseline integrity and accuracy of performance measurement data. In other words—
 - (1) historical performance against the plan must not be erased,
 - (2) integrity of the PMB must be maintained, and
 - (3) separate means must be employed for funds control.

A fully implemented EVMS is concerned with the total project scope, the associated planned budget and schedule, and the resultant PMB that is used for purposes of measuring progress for the total project and is not focused on the management and control of an annual funding plan.

3. MANAGEMENT RESERVE

Contractors should be encouraged to establish a challenging PMB. However, it must be understood that there will be risk events within the contractor's defined scope of work. A proper balance of challenge versus risks and managing risks can be the key to project success. Many of these risk events may happen and the contractor should be allowed to have a budget reserve that they can use to better plan future work. This budget reserve or MR should not be used to budget newly directed work scope.

4. DOE CONTINGENCY

In establishing the TPC, DOE should account for technical and programmatic risks. It is important to account for these technical and programmatic risks by establishing a DOE contingency which would be used for providing additional budget should the need arise.

5. CHANGE CONTROL

- a. Many CARs are related to change control – primarily PMB maintenance and how MR and DOE contingency are used. It is important for the change control process to provide visibility to the type of change (e.g., scope change, versus a contractor initiated re-plan of future work) and that budget has been taken from the appropriate account (i.e., MR or DOE contingency). This is essential to ensure that the total project scope, cost, and schedule are managed by DOE and the contractor.
- b. ANSI/EIA-748 requires that work be performed against a planned budget. Therefore, if there is a large proposed scope change for which a significant amount of time is required prior to DOE approval, mechanisms should exist to provide “a not to exceed budget” while contract negotiations continue to resolve the final outcome.
- c. Although the issue of budget control (which is a part of baseline change control) and funds control are often inter-related, the contractor EVMS description and implementing procedures oftentimes use the terms interchangeably, when in fact they are two separate processes.
- d. When describing a baseline change, the total project cost and schedule impacts need to be addressed up through CD-4 and not just the cost and schedule impacts to the annual work plan, or the current project phase (e.g., design phase).

6. ESTIMATE AT COMPLETION

Whereas the PMB is important to measure a contractor's performance against a plan, an EAC is necessary to understand what the anticipated total funding requirements are to complete the project. Although most contractors have a process for identifying the development of trends and revising specific CA EACs to address individual issues, oftentimes there is no defined frequency for the development of a revised bottoms-up

EAC. Real-time updates of EAC at individual CA is important, and individual changes are often non-linear (i.e., their algebraic sum may not reflect the total impact). To better understand the EAC, a bottoms-up EAC should be required on some defined frequency. An annual update is usually adequate.

7. WORK AUTHORIZATION PROCESS

Usually the contract or PEP captures the total scope of work, cost, and schedule. The contractor's work authorization process for individual CAs should be recorded in an authorizing document from the contractor's line management (e.g., project manager) to each CAM. Oftentimes, what is documented is an annual work plan and not the total project plan.

8. ACCRUALS

Methods for planning, taking credit for actual work performed, and accounting for actual costs (pending receipt of an invoice) should be synchronized. Disciplined methods for reversing accruals (upon receipt of the invoice) should be implemented. If they are not, the reported variances may not represent actual variances. Additionally, it can lead to a significant waste of personnel resources to explain the variances.

9. EARNED VALUE TECHNIQUES

Wherever practicable, objective measures (rather than management judgment) should be used to take credit for work performed. Caution should be exercised when there is a high proportion of "level of effort" work in that, for this method, the work performed always equals what was planned and by itself it never generates a schedule variance. Further guidance regarding acceptable earned value measurement techniques can be found in the ANSI/EIA-748.

10. OVER-RELIANCE ON CUMULATIVE SPI

In addition to the potential masking of schedule problems encountered for projects with a high proportion of "level of effort" work, cumulative SPI is not a good indication of what is happening on the project critical path and does not reflect whether the critical path work is or is not being accomplished. In analyzing data, therefore, it is important for both the FPD and contractor to analyze more than just the cumulative indices. For example, understanding exactly what work is on the critical path, and then assessing the SPI for each of these work elements would be more meaningful.

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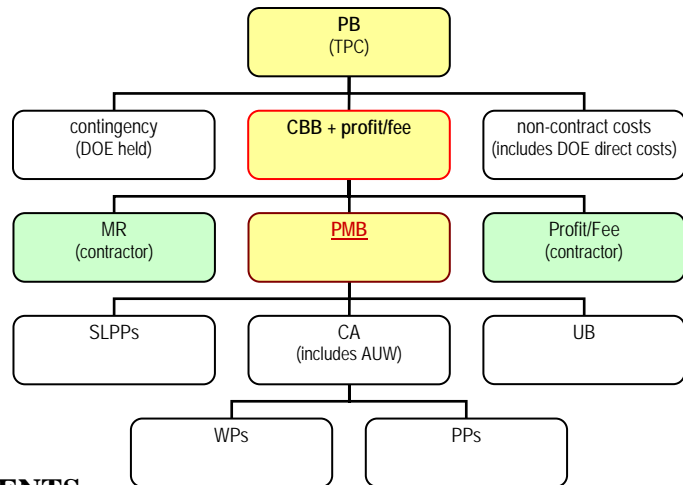
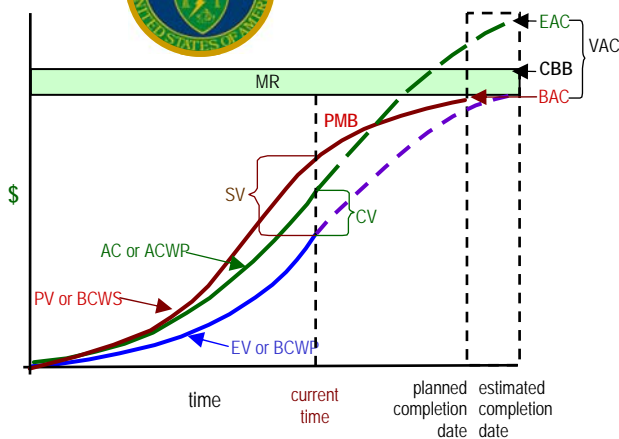
Appendix A
A-1 (and A-2)

APPENDIX A—REFERENCES

- ANSI/EIA-748-A-1998, *Earned Value Management Systems*, 1998, <http://ansi.org/>.
- ANSI/EIA-748-B-2007, *Earned Value Management Systems*, 2007, <http://ansi.org/>.
- DoD EVMS website, <http://www.acq.osd.mil/pm>.
- DoD DI-MGMT-81466A, *Contract Performance Report*,
http://www.assistdocs.com/search/document_details.cfm?ident_number=206421&StartRow=1&PaginatorPageNumber=1&doc%5Fid=DI%2DMGMT%2D81466A&status%5Fall=ON&search%5Fmethod=BASIC.
- DOE O 413.3A, *Program and Project Management for the Acquisition of Capital Assets*, dated 7-28-06, http://management.energy.gov/policy_guidance/project_managment.htm.
- DOE 413.3 series guides.
- FAR Subparts 34.2 and 52.234, *Earned Value Management System*, 2008,
<http://www.acqnet.gov/far/index.html> – Provides EVMS and certification requirements and solicitation provisions and contract clauses for acquisitions.
- GAO-07-1134SP, *Cost Assessment Guide – Best Practices for Estimating and Managing Program Costs*, exposure draft, 2007, <http://www.gao.gov/new.items/d071134sp.pdf>.
- NDIA PMSC, *Earned Value Management Systems Intent Guide*, 2006,
<http://www.ndia.org/Template.cfm?Section=Procurement&Template=/ContentManagement/ContentDisplay.cfm&ContentID=2310>.
- NDIA PMSC, *Surveillance Guide*, 2004,
<http://www.ndia.org/Template.cfm?Section=Procurement&Template=/ContentManagement/ContentDisplay.cfm&ContentID=2310>.
- OMB Circular A-11, *Part 7, Planning, Budgeting, Acquisition, and Management of Capital Assets*, includes supplement, *Capital Planning Guide*, 2007,
http://www.whitehouse.gov/omb/circulars/a11/current_year/a11_toc.html.
- Project Assessment and Reporting System (PARS), <https://pars.energy.gov>.

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B-1 (and B-2)

APPENDIX B—DOE EVMS GOLD CARD



PERFORMANCE BASELINE COMPONENTS

PB	= CBB + contingency + non-contract costs	= performance baseline (TPC, total project cost)
contingency	=	= held by DOE & based on technical and programmatic risks
CBB	= PMB + MR	= contract budget base
PMB	= CAs + UB + SLPPs	= performance measurement baseline
MR	=	= management reserve (held by contractor based on contractor risks)
SLPP	=	= summary level planning package
AUW	=	= authorized unpriced work (contractually approved but not yet negotiated)
CA	= WPs + PPs	= control account (includes AUW, lowest WBS element assigned)
UB	=	= undistributed budget (activities not yet distributed to CA)
WP	=	= work package (near-term, detail-planned activities within a CA)
PP	=	= planning package (far-term activities within a CA)

EVMS BASIC COMPONENTS¹

AC	= actual cost	= ACWP	= actual cost of work performed
EV	= earned value	= BCWP	= budgeted cost for work performed
PV	= planned value	= BCWS	= budgeted cost for work scheduled
BAC	= cumulative PV	= cumulative BCWS	= budget at completion

VARIANCES¹

CV	= EV - AC	= BCWP - ACWP	= cost variance
SV	= EV - PV	= BCWP - BCWS	= schedule variance
CV %	= (EV - AC)/EV	= (BCWP - ACWP)/BCWP	= cost variance, percentage
SV %	= (EV - PV)/PV	= (BCWP - BCWS)/BCWS	= schedule variance, percentage
VAC	= BAC - EAC		= variance at completion

OVERALL STATUS

% scheduled	= PV_{cum}/BAC	= $BCWS_{cum}/BAC$	
% complete	= EV_{cum}/BAC	= $BCWP_{cum}/BAC$	
% budget spent	= AC_{cum}/BAC	= $ACWP_{cum}/BAC$	
WR	= BAC - EV_{cum}	= BAC - $BCWP_{cum}$	= work remaining
BR	= BAC - AC_{cum}	= BAC - $ACWP_{cum}$	= budget remaining

PERFORMANCE INDICES¹

CPI	= EV/AC	= BCWP/ACWP	= cost performance index
SPI	= EV/PV	= BCWP/BCWS	= schedule performance index
TCPI _{BAC}	= WR/BR		= to complete performance index, BAC
TCPI _{EAC}	= WR/ETC		= to complete performance index, EAC

COMPLETION ESTIMATES

EAC	= BAC/CPI _{cum}	= estimate at completion, general
EAC _{CPI}	= $AC_{cum} + WR/CPI_{cum}$	= estimate at completion, CPI
EAC _{composite}	= $AC_{cum} + WR/(CPI_{cum} * SPI_{cum})$	= estimate at completion, composite
LRE	=	= latest revised estimate (contractor's, assessed monthly, annual bottoms-up)
ETC	= EAC - AC_{cum}	= estimated to complete

¹ Calculations based on AC, EV, and PV may be based on various time periods, i.e. monthly, cumulative (cum), last 3 months,...

APPENDIX C—CPR FORMATS 1 TO 5 OVERVIEW

1. The following CPR formats are available from the DoD website (APPENDIX A). Blank forms are attached on the following pages.
 - a. Format 1: WBS

Provides data to measure cost and schedule performance by product-oriented work breakdown structure (WBS) elements, the hardware, software, and services the Government is buying. Identifies any reprogramming adjustment, BAC, EAC, MR, UB, and variance at completion by element. It can also show the indirect costs by element.
 - b. Format 2: Organizational Categories

Provides format 1 data by the contractor's organization (functional or integrated product team structure). Refers to the organizational categories that reflect the contractor's internal management. A certified EVMS requires reporting by WBS and organizational breakdown structure (OBS).
 - c. Format 3: Baseline

Provides the budget baseline plan against which performance is measured.
 - d. Format 4: Staffing

Provides staffing forecasts for correlation with the budget plan and cost estimates.
 - e. Format 5: Explanation and Problem Analyses

A narrative report used to explain significant cost and schedule variances and other identified contract problems and topics to the CA level.
2. Regarding completion of the data blocks in CPR formats 1 to 5, many of the blocks are self-explanatory. Sample descriptions of some that may not be so clear are provided below, and detailed instructions for completing the CPR data blocks can be obtained from the DoD website (APPENDIX A).
 - a. Phase: Refers to current segment of a project (e.g., design, construction, commissioning).
 - b. Share Ratio: Refers to contracts wherein there is a sharing of costs, or cost savings, for completion of the project above, or below, a contractually established target cost. For example, if for every dollar that the project is completed less than the target cost the DOE retains 80 cents and the contractor's fee is increased by 20 cents, then the share ratio would be 80/20.
 - c. Cost of Money: Refers to interest costs incurred by the contractor when he is financing facility capital assets (e.g., the building, equipment procurements, etc). This usually is not done for DOE projects (and is usually not applicable).
3. CPR FORMATS 1 TO 5

CONTRACT PERFORMANCE REPORT FORMAT 1 - WORK BREAKDOWN STRUCTURE														DOLLARS IN _____		Form Approved OMB No. 0704-0188		
The public reporting burden for this collection of information is estimated to average 3.1 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing the burden, to the Department of Defense, Executive Services Directorate (0704-0188). Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.																		
PLEASE DO NOT RETURN YOUR FORM TO THE ABOVE ORGANIZATION. SUBMIT COMPLETED FORMS IN ACCORDANCE WITH CONTRACTUAL REQUIREMENTS.																		
1. CONTRACTOR				2. CONTRACT				3. PROGRAM				4. REPORT PERIOD						
a. NAME				a. NAME				a. FROM (YYYYMMDD)										
b. LOCATION (Address and ZIP Code)				b. NUMBER				b. PHASE				b. TO (YYYYMMDD)						
				c. TYPE				d. SHARE RATIO				e. EVMS ACCEPTANCE						
								NO				YES (YYYYMMDD)						
5. CONTRACT DATA																		
a. QUANTITY	b. NEGOTIATED COST	c. EST. COST AUTHORIZED UNPRICED WORK	d. TARGET PROFIT/FEE	e. TARGET PRICE	f. ESTIMATED PRICE	g. CONTRACT CEILING	h. EST. CONTRACT CEILING	i. DATE OF OT/OTS (YYYYMMDD)										
6. ESTIMATED COST AT COMPLETION									7. AUTHORIZED CONTRACTOR REPRESENTATIVE									
MANAGEMENT ESTIMATE AT COMPLETION (1)			CONTRACT BUDGET BASE (2)			VARIANCE (3)			a. NAME (Last, First, Middle Initial)			b. TITLE						
a. BEST CASE									c. SIGNATURE									
b. WORST CASE																		
c. MOST LIKELY																		
8. PERFORMANCE DATA																		
ITEM		CURRENT PERIOD				CUMULATIVE TO DATE				REPROGRAMMING ADJUSTMENTS				AT COMPLETION				
		BUDGETED COST	ACTUAL COST WORK PERFORMED (3)	SCHEDULE (4)	VARIANCE (5)	BUDGETED COST	WORK SCHEDULED PERFORMED (6)	COST (7)	SCHEDULE (8)	VARIANCE (9)	ACTUAL COST WORK PERFORMED (10)	WORK SCHEDULED PERFORMED (11)	COST VARIANCE (12a)	SCHEDULE VARIANCE (12b)	BUDGET (13)	BUDGETED (14)	ESTIMATED VARIANCE (15)	VARIANCE (16)
a. WORK BREAKDOWN STRUCTURE ELEMENT		(1)																
b. COST OF MONEY																		
c. GENERAL & ADMINISTRATIVE																		
d. UNDISTRIBUTED BUDGET																		
e. SUBTOTAL (Performance Measurement Baseline)			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
f. MANAGEMENT RESERVE																		
g. TOTAL			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
9. RECONCILIATION TO CONTRACT BUDGET BASE																		
a. VARIANCE ADJUSTMENT																		
b. TOTAL CONTRACT VARIANCE											0.00	0.00						
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5-6-08

Appendix C
C-5 (and C-6)

CLASSIFICATION (When filled in)

CONTRACT PERFORMANCE REPORT FORMAT 2 - ORGANIZATIONAL CATEGORIES														DOLLARS IN		Form Approved OMB No. 0704-0188	
The public reporting burden for this collection of information is estimated to average .8 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing the burden, to the Department of Defense, Executive Services Directorate (0704-0188). Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. PLEASE DO NOT RETURN YOUR FORM TO THE ABOVE ORGANIZATION. SUBMIT COMPLETED FORMS IN ACCORDANCE WITH CONTRACTUAL REQUIREMENTS.																	
1. CONTRACTOR		2. CONTRACT		3. PROGRAM		4. REPORT PERIOD											
a. NAME		a. NAME		a. NAME		a. FROM (YYYYMMDD)											
b. LOCATION (Address and ZIP Code)		b. NUMBER		b. PHASE		b. TO (YYYYMMDD)											
c. TYPE		d. SHARE RATIO		c. EVMS ACCEPTANCE													
				NO		YES (YYYYMMDD)											
5. PERFORMANCE DATA																	
ITEM (1)	CURRENT PERIOD			CUMULATIVE TO DATE			REPROGRAMMING ADJUSTMENTS			AT COMPLETION							
	BUDGETED COST WORK SCHEDULED (2)	ACTUAL COST WORK PERFORMED (4)	VARIANCE SCHEDULE (5)	BUDGETED COST WORK SCHEDULED (7)	ACTUAL COST WORK PERFORMED (9)	VARIANCE SCHEDULE (10)	COST VARIANCE (11)	COST VARIANCE (12a)	SCHEDULE VARIANCE (12b)	BUDGET (13)	BUDGETED (14)	ESTIMATED (15)	VARIANCE (16)				
a. ORGANIZATIONAL CATEGORY			0.00														
b. COST OF MONEY																	
c. GENERAL & ADMINISTRATIVE																	
d. UNDISTRIBUTED BUDGET																	
e. SUBTOTAL (Performance Measurement Baseline)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
f. MANAGEMENT RESERVE																	
g. TOTAL	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				

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Appendix C
C-7 (and C-8)

CLASSIFICATION (When filled in)

CONTRACT PERFORMANCE REPORT FORMAT 3 - BASELINE												DOLLARS IN _____		Form Approved OMB No. 0704-0188															
The public reporting burden for this collection of information is estimated to average 6.3 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing the burden, to the Department of Defense, Executive Services Directorate (0704-0188). Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. PLEASE DO NOT RETURN YOUR FORM TO THE ABOVE ORGANIZATION. SUBMIT COMPLETED FORMS IN ACCORDANCE WITH CONTRACTUAL REQUIREMENTS.																													
1. CONTRACTOR		2. CONTRACT		3. PROGRAM		4. REPORT PERIOD																							
a. NAME		a. NAME		a. NAME		a. FROM (YYYYMMDD)																							
b. LOCATION (Address and ZIP Code)		b. NUMBER		b. PHASE		b. TO (YYYYMMDD)																							
c. TYPE		d. SHARE RATIO		c. EVMS ACCEPTANCE																									
				NO		YES (YYYYMMDD)																							
5. CONTRACT DATA																													
a. ORIGINAL NEGOTIATED COST		b. NEGOTIATED CONTRACT CHANGES		c. CURRENT NEGOTIATED COST (a. + b.)		d. ESTIMATED COST OF AUTHORIZED UNPRICED WORK		e. CONTRACT BUDGET BASE (c. + d.)		f. TOTAL ALLOCATED BUDGET		g. DIFFERENCE (e. - f.)																	
				0.00				0.00				0.00																	
h. CONTRACT START DATE (YYYYMMDD)		i. CONTRACT DEFINITIZATION DATE (YYYYMMDD)		j. PLANNED COMPLETION DATE (YYYYMMDD)		k. CONTRACT COMPLETION DATE (YYYYMMDD)		l. ESTIMATED COMPLETION DATE (YYYYMMDD)																					
6. PERFORMANCE DATA																													
ITEM		BOWS FOR REPORT PERIOD		SIX MONTH FORECAST (Enter names of months)						BUDGETED COST FOR WORK SCHEDULED (BCWS) (Non-Cumulative)		UNDIS-TRIBUTED BUDGET		TOTAL BUDGET															
(1)		(3)		(4)		(5)		(6)		(7)		(8)		(9)		(10)		(11)		(12)		(13)		(14)		(15)		(16)	
a. PERFORMANCE MEASUREMENT BASELINE (Beginning of Period)																												0.00	
b. BASELINE CHANGES AUTHORIZED DURING REPORT PERIOD																													
c. PERFORMANCE MEASUREMENT BASELINE (End of Period)																												0.00	
7. MANAGEMENT RESERVE																													
8. TOTAL																												0.00	

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CONTRACT PERFORMANCE REPORT
FORMAT 4 - STAFFING

The public reporting burden for this collection of information is estimated to average 5.0 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing the burden, to the Department of Defense, Executive Services Directorate (0704-0188). Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.										Form Approved OMB No. 0704-0188			
PLEASE DO NOT RETURN YOUR FORM TO THE ABOVE ORGANIZATION. SUBMIT COMPLETED FORMS IN ACCORDANCE WITH CONTRACTUAL REQUIREMENTS.													
1. CONTRACTOR		2. CONTRACT		3. PROGRAM		4. REPORT PERIOD							
a. NAME		a. NAME		a. NAME		a. FROM (YYYYMMDD)							
b. LOCATION (Address and ZIP Code)		b. NUMBER		b. PHASE		b. TO (YYYYMMDD)							
c. TYPE		d. SHARE RATIO		c. EVMS ACCEPTANCE		NO <input type="checkbox"/> YES (YYYYMMDD) <input type="checkbox"/>							
5. PERFORMANCE DATA (All figures in whole numbers)													
ORGANIZATIONAL CATEGORY	ACTUAL CURRENT PERIOD (2)	ACTUAL END OF CURRENT PERIOD (Cumulative) (3)	SIX MONTH FORECAST BY MONTH (Enter names of months)						FORECAST (Non-Cumulative)			AT COMPLETION (15)	
			+ 1 (4)	+ 2 (5)	+ 3 (6)	+ 4 (7)	+ 5 (8)	+ 6 (9)	(10)	(11)	(12)		(13)
(1)													
6. TOTAL DIRECT	0	0	0	0	0	0	0	0	0	0	0	0	0

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CONTRACT PERFORMANCE REPORT FORMAT 5 - EXPLANATIONS AND PROBLEM ANALYSES					Form Approved OMB No. 0704-0188	
<small>The public reporting burden for this collection of information is estimated to average 36.0 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing the burden, to the Department of Defense, Executive Services Directorate (0704-0188). Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. PLEASE DO NOT RETURN YOUR FORM TO THE ABOVE ORGANIZATION. SUBMIT COMPLETED FORMS IN ACCORDANCE WITH CONTRACTUAL REQUIREMENTS.</small>						
1. CONTRACTOR		2. CONTRACT		3. PROGRAM		4. REPORT PERIOD
a. NAME		a. NAME		a. NAME		a. FROM (YYYYMMDD)
b. LOCATION (Address and ZIP Code)		b. NUMBER		b. PHASE		b. TO (YYYYMMDD)
c. TYPE		d. SHARE RATIO		c. EVMS ACCEPTANCE		
				NO YES (YYYYMMDD)		
5. EVALUATION						
<p>Discussion should include but is not limited to:</p> <p><u>Summary Analysis:</u></p> <ul style="list-style-type: none">Summary of Overall Contract VariancesDifferences between EAC's (Blocks 6.a., 6.b., 6.c., or Block 8.15)Changes in Undistributed BudgetChanges in Management ReserveSignificant timephasing shifts in Baseline (BCWS) (Format 3)Significant timephasing shifts or overall changes in Forecasted Staffing (Format 4)Discussion of Over Target Baseline and/or Over Target Schedule Incorporation <p><u>Analysis of Significant Variances (identify and describe each):</u></p> <ul style="list-style-type: none">Type and Magnitude of VarianceExplanation of Significant ReasonsEffect on Immediate TaskEffect on Total ContractCorrective Actions Taken or Planned						

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APPENDIX D—CPR FORMATS 1 TO 5 CHECKLIST

The following are some checks for CPR formats 1 to 5 noted in APPENDIX C.

1. FORMAT 1: WBS

- a. Check Summary information for correctness (i.e., contract number/type, program name, report period, and signature).
- b. Verify negotiated cost tracks to the latest definitized contractual actions.
REMEMBER: Cost does not include fee. Ensure that the estimated cost of authorized unpriced work (AUW) reflects contractual actions in-progress and not definitized (e.g., change orders, not-to-exceeds, supplemental agreements, and letter contracts).
- c. Check and verify the following:
 - (1) *Fixed Fee* should reconcile to the fixed fee definitized on contract.
 - (2) *Award Fee Pool* should reconcile to the total definitized award fee negotiated on contract.
 - (3) *Award Fee* earned should reflect the fee the contractor earned to date. Crosscheck with the contract.
 - (4) *Award Fee available* should reflect the award fee pool less award fee earned less unearned award fee.
- d. Check and verify that the:
 - (1) *Negotiated Price* = Negotiated cost + Fixed fee + Award fee earned + Award fee available
 - (2) *Estimated Price* = Negotiated price + Estimated cost of authorized unpriced work
- e. Assess changes to the UB that should be explained in Format 3, and efforts should be made to distribute all UBs well ahead of the planned execution of the work. Look for significant changes in the MR budget. Significant changes in budget should be identified in format 3 and explained in format 5. Any entry in the MR EAC represents MR usage.

2. FORMAT 2: ORGANIZATIONAL CATEGORIES

Verify information against organizational categories.

3. FORMAT 3: BASELINE

- a. Check and verify header information. Cross-check with format 1.
- b. Note changes to PMB since the last report. Reconcile the end of month PMB BCWS to the BCWS “total” line of format 1.

4. FORMAT 4: STAFFING

Check accuracy of headcount data with control account managers (CAM)/integrated project team (IPT) leads. Note changes in headcount since the last report. Look for major changes, i.e., significant shifts in time-phasing of planned staffing in projected headcount (rule of thumb, >10%). Reconcile the headcount with format 3 data. Check for explanation in the format 5.

5. FORMAT 5: EXPLANATION AND PROBLEM ANALYSES

- a. Refer to SECTION II for a discussion of what the variances and indices may be indicating regarding over-all performance, the reasons for the variances, the adequacy of corrective action plans, and forecasts of future performance.
- b. Also check whether the indicated reasons for variances are within (or outside) the listing of identified risks, and whether proper re-planning of future work has been done to better plan future work, and whether contractor MR is being properly utilized.

APPENDIX E—TYPICAL CERTIFICATION REVIEW DOCUMENTATION

1. READINESS ASSESSMENT

Typical certification review documentation to be provided to OECM approximately 30 working days prior to the RA:

- a. primary POCs,
- b. contract with changes/modifications,
- c. list of subcontractors with associated scopes of work,
- d. EVMS description, surveillance plan, and change control procedure and other implementing procedures (i.e., referenced documentation),
- e. cross reference of the EVMS description to ANSI/EIA-748 guidelines (compliance map),
- f. WBS and WBS dictionary,
- g. organizational chart and OBS, and
- h. dollarized responsibility assignment matrix (RAM).

2. ON-SITE REVIEW

Typical certification review documentation to be provided to OECM approximately 40 working days prior to the on-site review:

- a. updated documentation including those listed above and already provided,
- b. contract performance reports (CPR) for the last 3 consecutive months,
- c. CAM notebooks (representative sample),
- d. CA plans (representative sample of contractor's and subcontractor's),
- e. program schedules (contractor's and subcontractor's),
- f. variance analysis reports (representative sample),
- g. variance analysis corrective action log,
- h. change control log including executed and pending,
- i. management reserve and contingency log,
- j. UB log,
- k. accounting policies and procedures,
- l. rationale for projected rates,
- m. disclosure statement, and
- n. Defense Contract Audit Agency (DCAA), Inspector General (IG), or other audit reports.

APPENDIX F—OECM ON-SITE CERTIFICATION REVIEW TEAM**1. TYPICAL REVIEW TEAM**

A typical EVMS on-site certification review team led by OECM is shown in Table 1.

Table 1 – Typical OECM On-Site Certification Review and Interview Team Matrix

4 Functional Teams			4 Interview Teams			
No.	5 Functional Areas	Member	1	2	3	4 (Accounting)
A	Organization	<i>Member A1</i>	x			
		<i>Member A2</i>		x		
	Analysis and Management Reports	<i>Member A3</i>			x	
B	Planning and Budgeting	<i>Member B1</i>		x		
		<i>Member B2</i>	x			
		<i>Member B3</i>			x	
C	Accounting	<i>Member C1</i>				x
		<i>Member C2</i>				x
		<i>Member C3</i>				x
D	Revisions	<i>Member D1</i>			x	
		<i>Member D2</i>	x			
		<i>Member D3</i>		x		

The 5 functional areas shown represent the 5 process groupings into which the 32 ANSI/EIA-748 guidelines are categorized. A functional area lead is designated for each functional area. Each functional team member is assigned to an interview team, wherein the interview teams are constructed to have representation from all but team 4, the accounting team. The accounting team also conducts interviews, and although it is assigned to a few of the interviews conducted by the other three interview teams, in large part it conducts its interviews of accounting personnel. In addition to the interviews of the contractor personnel conducted by the 4 interview teams, the OECM EVMS lead with other team members conduct interviews of the contractor's senior management.

2. FUNCTIONING OF THE REVIEW TEAM

- a. In general, the review team plans and executes its work prior to, during, and following the on-site review, as follows:

- (1) Prior to the on-site review, team members review the certification review documentation that is supplied by the OECM EVMS lead to assess compliance of the EVMS processes and procedures with ANSI/EIA-748.
 - (2) During the on-site review, team members conduct interviews and data traces to determine if contractor personnel are doing business consistent with their EVMS procedures. Also, at the end of each day the entire team assembles to discuss potential problem issues. Further, the OECM EVMS lead with other team members meet at the end of each day of interviews with the contractor in order to ensure that there are no misunderstandings in what the review team believes it is observing and to ensure there are no surprises at the on-site review out-brief.
 - (3) Following the on-site review and acceptance of the contractor's CAP, the OECM EVMS lead and necessary functional team leads assess the acceptability of the contractor CAP and support further reviews to ensure successful CAP implementation.
- b. Technical accountability (e.g., determining which issues represent non-compliances with ANSI/EIA-748) rests with OECM; however, in most cases a consensus position is usually reached by the entire review team.
- c. Staffing of the Review Team
- (1) In general, the accounting team is comprised primarily of personnel from the program that has accounting over-sight responsibility for the contractor being reviewed. This is usually a DOE field services office or DCAA.
 - (2) The remaining review team members should be qualified personnel who have no conflict of interest with the contractor or that contractor's projects and may include DOE personnel. If requested by the OECM EVMS lead, the program may need to identify some of the review team members approximately 30 working days prior to the start of the on-site review.
 - (3) Staffing of the review team should be identified by approximately 20 working days prior to the start of the on-site review.

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Appendix G
G-1 (and G-2)

APPENDIX G—ACRONYMS

AC	actual cost	IPR	independent project review
ACWP	actual cost of work performed	IPT	integrated project team
ANSI	American National Standards Institute	LRE	latest revised estimate (at completion)
AUW	authorized unpriced work	M	million or milestone
BAC	budget at completion	MR	management reserve
BCWP	budgeted cost for work performed	NDIA	National Defense Industrial Association
BCWS	budgeted cost for work scheduled	O	order
BR	budget remaining	OBS	organizational breakdown structure
CA	control account	OECM	Office of Engineering and Construction Management
CAM	control account manager	OMB	Office of Management and Budget
CAP	corrective action plan	PARS	Project Assessment and Reporting System
CAR	corrective action request	PB	performance baseline
CBB	contract budget base	PEP	project execution plan
CD	critical decision	PMB	performance measurement baseline
CIO	continuous improvement opportunity	PMSC	Program Management Systems Committee
CPI	cost performance index	POC	point of contact
CPR	contract performance report	PP	planning package
cum	cumulative	PSO	Program Secretarial Officer
CV	cost variance	PV	planned value
CPR	contract performance report	RA	readiness assessment
DCAA	Defense Contract Audit Agency	RAM	responsibility assignment matrix
DoD	Department of Defense	SLPP	summary level planning package
DOE	Department of Energy	SPI	schedule performance index
EAC	estimate at completion	SV	schedule variance
ETC	estimate to complete	TCPI	to complete performance index
EIA	Electronic Industries Alliance	TPC	total project cost
EIR	external independent review	UB	undistributed budget
EV	earned value	VAC	variance at completion
EVMS	earned value management system	WBS	work breakdown structure
FAR	Federal Acquisition Regulation	WP	work package
FPD	federal project director	WR	work remaining
G	guide		
GAO	Government Accountability Office		
IG	Inspector General		