Office of Project Management (PM)
Earned Value Management Systems
Compliance Review
Standard Operating Procedure
(ECRSOP)

Issued by
Office of Project Management (PM)
Project Controls Division

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1. **PURPOSE.** The White House Office of Management and Budget (OMB) requires federal agencies to implement an Earned Value Management System (EVMS) compliant with the Electronic Industries Alliance Standard 748 (EIA-748), current version or other as required by contract, on major capital acquisitions due to their importance to the agency mission. The Department of Energy (DOE) implements this requirement through DOE O 413.3B, *Program and Project Management for the Acquisition of Capital Assets*, which requires the Office of Project Management (PM) to establish, maintain and execute a documented EVMS compliance assessment process. This Office of Project Management (PM) EVMS Compliance Review Standard Operating Procedure (ECRSOP) serves as a primary reference for PM's determination of compliance. This Standard Operating Procedure (SOP) provides guidance for PM staff and PM support contractors performing EVMS compliance reviews in accordance with established thresholds in DOE O 413.3B to ensure full compliance with Federal Acquisition Regulations (FAR) and OMB compliance requirements. Utilization of this SOP by PM staff and support contractors will ensure consistent assessment of compliance and evaluation of the implementation of a contractor's EVMS while minimizing the need and duration for onsite reviews.

2. **APPLICABILITY.** This SOP applies only to PM personnel and PM-led or initiated review teams responsible for the determination of EVMS compliance of applicable projects and contractors subject to DOE O 413.3B.

3. **RELEASABILITY.** LIMITED. This SOP is approved for internal use only.

4. **SUPERSEDES.** This SOP supersedes the ECRSOP dated September 11, 2018.

5. **EFFECTIVE DATE.** This SOP is effective immediately.

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1. POLICY AND AUTHORITY

This Office of Project Management (PM) Earned Value Management System (EVMS) Compliance Review Standard Operating Procedure (ECRSOP) serves as a primary reference for PM in the determination of EVMS compliance. The purpose of this PM SOP is to provide standardized and repeatable processes based on a common understanding of EVMS compliance techniques, methods and practices. All information contained here provides detailed processes for PM to implement the requirements in DOE Order (O) 413.3B, consistent with guidance provided in DOE Guide (G) 413.3-10A, *Earned Value Management System*. The Electronic Industries Alliance Standard 748, current version or other as required by contract (EIA-748) establishes 32 EVMS guidelines.

1.1 Federal Regulations

The White House Office of Management and Budget (OMB) requires federal agencies to implement an Earned Value Management System on Capital Acquisitions (Reference (f)). As defined in the OMB Circular A-11, Part 7, Capital Programming Guide, major acquisitions are capital assets that require special management attention because of their importance to the agency mission.

1.2 DOE O 413.3B EVMS Compliance Requirements

DOE O 413.3B, *Program and Project Management for the Acquisition of Capital Assets*, states that prior to Critical Decision (CD)-2, the contractor is responsible to employ and maintain an EVMS compliant with EIA-748, or as required contractually (DOE O 413.3B, Appendix A, Section A-11). DOE O 413.3B, Appendix C, Section 8, further defines DOE's policy for EVMS compliance relative to project threshold values.

1.2.1 EVMS Credentialing

Certification refers to the confirmation of certain characteristics of a contractor's EVMS. The EVMS credentialing is the process of obtaining, verifying, and assessing the qualifications of a contractor to implement an integrated project management methodology and holistic management and control system for measuring project performance and progress in an objective manner. Verification of a contractor EVMS ensures the data and information produced by the management and control system is current, accurate, complete, auditable, repeatable, and compliant for determining a project's status. This process tests a contractor's EVMS for "compliance" with the guidelines of the EIA-748.

PM will recognize a contractor's EVMS certification indefinitely so long as the system remains active at the specified location where the certification applies and continues to meet the intent of EIA-748 EVMS Guideline criteria and the contractor remains the same.

1.2.2 EVMS Certification Thresholds

The certification process assesses the capability of the system to provide an objective measure of cost and schedule progress and the effective use of the system by the contractor. 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 EIA-748.

- **Project TPC of $100M or greater:** Prior to CD-3, PM must conduct an EVMS compliance review to certify that the contractor's EVMS is compliant with the EIA-748, or as defined and required by the contract.
- **Project TPC below $100M**: The Order requires that the contractor employ an EVMS compliant with the EIA-748 prior to CD-2. There is no formal determination or 'certification' designation by PM that the contractor's EVMS is compliant with the EIA-748. However, on an exception basis, or at the request of the Project Management Support Office (PMSO), PM may assess EVMS compliance to identify and document system deficiencies and any areas of non-compliance.

1.2.3 EVMS Surveillance Thresholds

The purpose of surveillance is to ensure that a contractor's certified EVMS remains in full compliance with the EIA-748, or as required by the contract, on all applicable projects. EVMS surveillance may include an assessment against some or all of the 32 EIA-748 EVMS Guidelines.

- **Project TPC of $100M or greater**: For contracts where there are applicable projects having a TPC of $100M or greater, PM-30 will conduct risk-based, data-driven surveillance during the performance of the contract, during contract extensions, or as requested by the Federal Project Director (FPD), the Program, or the Project Management Executive (PME). The data-driven approach looks to efficiently test the reliability of core management processes from initial implementation through project and contract execution thereby reducing the risk of system failure. This approach may include remotely testing contractor EVMS data, thus eliminating the need and costs for multiple interviews and assessments. The extent of the EVMS surveillance will be tailored as appropriate based on current conditions.
- **Projects TPC below $100M:** PM may, on an exception basis, or at the request of the PMSO, conduct EVMS compliance reviews to identify and document system deficiencies and any areas of non-compliance.

1.2.4 Integrating the EVMS Compliance Process with PM Led External Independent Reviews (EIR) and Independent Cost Estimates (ICE)/Independent Cost Reviews (ICR)

The evaluation of the efficient implementation of the EVMS as part of other PM-led reviews (e.g., EIRs, ICEs, and ICRs) is to assess whether the contractor has placed an adequate level of emphasis on the principles and importance of earned value management. These assessments are not intended to be a formal EVMS compliance review, but rather a validation of the executability of the Performance Baseline (PB) and Performance Measurement Baseline (PMB). It also ensures management strategies are in place emphasizing the full use

of the EVMS including, but not limited to, thorough upfront planning, scheduling, and budgeting, change control, risk management, funding requirements, portfolio analysis, performance-based acquisition management, and stewardship and accountability to achieving desired outcomes (e.g. performance goals) at specific dates (e.g. time goal) for a specific amount of resources (e.g. cost goal). System issues found during the course of these assessments should be documented and further examined following the EVMS compliance process described in this PM SOP. With regard to EVMS and the PB and PMB, the EIR and ICE/ICR assessments should determine whether the contractor emphasizes the importance of Earned Value Management (EVM) as a viable project management methodology to plan and control work, and to confirm that the contractor has followed its compliant EVM System Description and associated processes.

1.3 EVMS References

This document provides detailed guidance based on recognized leading sources for establishing, employing, and maintaining a compliant EVMS as referenced in the EIA-748 and DOE O 413.3B, including DOE G 413.3-10A, EVMS Guide, the EIA-748 EVMS Standard, multiple National Defense and Industry Association (NDIA) Integrated Program Management Division (IPMD) Guides including the EVMS Intent Guide, EVMS Surveillance Guide, EVMS Acceptance Guide, EVMS Application Guide, EVMS Scalability Guide, and the Planning and Scheduling Excellence Guide (PASEG), the Government Accountability Office (GAO) Cost Estimating & Assessment Guide, and the GAO Schedule Assessment Guide.

Given that the details contained in these numerous resources have been distilled and coordinated to reflect a comprehensive and holistic EVMS compliance framework based on DOE's project management governance and contracting approaches as well as the type of work DOE performs and manner in which it is performed, users of this Appendix should be careful to not take discrete elements or statements in one reference document that may appear on the surface to be contradictory, out of context to or misconstrued with the whole of this Appendix. In short, use of singular guidance by itself outside the PM ECRSOP – Appendix A: Compliance Assessment Guidance (CAG) should not be construed as EVMS compliant by PM. Thus, this synthesized and uniform approach to evaluate the performance of a contractor's EVMS in the manner described herein ensures fairness and consistency of EVMS compliance proceedings by PM in performance of its responsibilities.

This PM ECRSOP now incorporates applicable elements of the PM EVMS Corrective Action Standard Operating Procedure (ECASOP) which previously served as a primary reference for PM to document non-compliances and continuous improvement opportunities issued as part of the EVMS compliance review process in addition to the assessment, tracking, and closure of contractor system deficiencies during the corrective action process, hereafter referred to as the Corrective Action Management Plan (CAMP). As a result, the PM ECASOP has been cancelled.

2 EVMS COMPLIANCE OVERVIEW

2.1 Objective

The primary objective of the PM EVMS compliance process is to determine (1) if descriptive processes and practices are compliant with the EIA-748, (2) if descriptive documents containing contractor policies and procedures are used in the actual execution of work, (3) how performance data and information are generated by the system, (4) how those data and information are used in the management of the project, and (5) managers' knowledge of their EVMS roles and responsibilities. Positive results of the PM EVMS compliance process ensure the Government can rely on the data produced by the EVMS for the objective determination of project status. It is important that the PM-30 leadership be an active participant in the EVMS compliance process to ensure the timeliness of the assessment, the consistency in the application of required standard operating procedures, including the interpretation of the 32 EIA-748 EVMS Guidelines and the determination of compliance considering past precedents. Cost and schedule performance data should be derived from the same system used to manage the project and determined to satisfy EIA-748 requirements.

2.2 Types of EVMS Compliance Review

PM EVMS compliance assessments are conducted on a contractor's EVMS at various times, based on contractual requirements, the life cycle of the capital asset project, and/or implementation concerns. The type of the EVMS compliance review conducted depends on the situation that initiated the assessment. The four types of EVMS Compliance Reviews are:

- **Certification Review (CR).** A formal review to determine that a contractor's EVMS, on all applicable DOE projects, is in full compliance with EIA-748, or as required by the contract, and in accordance with the applicable contract clause FAR 52.234-4, Earned Value Management System, or other applicable contract requirement necessitating the contractor to use an EVMS that has been determined by the Cognizant Federal Agency (CFA) to be compliant with EIA-748. (Source: DOE O 413.3B and DOE APM Glossary of Terms Handbook, 9/30/2014)
- **Implementation Review (IR).** A special type of surveillance performed in lieu of a Certification Review when EVMS compliance is required. This type of review extends the certification of a contractor's previously certified system to another facility, or from one project to another project after a prolonged period of system non-use, or from one certifying entity to another when the certified system has been significantly changed. (Source: DOE O 413.3B and DOE APM Glossary of Terms Handbook, 9/30/2014)
- **Review for Cause (RFC).** A review of specific elements of a contractor's EVMS that have displayed a lack of applied discipline in the actual execution of work or deemed at risk of no longer meeting the requirements of the EIA-748. This type of review is used to determine whether a contractor's EVMS certification should be withdrawn. (Source: DOE APM Glossary of Terms Handbook, 9/30/2014)

- **Surveillance Review (SR).** The process of continuously reviewing a contractor's EVMS on all applicable projects necessitating the use an EVMS that has been determined to be compliant with EIA-748. (Source: DOE O 413.3B)

2.3 Compliance Assessment Guidance and Tools

A uniform approach to evaluate the oversight of a contractor's EVMS in the manner as described above helps to safeguard the fairness and transparency of the EVMS compliance assessment process. Making the correct interpretation of the 32 EIA-748 EVMS Guidelines, and the determination of compliance considering past precedents can make the difference between creating an authentic connection to a necessary management principle, or the implementation of an unwarranted, burdensome, and costly routine.

Appendix A of this PM SOP contains:

- PM Compliance Assessment Guidance
  - Serves to facilitate the standard definition and consistent application of each of the 32 EIA-748 EVMS Guidelines.
  - Addresses the purpose and management value of each EIA-748 guideline, the impact of noncompliance, attributes, and a discussion of compliance characteristics.
- PM EVMS Compliance Review Checklist (CRC)
  - Used to assess a contractor's descriptive documents containing EVMS policies and procedures that are used in the actual execution of work. A contractor's written policies and processes should be documented in an EVM System Description and may be further supported by guides and aids that are maintained under the contractor's formal configuration control process.
- PM Guideline Attributes and Tests
  - Used to assess the contractor's implementation of their EVM System Description. To the extent possible, tests have been developed with identification of typical acceptable outcomes and thresholds. Breached thresholds flag potential issues for evaluation through further analysis, interviews, and/or discussions via automated tests or manual artifact traces. Specific test thresholds were either based on expert judgment and collaborated during development and initial utilization of the tests in a compliance review environment or taken directly from established DoD precedent. These thresholds will be reassessed on a periodic basis (no less than yearly) with EFCOG and other DOE stakeholders to reconfirm their relevance and reliability.

These documents are used at several points in this PM SOP. They are not considered standalone documents but rather tools to support the Compliance Review.

2.4 Non-Compliances

The Compliance Review Team will assess and report EVMS compliance utilizing the six management areas of the EIA-748 EVMS Guidelines: (1) Organization; (2) Planning, Scheduling, and Budgeting; (3) Analysis and Management Reports; (4) Revisions and Data Maintenance; (5) Accounting Considerations; and (6) Indirect Cost Management, by considering the adequacy of ten core management processes associated with the integrated project management approach. These include 1. Organizing, 2. Planning and Scheduling, 3. Budgeting and Work Authorization, 4. Material Management, 5. Subcontract Management, 6. Analysis and Managerial Reporting, 7. Change Control, 8. Accounting Considerations, 9. Indirect Cost Management, and 10. Risk Management). The determination of EIA-748 compliance for a core management process is accomplished by assessing associated data and information over a specified time period to determine how well a specified management process meets a set of capability limits or thresholds. The EVMS Compliance Review Team's primary objective in the EVMS compliance process is to formulate a determination of a contractor's EVMS compliance by identifying EIA-748 deficiencies through data analysis and discussions.

The EVMS compliance assessment may determine a contractor's written EVMS process, the implementation of the written EVMS process during project execution, or both do not comply with EIA-748. A process non-compliance exists when the EVM System Description and supporting procedures do not adequately address EIA-748 compliance requirements. An EVMS deficiency and implementation non-compliance exists when either a properly designed process is not operating or being implemented as intended, or the person performing the process does not possess the necessary authority or qualifications to effectively execute the process. When a process is insufficiently defined and results in an implementation non-compliance, the resulting non-compliance determination will address both process and implementation aspects. The severity of an EVMS non-compliance determination can range from an inconsequential concern to a material weakness in meeting EIA-748 compliance requirements.

2.4.1 Documenting Non-Compliances.

The Corrective Action Request (CAR) and Discrepancy Report (DR) are used to document EIA-748 non-compliances. The use, characteristics, and impact of each type of EIA-748 non-compliance are listed below:

- Corrective Action Request (CAR)
  - Used to document material discrepancies.
  - Characteristics of materiality include high dollar or high-risk impact and/or recurring and pervasive across control accounts, projects, and/or contracts.
  - Impact could significantly influence performance measurement, currency, accuracy, completeness, repeatability, and auditability of the data.
- Discrepancy Report (DRs)
  - Used to document non-material discrepancies.

- Characteristics include low dollar, minimal risk non-compliances that require minor clarifications to processes, errors or oversights, and non-systemic, isolated, infrequent, and nonrecurring issues.
- Impact has not significantly influenced performance measurement, but may if left uncorrected.

Appendix A is utilized by PM-30 to assist in the identification of attributes and tests that substantiate EIA-748 compliance for all 32 EVMS Guidelines. The assessment of an EIA-748 EVMS Guideline may have multiple CARs and DRs written against it as guidelines often have multiple attributes being assessed. For example, the assessment of EIA-748 EVMS Guideline 6 covers several attributes for a complete, realistic, and comprehensive project schedule. Each attribute has multiple tests. Although multiple draft non-compliances may be documented citing failed tests, the EVMS Compliance Process/Area Team Lead and Review Chief, in consultation with the Review Director, will combine the non-compliances into either a single CAR or DR, per attribute, with all relevant supporting documentation/artifacts attached. Consequently, the most CARs/DRs possible would then equal the total number of the attributes (see Appendix A). The nature of the non-compliance and impact(s) are further explained in the CAR and/or DR. The material impact can then be based on the combination of non-compliances for a particular attribute.

2.4.2 Material Impact

An assessment of Materiality considers how an EIA-748 non–compliance impacts the ability of the contractor's EVMS to produce current, accurate, complete, auditable, repeatable, and compliant information needed for project management and making decisions. Materiality addresses both process (the written word) and implementation (the act of doing) deficiencies. Similar EIA-748 non-compliances may be pervasive yet have a combined minor magnitude while a single EIA-748 non-compliance can be of high magnitude yet a single occurrence.

When documenting the materiality impact of EVMS non-compliances in the CAR or DR, the EVMS Compliance Review Team must clearly document the impacts through EVMS data and information, including instances of cost reporting errors, EAC miscalculations, erroneous critical path determinations, and inaccurate performance measurement. The EVMS Compliance Review Team should document each deficiency's impact to the ability of the government and contractor to:

- Know the project status in terms of scope, schedule, and budget baseline plan;
- Forecast the project's schedule and cost;
- Take corrective action to address root cause issues driving scope, schedule, and budget impact and bring project back into alignment with baseline plan; and
- Make informed decisions such as to re-baseline to new budget and/or schedule targets in an Over Target Baseline (OTB) and/or Over Target Schedule (OTS) or changing scope requirements.

Discrepancies considered systemic or demonstrate a systemic nature based on the frequency of occurrence or recurrence and pervasiveness across programs, contracts, and/or control accounts may also support an assessment of material impact. Materiality and systemic deficiencies are evidenced through EVMS data analyses. Control Account Manager (CAM) interviews are used as a tool to further explore the potential concern(s) and substantiate any basis for a CAR and/or DR. Therefore, it is critical that a representative sample from the data analyses is further investigated to support the pervasiveness of the issue(s). Pervasiveness and magnitude must be considered and explained by the EVMS Compliance Review Team as part of developing a CAR and/or DR.

- Pervasiveness Considerations
  - Is this systemic, across the project, instead of an isolated noncompliance?
  - Is there a number of similar non-compliances observed?
  - Do repeat findings from prior reviews indicate pervasiveness?
  - Are there a percentage of control accounts (CAs), CAMs, or projects that have the same non-compliances (only effective when all CAs are assessed)?
  - Do scheduling metrics, calculated by percentage of Work Packages (WPs) or activities, indicate pervasiveness?
- Magnitude Considerations
  - What is the impact of data credibility for use in managerial assessment and decision making
  - What is the absolute dollar value impact (including potential impact to annual funding and performance baseline breaches)?
  - What is the risk impact associated with the non-compliance (low dollar yet critical item vice high dollar yet non-critical item)?
  - What is the magnitude of the impact, which may be calculated as a percentage of dollar value impact of non-compliance to the total PMB; cost or schedule impacts at an attribute level, or as summed to a GL level; or risk measurement based on impact of non-compliances to scope, cost, and schedule.

Impact. Material impact is a matter of professional judgment influenced by the perception of the needs of a reasonable person who relies on the performance measurement reports and financial statements. Materiality judgments are made in light of surrounding circumstances and involve both quantitative and qualitative considerations, including the number of discrepancies observed, the associated absolute dollar value impact, the importance of item(s) to the accomplishment of contract requirements, and the potential impact on government funding.

Risk Factors. Risk factors influence the possibility that a deficiency, or a combination of deficiencies, will result in a misstatement. The factors include, but are not limited to, the following:

- The nature of the financial or performance measurements, disclosures, and assertions involved;

- The susceptibility of the related statement to loss or fraud;
- The subjectivity, complexity, or extent of judgment required to determine the amount involved;
- The interaction or relationship of the control with other controls, including whether they are interdependent or redundant;
- The interaction of the deficiencies; and
- The possible future consequences of the deficiency.

Deficiency Evaluation. The evaluation of whether an EIA-748 deficiency presents a reasonable possibility of a misstatement can be made without quantifying the probability of occurrence as a specific percentage or range. Multiple EIA-748 deficiencies that affect the same financial or performance measurement statement account balance or disclosure increase the likelihood of a misstatement and may in combination constitute a material weakness, even though such deficiencies may individually be less severe. Therefore, the EVMS Compliance Review Chief should determine whether individual EIA-748 deficiencies individually or collectively result in a material weakness. Factors that affect the magnitude of a misstatement that could result from one or more EIA-748 deficiencies include, but are not limited to, the following:

- The financial statement amounts or total of transactions exposed to the deficiency; and
- The volume of activity in the account balance or class of transactions exposed to the deficiency that has occurred in the current period or that is expected in future periods.

Impact Evaluation. In evaluating the magnitude of the potential misstatement, the maximum amount that an account balance or total of transactions can be overstated is generally the recorded amount, while understatements could be larger. In addition, in many cases, the probability of a small misstatement will be greater than the probability of a large misstatement. The EVMS Compliance Review Chief should evaluate the effect of compensating issues when determining whether an EIA-748 deficiency or combination of deficiencies is a material weakness. To have a mitigating effect, the compensating issue should be identified using a level of precision that would prevent or detect a misstatement that could be material. Indicators of a material weakness in a contractor's internal control over performance and financial reporting include:

- Restatement of previously issued financial statements to reflect the correction of a material misstatement;
- Identification by the auditor of a material misstatement of financial statements in the current period in circumstances that indicate that the misstatement would not have been detected by the company's internal control over financial reporting; and
- Ineffective oversight of the company's external financial reporting and internal control over financial reporting by the company's audit committee.

Severity Evaluation. When evaluating the severity of a deficiency or a combination of deficiencies, the EVMS Compliance Review Chief should determine the level of detail and degree of assurance that would satisfy prudent officials in the conduct of their own affairs and provide reasonable assurance that transactions are recorded as necessary to permit the preparation of performance measurement and financial statements in conformity with generally accepted EVMS practices and principles. If however the EVMS Compliance Review Chief determines that a deficiency or a combination of deficiencies would prevent prudent officials in the conduct of their official affairs from concluding that they have reasonable assurance that transactions are recorded as necessary to permit the preparation of performance measurement or financial statements in conformity with generally accepted EVMS practices and principles, then the EVMS Compliance Review Chief should treat the deficiency or combination of deficiencies as a material weakness. The EVMS Compliance Review Chief should both qualify and quantify the effect and impact that his or her adverse opinion has on the financial and/or performance measurement statements.

Material Computations. Material deficiencies computed for consideration in the EVMS compliance process should be limited to only those anomalies/errors as defined by the attributes and tests that indicate substantiate EIA-748 compliance for all 32 EVMS of the Guidelines (see Appendix A). The EVMS Compliance Review Chief will identify a representative sample population of the EIA-748 EVMS guidelines or processes being evaluated.

2.4.3 Documenting CARs/DRs

After the CAR/DR author makes an initial determination of the materiality of the findings resulting from the review of the contractor's EVMS description, data analysis, artifact traces and/or on-site interviews and chooses a CAR or DR, the author documents the CAR/DR on the EVMS CAR/DR/CIO Template (Appendix D). The fields, selections, and narrative guidance is provided:

(1) **Review Information**

The review information includes the following:

- **Contractors Name**
- **Site Office Name**
- **Contractor's Location**
- **Type of Review:** Certification, Implementation, Review for Cause, Surveillance
- **Dates of Review**
- **PMSO**
- **Organization Leading the Review:** PM-30
- **Process Area:** Choose one of the following: Organization, Planning, Scheduling, Budgeting, Accounting Considerations, Analysis and

Management Reports, Revisions and Data Maintenance, or Indirect Considerations

- **Contractor EVM System Description and Revision Number**
- **EVM System Description Dated:** Date of contactor's latest revision
- **Date of Preparation:** Date CAR/DR/CIO was initiated
- **Review Director**
- **Date Sent to Contractor**
- **Requested Contractor Response Date**

(2) **CAR/DR/CIO Information**

The CAR/DR/CIO Information required includes the following:

- **CAR, DR, or CIO: Select one**
- **CAR/DR Type:** Choices include Process, Implementation or Process and Implementation
- **Guideline:** One guideline per CAR/DR/CIO.
- **Subject Title:** A short subject title that describes (a) the specific issue of the failure for CARs and DRs, or (b) the nature of the CIO.
- **The CAR/DR/CIO Control Number:** The control number and the file name are one in the same. The control number is coordinated with the person responsible for maintaining the CAR/DR/CIO log during the Compliance Review process, typically the Review Assistant. The control number and file name convention follow these rules:
  - CARs/DRs
    - Abbreviation of Contractor's Name, e.g. ZZNL
    - Month and Year of review (MM/YY)
    - CAR or DR
    - Attribute Number
    - Sequence
    - Example: ZZNL0818_CAR_6A.1.
  - CIOs: The naming convention for a CIO is sequential, e.g. ZZNL0818_CIO01, ZZNL0818_CIO02. (Add a leading zero for the first nine.)
- **System Description:** Provide quotations from the contractor's EVM System Description supporting the non-compliance. This information is mandatory for CARs and DRs to document and support that the process is noncompliant, or that the process is correct, however the implementation was faulty. For process issues, a quote from the contractor's EVM System Description containing the non-compliant verbiage for each Attribute affected must be included as evidence. For implementation issues, a quote will be included from the EVM System Description describing the process not being properly implemented, where applicable and/or available, as there may be gaps where

appropriate guidance is not provided within the contractor process documents. If the EVM System Description does not address the attribute, then this would be N/A. This field may or may not be applicable for a CIO.

- **Attribute Discussion/Intent:** Based on the attribute identified, this information can be found in the EVMS Compliance Assessment Guidance (Appendix A) and must include exhibit(s) as evidence of the non-compliance and to support the Review Director/Review Chief's decision of materiality.
- **Findings:** Provide a detailed explanation, supported by exhibits. Exhibits are snapshots copied into the CAR/DR/CIO to clearly show the non-compliance as identified from data analysis, artifact traces, and/or interviews. Exhibits must provide self-explanatory screenshots of the problem, include a title describing the exhibit, and an annotation of the area of interest by circles, arrows, or any other indicator (typically Red in color, Pt. 3 Width) to assure understanding of the non-compliance.
- **Impact:** The CAR/DR will contain an impact statement that addresses the affected EVMS guideline. Describe the impact the noncompliance has on the accuracy, timeliness, and usefulness of the EVMS data for management purposes. Refer to the EVMS Compliance Assessment Guidance (Appendix A) for impact language that may be useful in writing this section.
- **Prepared by:** Include the first initial and last name of the author.
- **Date the CAR/DR/CIO was written**
- **Reviewed by:** Include the first initial and last name of the person reviewing the CAR/DR/CIO (usually the Review Director unless delegated to the Review Chief).
- **Reviewed date:** Indicate the date the CAR/DR/CIO was approved by the Review Director.
- **Out-brief Date:** Indicate date of contractor out-brief by Review Director.

2.5 Continuous Improvement Opportunity (CIO)

While reviewing a contractor's EVMS, the EVMS Compliance Review Team may detect areas for improvement. A listing of CIOs should be generated and used to identify and document process improvement areas. CIOs share suggested best practices, lessons learned, or other efficiency or effectiveness measures to streamline EVMS core management processes. While CIOs do not require a written response from the contractor or approval by the government review team, dialog is encouraged to share thoughts and plans pertaining to the recommended suggestions.

3 EVMS COMPLIANCE REVIEW ROLES AND RESPONSIBILITIES

An effective EVMS compliance assessment involves all stakeholders to include PM, PMSO, FPD, CO, and the contractor, working in an integrated, transparent manner. The roles and responsibilities of each participant vary based on the type, scope, and length of the review, team assignments, composition of subject matter experts, and other factors that may arise during the multi-month process. These must be considered when planning the EVMS compliance review and forming the team.

Senior leadership sets a "tone from the top," demonstrating strong support for the importance of the EVMS compliance process (see page 1, Federal Regulations) to both the Department and to industry as a mission priority. An important role of the senior leadership is to assist in promoting a culture of EVMS compliance, and objective, fact-based decision making as the preferred project management methodology. An EIA-748 compliant EVMS provides for the generation of timely, reliable, and verifiable contractor performance and progress information, permitting the government to evaluate the contractor's progress and assess the likelihood of meeting project and contractual requirements for cost, schedule and technical viability. The EVMS is, by federal regulation and contract, the project management tool of choice on cost reimbursable contracts. EVM is a project management methodology that effectively integrates the project scope of work with cost, schedule and performance elements for optimum project planning and control. Its success depends on the reliability of the contractor's EVMS. EIA-748 describes the qualities and operating characteristics of a compliant EVMS.

An undisciplined approach to project management in general, and the implementation of EVMS specifically, ultimately jeopardizes the long-term stability of the project and diminishes the purchasing power of the Department. An EIA-748 compliant EVMS is necessary for Department stakeholders to rely on current, accurate, complete, auditable, repeatable, and compliant performance measurement data and information intended for effectively managing high cost contracts. Consequences may include:

- Managers unable to identify problems and take immediate corrective action; and
- Managers unable to assess the magnitude of problems.

3.1 Primary EVMS Compliance Review Team Roles

3.1.1 PM-30 Project Controls

The mission of PM is to serve as the single voice for all matters involving EVMS compliance. PM-30 develops and maintains all EVMS related policy and procedures, training, and making final assessments of EIA-748 EVMS compliance for DOE capital asset projects. Responsibilities include:

- Serves as EVMS Subject Matter Expert assisting employees and customers;

- Develops and maintains EVMS related procedures and templates;
- Serves as the lead for EVMS compliance review team activities;
- Develops and maintains a standardized data call to support EVMS reviews;
- Coordinates compliance processes with all stakeholders to avoid duplication of effort, minimize cost, and maximize communication;
- Plans and conducts EVMS Compliance Reviews in accordance with DOE O 413.3B requirements and as further defined in this PM SOP;
- Assesses contractor management of subcontractors in accordance with EVMS guidelines;
- Evaluates and provides formal concurrence on all contractor proposed alterations to the certified EVMS, including changes to documented processes and supporting procedures;
- Monitors CAMP activities and verifies final closure; and
- Uploads all reports and supporting documentation to document management system in PARS.

3.1.2 The EVMS Compliance Review Team

PM-30 organizes, plans, and leads EVMS compliance assessments using four standard review formats, including the CR, IR, RFC, and SR all defined and discussed earlier in this PM SOP. Note: Section 3, "Procedures" further discusses additional duties associated with each step of the EVMS Compliance Process.

The key positions, roles and responsibilities of EVMS compliance reviews are as follows:

Review Director. The Review Director is a PM-30 senior representative responsible for ultimate approval of EVMS findings and reports. The PM-30 Director typically fills this position unless otherwise delegated. The Review Director assigns the Review Chief and approves the selection of the Review Deputy and Review Assistant. The Review Director is responsible for all decisions of EVMS noncompliance.

Review Chief. The Review Chief is responsible for the overall conduct of the assessment and review and for leading the review team in the execution of its duties and responsibilities before, during, and after the compliance review. A member of the PM-30 staff typically fills this position. The Review Chief identifies and nominates the Review Deputy, Review Assistant, and the Review Team to the Review Director for his or her approval.

Review Deputy. The Review Deputy supports the Review Chief and is responsible for the operation of the Review Team and the EVMS compliance review process. This position is typically filled by an EVMS SME on the PM-30 staff or obtained through contract support.

Review Assistant. The Review Assistant assists the Review Chief in handling all administrative details of the review including particularly document control. This position is typically filled by an EVMS SME on PM-30 staff or obtained through contract support. One of the most critical tasks for the Review Assistant is to maintain the CAR/DR/CIO log and serve as the go between for all phases of CAR/DR/CIO development.

Process/Area Team Lead. Assigned by the Review Chief, the Process/Area Team Lead is responsible for assessment and documentation of one or more of the six areas of the EIA-748 EVMS Guidelines as previously noted in Section 2.4, by considering the adequacy of the ten core management processes associated with an integrated project management approach (i.e., organizing, planning and scheduling, budgeting and work authorization, material management, subcontract management, analysis and managerial reporting, change control, accounting considerations, indirect cost management, and risk management, or a combination of both. This will be accomplished by conducting a process capability assessment to test the ability of a core management process and practice to meet prescribed EIA-748 compliance criteria. The final determination of EVMS compliance for a process capability is accomplished by looking over a specified period time to determine how well a process meets a set of specification limits. A person may be assigned to more than one Process/Area pending the results of the data analysis and ultimate review scope. The Process/Area Team Lead's tasks begin at the data analysis step and continues through post review and closeout step (see Table 3). Output documents include but are not limited to providing analysis results of concerns to the respective Interview Team Leads, the Guideline Summary for area of responsibility, and the associated CARs, DRs, and CIOs. The Process/Area Team Lead assigns team members early in the data analysis step to ensure the team is involved, prepared, and diligently executes their duties associated with the EVMS compliance process.

Interview Team Lead. Assigned by the Review Chief, the Interview Team Lead is responsible for planning, scheduling, performance, and accurate reporting of the interviews and discussions held with Control Account Managers (CAMs) and other contractor personnel. Duties include understanding the concerns identified by the Process/Area Team Leads pertinent to the Interview Team Lead's interview assignments and preparing the interview team members prior to making pre-review assignments for populating the Interview Findings Form (IFF), reviewing team members' work, and providing the Review Chief with completed IFF, CARs, DRs, and CIO documentation upon completion of assigned interviews.

Review Team Members. Members are federal employees, contractor staff, and contracted resources with EVMS compliance assessment experience responsible for performing detailed evaluations of a contractor's EVMS within their assigned Area. Review Team members typically serve cross-functional roles as both Process/Area and Interview Team members supporting a(n) Process/Area analysis as well as conducting and documenting the interviews. Assign a process/area team member to each interview when the IFF includes questions relative to that process/area.

The Review Director and Review Chief will consider team member credentials, working knowledge, and practical EVMS implementation and use when assembling the team. EVMS Review Team members may include Project Controls Analysts (PCA)/EVMS SMEs, and direct contract support. Energy Facility Contractor's Group (EFCOG) EVMS/PCA SMEs may participate in reviews, subject to completion of a non-disclosure statement. All EVMS Review Team members will be assigned specific responsibilities throughout the EVMS compliance process. The Review Chief must approve contractor and government 'observers' (e.g. non-participating members) considering room accommodations and avoiding undo pressures on the interviewee.

3.2 Supporting EVMS Compliance Review Team Roles

An important aspect of a contractor's EVMS continued compliance relies on the stakeholders, i.e. senior leadership, project analysts, and designated EVMS compliance staff, to hold the contractor accountable to performing defined roles and responsibilities. As part of an EVMS self-governance plan (Ref. App. D, Self-Governance Review Checklist) and/or general surveillance, each function should 'check' the performance of the other to make sure that the EVMS is operating both effectively and efficiently. Note: Roles noted below of individuals and organizations outside of PM are for discussion purposes only and do not constitute direction. These are suggested roles to assist the PM team in conducting its EVMS compliance mission.

3.2.1 PM-1 Office of Project Management

PM-1 is the certifying authority for EVMS as well as the authority to decertify. Accordingly, PM-1 provides the resources and budget for executing the EVMS compliance process as described herein, and specifically for conducting EVMS Compliance Reviews, and is kept current by briefings from the PM-20 and PM-30 staff relative to all matters relating to EVMS compliance, policy, and training.

3.2.2 PM-30 Project Controls

PM-30 serves as the EVMS compliance mission lead, responsible for development and maintenance of EVMS compliance guides, training, and SOPs, and for leading EVMS compliance assessments.

3.2.3 PM-20 Project Assessment

The PM-20 Project Analyst is responsible for participating in the EVMS Compliance Review process for assigned projects. Information provided by the Project Analyst includes in-depth knowledge of the project scope, technical requirements, constraints, and specific concerns or impacts of current and future project risks that will aid the EVMS Compliance Review team. While conducting project level analysis, the PM-20 Project Analyst plays a key role in providing an early warning of and assessing issues that may involve EVMS processes and implementation. The PM-20 Project Analyst is responsible for coordinating with PM-30

EVMS SMEs, and for working collaboratively towards resolving data integrity issues which may trigger a risk based, data-driven SR.

3.2.4 Project Management Support Office (PMSO)

PMSO project level information is helpful in the EVMS Compliance Review process. A PMSO EVMS SME is encouraged to participate as a team member in EVMS Compliance Reviews and accept assignments offered by the Review Director and Review Chief.

3.2.5 Federal Project Director (FPD)

The FPD prior to, during, and after the EVMS Compliance Review process can provide insight into project level direction given to the contractor, past and planned baseline modifications, and performance impacts. The review leadership involves the FPD in collaborative discussions to ensure field or site office direction does not inadvertently compromise EVMS compliance.

As stated in DOE Order 413.3B, the FPD ensures on capital asset projects with a TPC of $50M or more the integration of current, accurate, complete, auditable, repeatable, and compliant contractor performance data into the project's scheduling, accounting, and performance measurement systems, to include PARS. DOE Order 413.3B Appendix A, Table 2.3, Post CD-3, states the contractor must conduct an EVMS surveillance annually. The FPD/IPT staff also shares in the responsibility to ensure annual EVMS surveillance is conducted and the system remains compliant. The FPD provides the contractor’s internal surveillance reports to the CO, PMSO, and PM.

FPD/IPT staff support EVMS reviews by:

- Communicating to PM-30 (the EVMS Compliance mission advocate) those actions and matters that could/may affect system compliance;
- Assisting in the resolution of problems cited in the review reports;
- Reviewing, evaluating, and analyzing performance reports and schedules,
- Communicating system and implementation concerns, and data integrity issues to the attention of PM-30; and
- Participating as members of the review team as requested.

3.2.6 Contracting Officer (CO)

The CO is responsible for ensuring all applicable EVMS regulatory and contractual requirements, FAR clauses, deliverables as listed in Attachment 1 of DOE O 413.3B, and language relating to EVMS are included in contracts for capital asset projects with a TPC greater than $50M. The CO also ensures that contractor performance is integrated with the contract award fee determinations and other mechanisms to ensure pay for performance including the assessment of EVMS health as supported by EVMS Compliance Reviews. Methods such as establishing award fee on EVMS cost and schedule metrics has proven to

be flawed when it drives unintended behavior. It is incumbent upon the CO, PM, PMSO, and FPD to work together to ensure government needs are met and understood, and that contractor incentives are performance based.

Formal determination of compliance is provided to the CO by PM-1, and the CO notifies the contractor of contractual compliance to the EVMS Certification requirement. At the completion of all formal EVMS Compliance Reviews, PM will provide copies of reports to the CO. Should a contractor fail to maintain their system, PM may determine a RFC is necessary. Following a Surveillance Review or RFC, PM may withdraw EVMS certification. The CO would then officially notify the contractor via letter and may pursue appropriate contractual remedies.

3.2.7 Contractor

The contractor is responsible for developing a compliant EVMS, implementing that system, and maintaining EVMS compliance with EIA-748 as stated in DOE O 413.3B, Attachment 1. The contractor is also responsible for ensuring that its EVMS is implemented on a consistent basis, is used effectively on all applicable projects, and EVMS clauses are flowed down to subcontractors in accordance with the rules applied to itself as the prime contractor. EIA-748 also states that the contractor is responsible for conducting surveillance of their management systems to ensure continued implementation of an EVMS that meets the 32 EIA-748 guidelines. DOE O 413.3B Attachment 1, Section 1 states that the contractor must conduct EVMS surveillance annually. The contractor is required to provide documentation of the EVMS surveillance results to the CO, PMSO, and PM-30.

Activities supporting the annual contractor surveillance can be spread throughout the year at the contractor's discretion; however, all 32 EIA-748 EVMS Guidelines must be evaluated at least once during each year. When non-compliances are noted and corrective actions are identified, it is incumbent upon the contractor to monitor implementation of the corrective actions to ensure that the applied corrective actions have been successful. The contractor's EVMS surveillance should be conducted by a team independent of the contractor's project team, such as an internal audit group to avoid potential conflicts of interest. In accordance with the EVMS certification letter from PM-1 through the CO, the contractor is also responsible for notifying PM-30 through the CO in writing of any changes to their previously accepted certified EVM System Description. EVMS improvements such as implementation of corrective actions from internal surveillance, or the enhancement of a core management process may trigger this reporting requirement.

4 EVMS COMPLIANCE PROCESS

4.1 EVMS Compliance Process Phases and Steps

Each EVMS compliance phase is further defined by steps in the following subsections. The structure of the following tables covers all steps required in an EVMS Certification Review (CR) and those steps tailored to fit the other types of EVMS Compliance reviews (i.e., IR, RFC, and SR). The duration of each phase and step of an EVMS compliance review will vary depending on the size of the project, the maturity of the contractor's EVMS, etc., with a notional timeline established upon identifying the need to proceed with the assignment. EVMS certification will take a minimum of between 12 and 15 months. This PM SOP is designed to help the government and contractor navigate the EVMS Compliance Process.

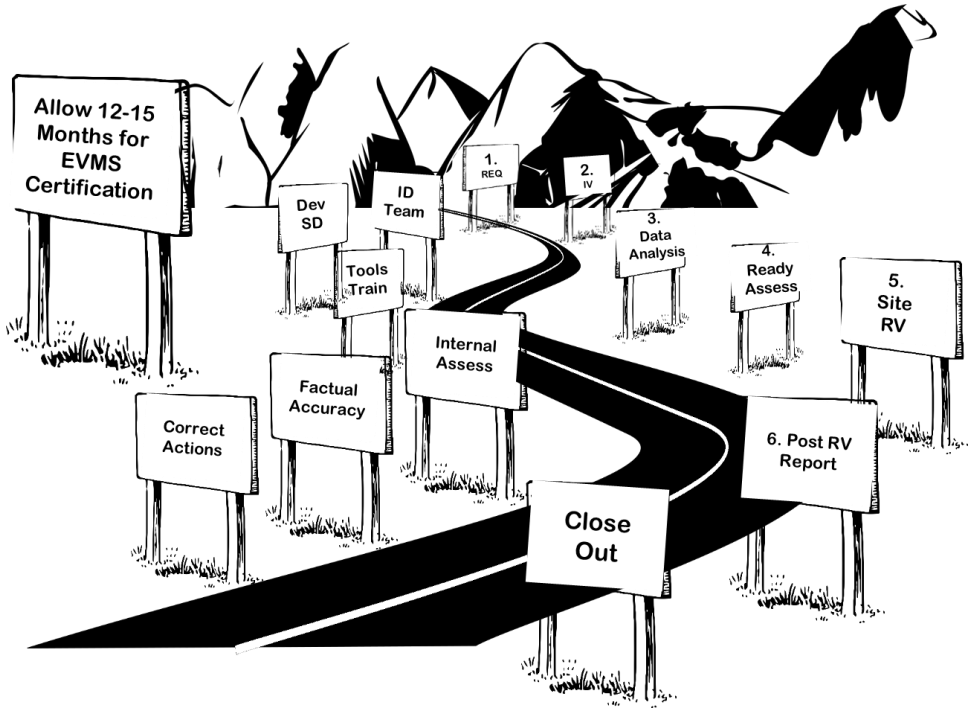

Table 1 provides a synopsis of the purpose for each Phase of the EVMS Compliance process.

Table 1. EVMS Compliance Process Phases	
Phase	**Purpose**
1. Need Determination	Identify need and resources to conduct an EVMS Compliance Review
2. Initial Visit (IV)	A PM-30 visit to contractors requiring an initial EVMS certification credentials to discuss the Certification Review (CR) process, set review expectations among the stakeholders, and identify potential concerns with the contractor's EVMS processes and procedures and areas of non-compliance already observed.
3. Data Analysis (DA)	An initial assessment of the EVMS allowing the contractor to demonstrate the operation of the system.
4. Readiness Assessment (RA)	Determines the readiness of the contractor's EVMS for continuation of the EVMS compliance process via data analysis results. This may include a Readiness Assist visit.
5. On-Site Preparation and Review	Conduct final pre-visit assessments and preparations, proceed on-site to commence the formal EVMS compliance review which concludes with a final exit brief to the contractor.
6. Post Review and Closeout	Documents the results of the contractor's EVMS compliance review, issue findings, monitors contractor Corrective Action Management Plan, and conducts final closeout which includes a PM-1 memorandum to the CO.

Note: A check (√) means applicable, a dash (-) means not applicable.

4.1.1 Need Determination Phase

As indicated by the chart below, each of the steps in the Need Determination Phase applied to any type of EVMS Compliance review. The steps for this phase are explained in detail following the table.

Table 2. Need Determination Phase					
Phase	**Steps**	**CR**	**IR**	**RFC**	**SR**
1. Need Determination	1. Identify and Track EVMS-Applicable Projects	√	√	√	√
	2. Determine Type of Review Needed	√	√	√	√
	3. Go/No Go Decision	√	√	√	√

Step 1. Identify Projects Needing a Review. PM-20 will contact PM-30 to assist with the identification of capital asset projects with EVMS compliance requirements. The PARS, as the central repository for all capital asset projects, tracks the status of projects requiring a CR via the CD status report. This report is monitored by PM-30 to identify both projects needing

a CR and those needing an IR based on specifics of the contractor and the EVMS of record at the site.

PARS Performance Analytics reports, Analytics Summary Dashboard, Data Validity reports, Schedule Health reports, and particularly the Baseline Volatility report under Trends, are extremely helpful in identifying projects that may be experiencing compliance issues. These reports should be reviewed by the assigned PM-20 Project Analyst, and PM-30 EVMS SME, to identify if a risk-based, data-driven surveillance may be warranted.

For surveillance purposes, the PM-30 EVMS SME will, subject to available resources, conduct initial data review (based on automated tests only) of all projects greater than $100M, and greater than $50M upon request, provide a report that ranks projects and contractors according to flagged test results. Based on the trends and concerns identified by the data review, the EVMS SME may conduct a deeper investigation on particular projects beyond the automated tests and perform manual tests involving additional artifacts. When the results of the annual surveillance analysis determine that further action is not needed, the SME will ensure the decision and supporting data is documented as an EVMS SR action for that contractor and filed in the PARS document management system.

A post-certification compliance review can be requested by other enterprise stakeholders for any number of reasons including the loss of confidence in reported EVMS data and information. When a request for an SR or RFC comes from an outside stakeholder, e.g., PMSO, the PM-30 EVMS SME will meet with the stakeholder to discuss their concerns and may perform the next level of analysis from the contractor's EVMS data before moving forward to Step 2.

Step 2. Determine Type of Review Needed. Based on the results from Step 1, the PM-30 Director meets with the PM-30 EVMS SME to determine the type and priority of EVMS compliance review needed. The priority for a SR is normally a risk-based and data-driven decision. EIR and ICE/ICR review requests will come directly to PM-30 from PM-20 for the services of a PM-30 EVMS SME on an as needed basis.

Step 3. Go/No Go Decision. The PM-30 Director, or designee, will brief PM-1 prior to proceeding with a CR, IR, RFC, and SR. PM will submit the results of the review to the Program Office HCA/PMSO and CO concurrently.

4.1.2 Initial Visit (IV) Phase

This phase only applies to a Certification Review as indicated in the following table.

Table 3. Initial Visit Phase					
Phase	**Steps**	**CR**	**IR**	**RFC**	**SR**
2. Initial Visit (IV)	4. Determine Need for IV	√	-	-	-
	5. Identify, Plan, and Schedule Team Resources, Coordinate Dates	√	-	-	-
	6. Issue Contractor Notification	√	-	-	-
	7. Conduct IV	√	-	-	-
	8. On-Site Certification Review Date Established	√	-	-	-
	9. Document Visit	√	-	-	-

Step 4. Determine Need for IV. An IV is a 'meet and greet' designed to assist a contractor who is unfamiliar with the EVMS compliance process. The applicability is limited to initial CRs and is not typically appropriate for a recertification following a decertification. The IV provides an opportunity for early dialogue with the contractor on the CR process, sets review expectations among the stakeholders, and identifies areas of noncompliance and potential problems with the contractor's EVMS processes and procedures. Typically, CAMs and other managers are not interviewed during this visit.

Step 5. Identify, Plan, and Schedule Team Resources, Coordinate Dates. The Review Director assigns a Review Chief, and together each determines the immediate needs for the resources required to perform the IV. The IV is a small team, typically limited to the Review Director, Review Chief, a Review Deputy, and key review team members if required. The Review Director or Review Chief pre-coordinates with the contractor to establish a date for the IV.

Step 6. Issue Contractor Notification. The Review Director sends an email notice to the contractor advising the formal date for the IV, a copy of the proposed agenda, and a request for the most current copy of the EVM System Description and supporting procedures. A copy of the contract or project EVMS clause and related requirements will be requested along with a brief discussion of expectations on the part of the contractor for this meeting.

This notification should also include suggestions for the contractor's briefing, to include but not limited to organizational structure, an overview of the project(s) where the EVMS is implemented, progress made to date in terms of the EVM System Description and supporting procedures, the development of training, and a demonstration of the contractor's EVMS integration and process flows. The contractor is encouraged to use a best practice "storyboard" approach. The storyboard is a large stratified flow chart of the EVMS processes, artifacts, and subsystems. Storyboards are extremely useful for contractors in designing their

EVMS by identifying handoffs and integration points between the various systems, toolsets, processes, documents, artifacts, and functions.

The notification may also request a copy of the contractor's cost and schedule files in a format specified so that the PM-30 EVMS SME can prepare an analysis to share with the contractor during the visit as non-attribution for the contractor's awareness. No CARs or DRs are issued at this early stage of the EVMS compliance process. The results are briefed by the Review Chief (or designee) to the contractor in a power point presentation with bullets identifying noteworthy areas of concern.

Step 7. Conduct Initial Visit (IV). The Review Chief along with the initial team members arrive prepared by having reviewed the contractor's proposed EVM System Description, any associated procedures, the EVMS contract clause and related requirements, and results of the cost and schedule data analysis. The Review Director will attend site or contractor visits at his or her prerogative.

The government in-brief is conducted by either the Review Director or the Review Chief (or designee), and begins with the purpose for the IV, an introduction of the team members assigned, and a presentation of the PM-30 EVMS compliance process, including the phases and steps and data requirements that can be expected by the contractor. The Review Chief (or designee) will discuss the specific areas reviewed and any areas of EVMS non-compliance and/or potential concerns in order to facilitate early discussions towards resolution.

The contractor will then conduct a briefing, covering the areas identified in **Step 6**. The Review Chief will need sufficient time during the visit to provide the cost and schedule data analysis results and answer the contractor's remaining questions regarding the EVMS compliance process.

Step 8. On-Site Certification Review Dates Established. After the IV, the Review Chief coordinates with the contractor to establish the timeframes for the remainder of the CR. The Review Chief should explain to the contractor that these dates are dependent on the contractor's preparedness and progress made towards completing Phase 3, Data Analysis (DA) and Phase 4, Readiness Assessment (RA). The on-site CR may be as soon as six months following the IV, depending on the contractor's ability to demonstrate the implementation of a fully compliant EVMS. At the conclusion of this step, PM-30 and the contractor should agree on an EVMS Compliance Review schedule.

Step 9. Document Visit. The Review Chief completes a trip report to document the IV, including a list of attendees, copies of presentations, pertinent discussions, and any agreements made for CR schedule. These documents are made part of the official CR files and kept in the PARS document management system.

4.1.3 Data Analysis Phase

Table 4. Data Analysis Phase					
Phase	**Steps**	**CR**	**IR**	**RFC**	**SR**
3. Data Analysis	10. Identify, Plan, and Schedule Team Resources	√	√	√	√
	11. Issue Contractor Notification w/Standardized Data Call for:	√	√	√	√
	a. Data and Artifacts	√	√	√	√
	b. Contractor Independent Assessment and/or Past Surveillance	√	√	√	√
	c. EVM System Description and Supporting Procedures w/ Cross-Reference Checklist	√	√	√	√
	d. Contractor Demo of System via Webinar (as needed)	√	√	√	√
	12. Upon Receipt of Data, Assign Activities:	√	√	√	√
	a. Analyze Contractor Data & Artifacts	√	√	√	√
	b. Review Contractor Independent Assessment and/or Past Surveillance	√	√	√	√
	c. Review EVM System Description	√	√	√	√
	13. Document Results; Identify Concerns	√	√	√	√

Step 10. Identify, Plan, and Schedule Team Resources. The Review Director together with the Review Chief work with the PM-30 EVMS SME to determine the estimated review timeframe based on urgency of need, budget, and resource availability. At this point, the PM-30 EVMS SME analyzes the requested contractor EVMS data and reviews the contractor's EVM System Description.

Step 11. Issue Contractor Notification w/Standardized Data Call. When conducting a CR, IR, RFC, or SR, the Review Chief composes the contractor notification memorandum (see Appendix D) for PM-1 signature to the Program's Head of Contracting Activity (HCA) or CO as the formal notification to be sent the contractor. The notification should be sent to the contractor no less than 60 calendar days (2 months) prior to the start of the on-site EVMS compliance review. Receipt of all data requested must be delivered in its required formatting and to PM-30 no less than 45 calendar days prior to the start of the review. The notification memorandum specifies the EVMS Review type and data call. The Initial Standardized Data Call (see Appendix F) consists of the request for the following:

- Data (cost and schedule files in the format specified to support automated and manual tests) and Artifacts as requested;
- Contractor independent assessment or past internal surveillance reports; and
- EVM System Description and supporting procedures maintained by the contractor's configuration control process. If the contractor provides supporting procedures that

are not under configuration control, they will not be considered as part of the contractor's EVMS and will not be considered during the EVMS compliance process.

The notification will also explain where to publish the requested data, e.g., PARS, contractor FTP site, or other electronic media, and the recommended folder structure for organizing the data and information.

Step 12. Upon Receipt of Data, Assign Activities. A PM-30 EVMS SME is responsible for conducting a data analysis following documented testing protocols, for both automated and manual tests. The same PM-30 EVMS SME will also review the contractor's independent test results. Based on their analysis, the PM-30 EVMS SME may ask the Review Chief to request additional documentation or artifacts to solidify their findings and concern(s).

The Review Chief may request a webinar at this point with the Process/Area Lead for the contractor to demonstrate EVMS processes, procedures and toolsets to include the results of the contractor's CRC mapping of the EVM System Description to 32 EIA-748 EVMS Guidelines to the Compliance Review Team.

a. Analyze Contractor Data and Artifacts. The Review Chief will assign a team member(s) to analyze the contractor's data using the automated tools and manual templates defined in the Guideline Attributes and Tests Excel spreadsheet (see Appendix A). The team should also review the PARS Data Validity reports, Schedule Health reports, and particularly the Baseline Volatility report under Trends for the same periods to identify areas of concern. A report will be provided to the Review Director and Review Chief to document assumptions or context commentary, so the compliance review team can properly interpret the results. Because this data is used to determine issues of non-compliance and materiality, the order-of-magnitude metrics must be included in the report that is provided to the compliance team (see **Step 31**).

b. Review Contractor Independent Assessment and/or Past Surveillance. The contractor's independent assessment and/or past internal surveillances is reviewed by the Process/Area Team Leads to assess completeness and compare with the results found in **Step 12a.**

c. Review EVM System Description. The Review Chief and Process/Area Leads review the contractor's EVM System Description and supporting procedures for EIA-748 compliance using the EVMS Compliance Review Checklist (CRC) found in Appendix A. If the contractor has adopted self-governance, also review the EVM System Description against the Self-Governance Review Checklist in Appendix D. The reviewer should provide specific rationale for identified non-compliant text in the contractor's EVM System Description but should not provide recommend revised language to the contractor as this could interfere with the contractor's business practices. The assessment must ensure the following in verifying adequacy and

completeness of the contractor's EVM System Description and any supporting procedures maintained under the contractor's configuration control process:

- Descriptions include the associated policies, procedures, and methods designed to satisfy the EIA-748;
- Descriptions are in the form and detail necessary to permit guideline evaluation for EIA-748 EVMS compliance; and
- Descriptions delineate roles & responsibilities of operating personnel, and internal authorizations and controls required.

Step 13. Document Results and Identify Concerns. The Process/Area Leads will document the results of their review and identify any concerns that need further assessment. This documentation will be provided to the Review Chief as soon as practicable. The Review Chief will then coordinate with the Review Director for use in a determination to proceed to the next step. Should non-compliance and material data validity issues be found, it may be necessary for the Process/Area Leads to issue preliminary CARs and/or DRs prior to the RA Step.

4.1.4 Readiness Assessment (RA) Phase

The purpose of the RA is for a final determination to be made whether the contractor is ready for the formal review, or if the contractor needs additional time to correct findings resulting from the prior DA Phase. The RA may be conducted for CR, IR, and SRs. In the surveillance mode, if the RA indicates serious EVMS non-compliance issues, the Review Director may recommend to PM-1 that the SR be replaced by a RFC. The RA phase also allows for a Readiness Assist Visit (RAV) to aid the contractor by explaining the current issues and to further assess the contractor's state of readiness for the formal EVMS review. RAVs are conducted on an as needed basis as determined by the Review Director based on the indication of the contractor's readiness to date.

Table 5. Readiness Assessment Phase

Phase	Steps	CR	IR	RFC	SR
4. Readiness Assessment (RA)	14. Assess Contractor Readiness	√	√	√	√
	15. Conduct Readiness Assist Visit (RAV) (as needed)	√	√	-	√
	16. Document Results	√	√	√	√
	17. Go/No Go Decision	√	√	√	√

Step 14. Assess Contractor Readiness. The Review Director and Review Chief discuss the results of DA Phase and, when applicable, the CAR/DR/CAMP status to determine contractor readiness to proceed.

Step 15. Conduct Readiness Assist Visit (RAV) (if needed). A small team is sent on-site to share the results of the data analysis, discuss any potential CARs and DRs issued resulting

from the DA phase, and explain expectations for demonstrated readiness to proceed with the formal EVMS compliance review.

Step 16. Document Results. Whether a RAV is conducted or not, the Review Chief will document the actions taken during this phase and record the overall results of the readiness assessment.

Step 17. Go/No Go Decision Including Review Scope. Based on the results of the DA and RA phases, the Review Chief will prepare a briefing for the Review Director for use in the go/no go decision process. The Review Director (or designee) will brief PM-1 on his or her recommendation. PM will submit the overall results of the readiness assessment and decision to the appropriate PMSO and CO concurrently.

- **"Go" Decision**.
  - Proceed to Review with Full Scope. This outcome is common for a CR as the full integration of the contractor's EVMS has not been fully assessed. Likewise, full scope may be warranted for an IR. The scope for an RFC is dependent on the outcome from a combination of data analysis and field observations, i.e., full scope or limited scope.
  - Proceed to Review with Limited Scope. This outcome is common for the following:
    - IRs where certain portions of the contractor's EVMS have been previously assessed and require no changes, yet other aspects are unproven, such as a change in the management structure, or a change in the personnel implementing the system;
    - An RFC shows concerns in some but not all EVMS core management processes; and
    - An SR when data analysis or field observations indicate concerns in a particular EVMS core management process.
  - Changing from SR to RFC. Should the results of the RA phase indicate serious concerns, the Review Director may direct the EVMS Compliance Review Team to proceed with an RFC as opposed to the routine SR.
- **"No-Go" Decision.**
  - No Need to Proceed (SR Only). This outcome is common for SRs when the data analysis indicates no issues. Since the SR is risk-based and data driven, the DA phase may indicate no concerns; therefore, the surveillance review is considered complete.
  - Issue CARs/DRs and Repeat DA Step. This outcome is appropriate when the data analysis or field observations indicate serious EVMS data validity issues that must be corrected before moving forward. All CARs and/or DRs require a contractor CAMP that will be monitored by the PM-30 EVMS SME until closed. The EVMS compliance process would not proceed further until another DA assessment provides confidence in the contractor's EVMS data validity.

- Request Additional Data. Should the data analysis results be inconclusive, additional data may be necessary. An example would be in the case of a SR where while there were no significant concerns with the initial data provide, there are concerns with negative trending of the data. The Review Director may elect to request additional data in specific areas.

The Review Director or Review Chief will notify the CO and contractor of the no-go decision, and the subsequent cancelling or postponement of the pending EVMS Compliance Review. The Review Chief will update the review schedule based on the follow-on actions required, if any. If the DA phase identifies significant data anomalies and core management process issues that require corrective action before proceeding further, the Review Chief will prepare CARs and DRs and will develop an RA report for the Review Director's approval and subsequent submittal to the CO.

4.1.5 On-Site EVMS Preparation Phase

After the decision is made to proceed and review scope has been identified, the Review Chief will begin to assign and assemble the full EVMS Compliance Review Team for the on-site review. At this point, the PM-30 EVMS SME will have completed his or her inputs to the EVMS Compliance Review Team who will next assess the areas of concern and determine EIA-748 compliance based on a further review of the data and information, and on-site interviews and discussions. Under the supervision of the Review Chief, the EVMS Compliance Review Team will work to finish those steps it can do prior to arriving on-site.

Table 6. On-Site EVMS Preparation and Review Phase

Phase	Steps	CR	IR	RFC	SR
5. On-Site EVMS Preparation and Review	18. Identify, Plan, and Schedule Team Resources	√	√	√	√
	19. Contractor Notification Issued w/Request for Pre-Review Limited and Specific Data Call	√	√	√	√
	20. Compliance Review Team Assembled	√	√	√	√
	21. Conduct Artifact Traces and Final EVM System Description Review	√	√	√	√
	22. Interview Selections Determined and IFFs Created	√	√	√	√
	23. Pre-Visit Security Paperwork	√	√	√	√
	24. Pre-Visit Review Team Preparation Meeting	√	√	√	√
	25. Security In-processing	√	√	√	√
	26. Opening PM-30 Brief	√	√	√	√
	27. Contractor Brief	√	√	√	√
	28. Conduct and Document Interviews	√	√	√	√
	29. Daily Review Team Meetings	√	√	√	√
	30. Daily Contractor Out-briefs	√	√	√	√
	31. Draft CARs, DRs, CIOs, and Guideline Summaries	√	√	√	√

	32. Exit Brief to Contractor	√	√	√	√

Step 18. Identify, Plan, and Schedule Team Resources. Now that the review scope has been determined and areas of concern identified, the Review Director and Review Chief can make team assignments for Process/Area Team Leads and team members and Interview Team Leads and team members. In a data-driven environment, Process/Area Team Leads may not be assigned to all areas. The appropriate Process/Area assignments are made based on the data-driven scope determined in prior phases. The Review Chief will make the necessary arrangements for contractual support by composing tasks orders and processing them through appropriate channels. The Review Chief will provide the EVMS Compliance Review Team with the PM-30 Assessment Toolkit (see Appendix D) and PM ECRSOP. Team members are notified of the pre-review timeline, assignments, and provided additional information to make travel plans. The Review Chief will ensure that all team members are provided access to the data and information required to conduct their assigned sections of the review including, but not limited to, the results of the Analysis Report from the DA Phase.

Step 19. Contractor Notification Issued w/Request for Pre-Review Limited and Specific Data Call. The Review Director and Review Chief will compose a contractor notification memorandum (see below) for PM-1 signature to the Program Office HCA/PMSO and CO concurrently as the formal notification to be sent the contractor. The notification specifies the EVMS Compliance Review type, scope, and the proposed start and finish dates. The contractor will be afforded the opportunity to propose alternate dates should a legitimate conflict arise. All subsequent communications with the Program Office HCA/PMSO, CO, and contractor should be formally documented by the Review Chief.

The notification should be issued no later than 90 calendar days prior to the on-site EVMS compliance review and establish a data submittal date no later than 60 calendar days prior to the review.

The contractor notification includes:

- Purpose of the review, the period of the review, team composition, and team meeting room requirements (such as printer, copier, internet access, a process mapping diagram (i.e., storyboard) for reference purposes).
- A draft agenda (refer to sample templates) provided to the contractor for planning the expected flow for briefings on the first day and subsequent interview timeframes and daily out-briefs (refer to **Step 27** for contractor briefing content). The Review Chief may not have sufficient information until **Step 22** to provide names of key personnel to be interviewed. Until names are available, the contractor should ensure key personnel are available the week of the review. Coordination between the contractor and the Review Chief throughout the agenda development process is important so expectations of contractor-provided briefing content and timing are clearly communicated, and interviews are scheduled to avoid conflicts.

- Interview room requirements, including interviewee access to:
    - Live data from the contractor's EVMS as required to discuss, validate, and assess the responses to the interview questions;
    - The ability to copy/paste screen shots, typically done through MS Power Point, to be provided to the Interview Lead at completion of the interview;
- Interview ground rules such as:
    - Who may remain in the room during interviews; and,
    - When interviewees may defer responding to questions to a support member to respond, e.g. a planner or a project controls technician.
- The pre-On-site EVMS Compliance Review Data Call consisting of any additional data and information required based on the results of previous analyses. With the sophisticated testing methods conducted in the DA phase, this data call is refined to request system artifacts for specific EVMS core management processes and areas of concern previously identified. While it is important to request enough data and information to assess pervasiveness, the data call is not intended to be all encompassing, i.e. all work authorization documents or all baseline changes. The Review Chief is required to monitor these requests. Sample artifacts that may be requested include Basis of Estimates, Estimates at Completion (EAC) documentation, Baseline Change Requests, Change Logs, etc. for specific control accounts and time spans.
- A request for a pre-visit contractor demonstration of EVMS processes, procedures, and toolsets via webinar to familiarize the EVMS Compliance Review Team with the contractor's EVMS.

Step 20. Compliance Review Team Assembled. Once the EVMS Compliance Review Team has been identified, the Review Chief will conduct a meeting (virtually or in person) to discuss individual review team assignments and responsibilities, ensure all team members have access to the PM-30 assessment toolkit (see Appendix D), and confirm that team members have read the PM ECRSOP. The Review Chief will explain the path forward and allow ample time to answer all team member questions about the review process and expectations. A webinar with the contractor will be conducted to familiarize the compliance review team members with the contractor's processes.

The meeting provides a forum for each EVMS compliance review team member to learn and ask questions regarding the on-site review process. All members should participate in the meeting, even those with previous review experience as important information is disseminated.

In preparation for this meeting, the Review Chief with the assistance of the Review Deputy and Review Assistant will create the team review plan using the template provided. Areas covered in the team review plan include type of review, logistics (maps, lodging information, rental car assignments, etc.), background of project(s) under review, team member roles and

responsibilities pertaining to the scope of the on-site review, the draft agenda, any updates to the applicable electronic forms (IFFs, CARs, DRs, CIOs, Guideline Summaries, etc.), and review process information to help ensure the team is prepared and the review flows smoothly. The Review Chief will discuss any potential CARs and/or DRs already identified and the status of the EVM System Description review.

Step 21. Conduct Artifact Traces and Final EVM System Description Review. The EVMS Process/Area Teams will conduct artifact traces for specific areas of concern on a limited basis. An example may be to trace a baseline change from the initial request through the baseline control logs and determine if changes were made properly to the control account plan and schedule. This helps the Process/Area Teams finalize questions for any necessary interviews. Additionally, the review of the EVM System Description is completed using the EVMS Compliance Review Checklist (CRC), and CARs/DRs/CIOs for EVM System Description non-compliances are finalized.

Because EVMS is an integrated set of processes, these processes must work in concert as a total system. Each sub-process of the system requires input from another process and provides outputs to still other processes. Tracing the data flow between processes is a critical element of the review process for the review team. Artifact traces are conducted as defined in Appendix C. Disconnects between core management processes indicate that the EVMS is not functioning as intended and that the contractor's processes and procedures must be examined and tested further.

Concerns found in the EVMS artifact traces must be documented to ensure they are discussed with the PM, CAMs, and functional personnel during the on-site review. Documented issues identified in the DA phase may identify potential issues that require follow up questions during the on-site review. The Process/Area teams should document the concerns in draft CARs and/or DRs for use in the development of IFF questions for each interview (**Step 22**). The Review Chief will coordinate the assignment of all draft CARs and/or DRs with the Process/Area and Interview teams prior to the on-site review to ensure that the concerns raised by the Process/Area team(s) are addressed in the appropriate interviews.

Step 22. Interview Selections Determined and Interview Findings Form Created. In addition to data and artifacts collected and reviewed, it is important to address how the overarching system is being used. An effective method is to conduct interviews of key personnel, some responsible for other systems that support the EVMS, and others who use the EVMS for decision making purposes. Key personnel to interview may include the contractor's senior executives, project manager, business manager, functional managers, major subcontractor manager, indirect manager, master scheduler/planner, accounting manager, risk manager, in addition to CAM and Project Controls.

The Review Director and/or Review Chief will lead interviews and prepare IFFs for other key management personnel. The CAM IFF, available in template form, is tailored by the Process/Area team for each CAM selected for an interview based on the results of data analyses identified in **Step 21**. The Interview Lead is responsible for covering all questions submitted by the Process/Area team(s). When populating the IFF, the intent is not to ask questions that have already been satisfied through data analyses, but rather to facilitate discussion of procedural and implementation processes to assess a CAM's involvement and knowledge. The Interview Team is not limited to the questions on the IFF; follow-on questions are appropriate as the interview proceeds.

The IFFs are provided to the Review Chief. The Review Chief will make interview selections based on review scope as determined in **Step 17,** Process/Area team input via IFFs, review of the Responsibility Assignment Matrix (RAM), project organization charts, and, most importantly, Process/Area team recommendations based on results of the DA phase analysis report and any further artifact assessments.

At the discretion of the Review Director and Review Chief, only those CAMs responsible for control accounts where data analyses or traces yielded concerns will be selected. In other words, there is no requirement to interview a certain percentage of CAMs. The number and selection of CAMs and other applicable manager interviews are determined by considering one or more of the following:

- EVMS process, implementation, or performance measurement concerns raised in the DA step and as confirmed by the Process/Area leads;
- Project cost or schedule risk areas;
- Control accounts with the greatest amounts of budgeted cost of work remaining;
- Activities on the critical path or near critical path;
- Control accounts or indirect effort with significant cost or schedule variances;
- Control accounts with frequent baseline changes; and
- Input from the FPD regarding areas of concern.

After selection of contractor personnel for interviews, the Review Chief will provide feedback on the IFFs and will ensure Process/Area and Interview teams coordinate. As some issues found may cross more than one CAM, coordinate with the Process/Area teams to ensure a complete understanding of the issues found. The interviews bring noted issues to the forefront and confirm if previously identified concerns are material in terms of pervasiveness and significance. Interactions between the Interview teams, Process/Area teams, and Review Chief following the interviews is essential so that decisions and assignments can be made to finalize CARs and/or DRs to ensure that the full materiality of EVMS issues are adequately covered.

The Review Chief will establish the overall interview schedule based on each Interview Lead's estimated durations. To arrive at the estimates, the Interview Lead considers the scope specific to each CAM as determined by the results of the data analyses. Some interviews may require more time than others. It is important that a representative sample of similar concerns be addressed in the interviews to cover the topic sufficiently enough to support later discussions of materiality. The review schedule also must allow ample time following each interview for the team to document interview results and related findings before the next scheduled interview.

The Review Chief will notify the contractor of the interview selections and schedule, as well as make final assignments to the Interview Leads. The contractor may request changes to accommodate conflicts; however, the contractor must understand that CAMs are expected to be available during the review as follow-on questions may arise.

The Review Director and Review Chief customarily conducts the contractor project manager, senior project control manager, and senior risk manager interviews. The Review Director and Review Chief will jointly determine the questions for the interviews and will consider input from the Process/Area leads. The Review Chief may delegate portions of the interviews to specific Interview teams to cover items of special interest.

Step 23. Pre-Visit Security Paperwork. The Review Chief with the assistance of the Review Deputy and Review Assistant will coordinate with the site office and contractor's security office in advance of the team's arrival. This may include, but is not limited to, providing a list of team members who do not have DOE badges bringing non-government laptops, and completion of non-disclosure statements as necessary. The security office may require completion of pre-visit forms and training such as security and safety awareness.

Step 24. Pre-Visit Final Preparation Meeting. The Review Chief will conduct a meeting prior to departure for the on-site review to discuss the final agenda, the review schedule, logistics, and to ensure each team member understands his or her assignments. The Review Chief will ensure that all team members are informed of onsite security measures, including acceptable forms of identification, if personal laptops and cell phones are allowed, and if site-specific safety attire is required.

Step 25. Security In-Processing. Arrival on the first day of the review generally starts at the security office. The security requirements at each site may differ. The Review Chief with the assistance of the Review Deputy and Review Assistant will ensure that all necessary arrangements with the site security office are made prior to arrival to ease in-processing. Non-DOE team members must arrive at the time recommended by the security office and communicate any delays encountered to the Review Chief.

Step 26. Opening PM-30 Brief. At the start of the EVMS compliance review, the Review Director or Review Chief will conduct an in-brief to the contractor to articulate the review's purpose, objectives, scope, and timeframe, and discuss any potential timing issues that could influence the review. The EVMS Compliance Review Team will also be introduced. Standard briefing templates are listed in Appendix D.

Step 27. Contractor Entrance Brief. The Review Chief will have communicated in **Step 17** the expected content of the contractor's entrance brief prior to the review. While it typically includes project specific information, it may also include the contractor's EVMS design and operation, describe EVMS process flows or traces, and relevant reports using the storyboard approach. However, if the contractor had previously demonstrated their process flows during other phases, the Review Chief may advise the contractor not to repeat it. Ask the contractor to identify any recent EVMS changes and disclose potential areas of EVMS noncompliance and any open CAR, DR, and CAMP actions found during internal EVMS compliance reviews.

Step 28. Conduct and Document Interviews. Based on assignments made in **Step 22**, the Interview Team will begin the interview process. The Interview Lead will assign individual responsibilities to the interview team members based on each member's knowledge and experience. Assignments may include:

- Interviewer
- Specific scope SME
- Scribe(s)
- Timekeeper

The interview team members may ask additional questions to gain clarification. Although the questions on the IFF have been tailored specifically for each interview based on pre-review EVMS data analyses, the interview team is not limited by the IFF. The interviewee's responses may lead to other questions or areas of concern not previously identified. However, the interview process should not be conducted as a "fishing expedition" trying to find areas of weakness but rather ensure all previously identified and any new concerns are adequately addressed.

To set the stage for the interview, the interviewer will inform the interviewee that the scope is based on data analysis and review of artifacts and will not cover areas where there was no need for clarification. The interviewee is instructed to answer the interview questions unless permission is given to allow others to respond. The government interview team will typically allow the planner/scheduler and a project controls representative in the room to assist in locating specific details within the EVMS. The interviewee should request this assistance rather than the support staff spontaneously providing the information. The goal of the interview is to gauge the interviewee's level of interaction and knowledge of the EVMS and not the knowledge of his or her support team.

The interview team documents evidence of any potential EVMS non-compliance. Ask the interviewee to open a Power Point file, capture screen shots from the live data as requested, and paste the screen shots into the Power Point presentation. These screen shots will be provided to the Interview Lead at the conclusion of the interview unless prior arrangements are made.

The Interview Lead will complete a document request form (see Appendix D) for any data or information not immediately available and will submit the completed form to the Review Assistant or Review Deputy for document control purposes and follow-up.

As stated in **Step 22**, the interview schedule must allow time following each interview for the team to discuss and debate their findings in order to complete the IFF. The Interview Lead will assign who is responsible for finalizing the IFF and summarizing the findings to be used in developing any CARs or DRs. The IFF will list all documents reviewed including an embedded copy of the Power Point file of screen shots; a copy of the summarized findings, conclusions, and recommendations; and will indicate whether a CAR, DR, or CIO is recommended.

Step 29. Daily Review Team Meetings. At the end of each day, the Interview Leads brief the Review Chief and team members regarding their findings, recommendations, additional documentation requested, and/or other needs noted during the interviews in a government-only team setting. EVMS non-compliances are discussed to assist the Process/Area team(s) in their initial determination of materiality (more on this in **Step 32**). The Review Chief as well as the Review Assistant will ensure that similar non-compliances found in multiple control accounts are assigned to the appropriate Process/Area team with assistance from interview teams who summarized the findings and obtained supporting exhibits for the same non-compliance. This meeting will ensure the team has situational awareness and individual assignments are clear and understood. The daily review team meeting also provides the Review Chief the opportunity to identify topics for the daily briefs to the contractor. The Review Director is responsible for updating PM-1 as necessary throughout this process.

Step 30. Daily Contractor Out-Briefs. A briefing with the contractor occurs daily. The purpose of the daily briefing is for the Review Director and Review Chief to inform the contractor of progress made and identify any outstanding requests. Discussion will avoid the merits of preliminary findings but rather concentrate on the exchange of information. The Review Director and Review Chief will ensure that the contractor understands that the daily brief findings are only preliminary and should not be considered as definitive results. The contractor will have a chance to provide additional data and information to assist the Process/Area team towards making an accurate assessment of a finding. The contractor will provide this information within 24 hrs. (1 day) of receiving a preliminary finding.

Step 31. Draft CARs, DRs, CIOs, and Guideline Summaries. The Process/Area teams document non-compliance. The Process/Area teams will identify the order-of-magnitude metrics when documenting any non-compliances identified in the DA phase output report. For example: If 100 Work Authorization Documents (WADS) are reviewed, and 10 of them are found to be non-compliant, then this must be equated to 10% of the WADs are non-compliant. If 10% of the non-compliant WADs equate to 25% of the authorized value of the to-go work, then materiality would need to be evaluated. In short, order-of-magnitude metrics are critical to determining materiality and must be established at the DA step.

Because all CARs and DRs align to a guideline assigned to a specific Process/Area teams, the Process/Area Lead working with the CAR or DR author will make an initial determination of materiality which is reviewed and confirmed (or changed) by the Review Chief. The Process/Area Lead will also consider the CARs and DRs issued to arrive at a materiality determination at the guideline attribute level by asking "do the CARs and DRs indicate that the guideline attribute is non-compliant and why?" That determination is subject to review and approval by the Review Chief and Review Director.

The Process/Area Leads will begin drafting the guideline summary report addressing all guidelines and attributes within their assigned area, incorporating the status of each guideline attribute by listing applicable CARs, DRs, and CIOs. An initial determination of materiality is made at the guideline attribute level; however, final determination is made after coordination among the Review Director and Review Chief after all CARs, DRs, and CIOs are finalized. When determining initial guideline attribute compliance, the Process/Area Lead will address materiality as defined in 2.4.2 Material Impact. The general rule is:

- **Red/Yellow/Green:** One or more CARs constitutes non-compliance with a guideline at the red level. One or more DRs with no CARs scores the performance as yellow. However, if the number of DRs related to a guideline results in an overall materiality impact of significant magnitude when summed, the overall performance may be considered red. No CARs or DRs, with or without CIOs, constitutes compliance with a guideline and earns green.
- **Materiality**. The IV team will describe the material nature of the discrepancies in the DRs including their impact on the accuracy, validity, reliability, and timeliness of performance measurement data. Refer to Section 2.4.2.
- **Significant Deficiency**. Materiality considerations and impact statements documented in DRs may support the Review Chief's determination of a significant deficiency causing a DR to be upgraded to a CAR. A significant deficiency is a shortcoming in the system that materially affects the ability of officials to rely upon management information produced by the system.

Step 32. Exit Brief to Contractor. After the EVMS Compliance Review on-site visit, the Review Director or Review Chief will present the exit brief (see Appendix D) summarizing the preliminary findings, and expectations for the contractor's CAMP. The Review Director

or Review Chief will also explain the EIA-748 requirement for annual surveillance. This is also an appropriate time to explain self-governance, if they have not already adopted the process, and answer any questions the contractor may have. The Review Director will coordinate with PM-1 prior to sharing the preliminary results of the review and presenting the exit brief. Stakeholders (PMSO, PM, and CO) are encouraged to participate. At the discretion of the Review Director and Review Chief, the draft CARs and DRs, when available, may be provided to the contractor for the purposes of developing the CAMP and the start of correcting issues.

4.1.6 Post Review and Closeout Phase

Table 7. Post Review and Closeout Phase

Phase	Steps	CR	IR	RFC	SR
6. Post Review and Closeout	33. Finalize CARs, DRs, CIOs, and GL Summaries	√	√	√	√
	34. Draft EVMS Compliance Review Report	√	√	√	√
	35. Conduct Factual Accuracy Review	√	√	√	√
	36. Issue Report w/CARs, DRs, and CIOs	√	√	√	√
	37. Contractor Corrective Action Management Plan (CAMP):	√	√	√	√
	a. Establish Contractor Submittal Date	√	√	√	√
	b. Receive and Review CAMP	√	√	√	√
	c. Provide Comments	√	√	√	√
	d. Monitor Progress	√	√	√	√
	38. CAMP Closeout (Remote or On Site)	√	√	√	√
	39. Review Evidence Package	√	√	√	√
	40. Close CARs/DRs as Verified	√	√	√	√
	41. Issue Memo to CO	√	-	-	-
	42. Post Documentation to Central Repository	√	√	√	√

Step 33. Finalize CARs, DRs, CIOs, and Guideline Summaries. Based on the Review Chief's feedback and incorporation of his or her updates, the responsible team members will finalize their CAR, DR, CIO and Guideline Summary documents and will submit them to the Review Assistant. The Review Assistant will log each document as complete.

Step 34. Draft EVMS Compliance Review Report. The Review Chief will draft the EVMS review report. The report includes the finalized CARs, DRs, CIOs, and documents the determination of compliance with each guideline attribute based on the Guideline Summary documents.

The documented assessment report should include the following parts.

- Table of Contents;
- Executive Summary;

- Background;
- Purpose;
- Objectives, Scope, and Methodology;
- Summary Findings;
- Process/Area Findings;
- Guideline Attributes Findings;
- Conclusions and Recommendations; and
- Exhibits and Appendices.

Step 35. Conduct Factual Accuracy Review. The Review Director and Review Chief will issue the CARs and DRs through the CO to the contractor for the purposes of a factual accuracy review. The contractor may provide comments relating to the accuracy of the facts and exhibits stated in the CAR and DR that led to the determination; however, the intent is not to debate the overall conclusion of non-compliance.

Step 36. Issue Report w/CARs, DRs, and CIOs. After the completion of the factual accuracy review, the contractor's comments are reviewed by the Review Director and Review Chief, and changes to the draft report are made, if needed. The Review Chief will complete the report and will provide it to the Review Director for concurrence and issuance. The letter of transmittal will identify the contractor's next steps and will identify the timeframe for submittal of a CAMP. In the case of an RFC, the decision may be to de-certify the contractor's EVMS with or without proceeding through the CAMP process. If so, proceed to **Step 41**.

Step 37. Contractor Corrective Action Management Plan (CAMP): After the final report has been released, the Review Chief will ensure the contractor understands the CARs, DRs and the requirements of the CAMP process. The preparation of the CAMP is an iterative process, led by the contractor but monitored by the Review Director and Review Chief. For specifics on the CAMP process and the items listed below, refer to Section 5. During the CAMP process the Review Director will:

- Establish a submission deadline for the contractor,
- Receive and review the draft CAMP,
- Provide comments and approve a final CAMP, and
- Monitor progress made by the contractor toward completing corrective actions through regular progress meetings with the contractor, typically via webinar or phone.

Step 38. CAMP Closeout (Remote or On Site). The Review Chief in consultation with the Review Director will plan, schedule, and approve all verification follow-up actions and closure of CARs and DRs. This may be done on site or remotely depending on the nature of each EVMS issue.

Step 39. Review Evidence Package. The contractor will provide the evidence package for CAR or DR closeout in accordance with this PM SOP. The CAMP will identify verification methods, objective measures, metrics, artifacts, and evidential products documenting the completion and effectiveness of corrective actions. Closure of data-related findings often involves reviewing data from several accounting periods, typically three consecutive months, to obtain evidence of the effectiveness of corrective actions. Plotting the data to discern a trend will provide evidence of how well corrective actions have addressed the root cause of the issue. The Review Director and Review Chief will jointly examine the evidence packages and discuss any questions with the contractor.

Step 40. Close CARs/DRs as Verified. CARs and DRs are closed upon verification by the review team that the root cause(s) have been properly identified and corrected.

Step 41. Issue Memorandum to CO. For a CR, after all CARs and/or DRs have been closed, the Review Director will inform PM-1 that the CAMP process has been completed. The Review Director working closely with the Review Chief will prepare the final report and review determination to the applicable Program Office HCA or the CO with distribution to the appropriate PMSO and FPD. Successful completion of a CR results in a PM-1 memorandum of certification (see Appendix D) which includes a list of projects reviewed, the EVM System Description version and date, and EVMS maintenance requirements (e.g., self-governance plan to include annual contractor surveillance requirements) to the CO for transmittal to the contractor. For all other reviews, a memorandum is sent from PM-1 acknowledging the review closure and CAR/DR/CAMP completion to the CO. In the case of an RFC, the memorandum may be to convey the de-certification of a contractor's EVMS and a listing of steps following de-certification.

Step 42. Post Documentation to Central Repository. The Review Chief will ensure that all documentation relative to the EVMS compliance review process and final determination is submitted to the PARS document management system, and that all CARs, DRs, CIOs are appropriately archived.

4.2 Changes to Approved EVM System Descriptions and Supporting Procedures

All changes to a contractor's certified EVM System Descriptions and supporting procedures must occur under formal contractor configuration control but not before PM-30 approval per FAR 52.234-4(e) which DOE O 413.3B, Attachment 1 incorporates. The CO should submit proposed changes to PM-30 for approval. PM-30 will review the appropriateness and adequacy of the proposed changes using the EVMS Compliance Reference Checklist to determine EIA-748 compliance. PM-30 will notify the CO within 30 calendar days after receipt of the proposed change of its acceptance or rejection. Changes deemed substantive may pose a risk to the project necessitating PM-30 to conduct an IR or SR for those areas the changes may affect before PM-30 accepts the change. If the proposed changes are not

considered compliant, PM-30 will work directly with the contractor to reach agreement. If agreement is not reached, then a letter of non-consent is provided to the Program Office HCA/PMSO and applicable CO to forward to the contractor. Any deviation by the contractor to proceed with alternative practices or processes deemed outside the parameters of those recognized by the PM-1 certification letter jeopardize the standing of the contractor's EVMS compliance status.

5 EVMS CORRECTIVE ACTION MANAGEMENT PLAN (CAMP) PROCESS

5.1 CAMP Content

The contractor documents its CAMP process in the EVM System Description and supplement procedures, using a disciplined, standardized approach for responding to review findings. This section describes the content of a CAMP that sufficiently documents disposition and final close-out of CARs/DRs.

For each CAR or DR addressed in the CAMP, include:

- Problem details
- Root cause analysis
- Contributing factors
- Corrective action approach
- Proposed exit criteria
- Schedule for CAMP development and implementation

Changes caused by corrective actions, such as re-planning or changes to the estimate at completion (EAC), must be appropriately documented within the EVM System Description and the CAMP.

The expectation is that the Review Director and/or Review Chief and the contractor have open communication during the creation and evaluation of the CAMP. As the contractor proceeds with the CAMP development, the EVMS Review Director and/or Review Chief will generate a written evaluation of the contractor's draft CAMP to ensure all elements have been satisfactorily addressed. This is an iterative process. Some corrective actions may be straight forward responses to simple findings, others may be more complex. Either way it is important to reach a mutual agreement of the CAMP contents and timeline. The contractor delineate which EVMS artifacts and data sets it will deliver as well as when it will deliver them to support the CAMP verification process.

The CAMP's entrance and exit criteria represents the initial understanding of what led to the documented non-conformances. As understanding of each non-conformance increases its drivers may become clearer. This may result in the need to revise the CAMP. Review of procedures for a CAMP or an actual CAMP entails:

(1) **Initial Post CAR/DR Discussions**

Prior to developing a corrective action in response to a CAR/DR, the first step is to ensure that both the contractor and the review team have a mutual understanding of the EVMS Guideline non-compliance. The Review Director and/or Review Chief will offer assistance, either via telecom or visit, to facilitate this

understanding. Well-written CARs/DRs with sufficient exhibits of EVMS guideline attribute non-compliances provides clarity and minimize these discussions. The intent is not to engage in a debate or to imply consensus is a requirement, but rather to ensure the contractor understands the context of the documented non-compliance in order to focus its efforts to identify root cause and appropriate corrective action. If the contractor questions the basis for a CAR or DR, the contractor submits additional artifacts or relevant facts to the Review Director.

(2) **Organize for successful CAMP**

Once the contractor understands the basis of a non-compliance determination, the contractor assigns responsibility for resolving the CAR or DR in the CAMP. It is critical that the process of corrective action has the support at the highest levels of the organization. The role of senior management is not to "steer" the process but rather to facilitate dialogue, provide resources as required, remove road blocks and champion the CAMP process and attainment and/or re-attainment of EVMS compliance and its importance to the organization. Each organization may decide the manner in which best fits its management style to facilitate the CAMP to success. The CAMP should:

- Include a structured CAR/DR resolution process;
- Assign an individual from the responsible organization to lead and champion the corrective action effort; and,
- Include a closure timeline and monitoring progress.

The Review Chief will:

- Review the CAMP timeline, and monitor progress towards its closure;
- Review and approve all CAR/DR root cause assessments and proposed corrective action(s) including the closure criteria; and
- Serve as the primary point of contact with the contractor PM for CAR/DR resolution and closure.

(3) **Thorough Root Cause Analysis (RCA)**

Approach the root cause analysis from the perspective of the EVMS. Focus on what in the EVMS allowed the incident to happen, e.g. what processes were insufficient, did not exist, or allowed for circumvention from otherwise sufficient processes.

The Review Director and/or Review Chief's review of the CAMP, both the development and execution of the contractor's strategy towards EVMS compliance, including the contractor's RCA process, provide the framework from which a collaborative environment is critically important to provide a platform for

success. The contractor must demonstrate that it conducted a gap analysis, used tools such as "The 5 Whys", Ishikawa Fishbone Diagrams, Six Sigma, Lean, or other methods recommended by International Organization of Standards 9000 trained advisors. A single individual's poor judgement does not constitute a root cause.

RCA is the identification of people, process, and tools that if fixed would prohibit the error from reoccurring. This is the opposite of just fixing the error. Some examples of inadequate root cause identification that have been submitted in the past are:

- Incorporation of an OBS was excluded in the EVMS graded approach.
- CAM did not identify the issues.
- The root cause for this CAR is that CAM information was not clearly stated.

The common themes in the above examples are blaming the data, people, or how the review was conducted, with no mention of insufficient root cause and corrective actions being addressed.

Better examples, if justified in the RCA process and tools, include:

- Variances for performance related trends resulted in BCPs to request additional budget. The CAM and Project Controls team were retrained that additional budget requests are only for unplanned scope. The BCP request form is being modified to address whether the variance/trend is caused by performance or new scope. Project Controls will verify all CAM justifications for additional budget.
- Inadequate formal review of the EAC occurred on a regular basis. Tools were not used to trigger mandatory EAC reviews. CAMs failed to monitor and update their EACs in accordance with procedures. The Project Manager failed to monitor Control Account level EACs. Corrective actions include creating reports from project management system to identify when variances between BAC and EAC exceed threshold limits. Procedures on how to use the report will be created. CAMs will be re-trained on the importance of monitoring their Control Accounts and using the monthly reports. The Project Manager will address EACs with CAMs during monthly meetings.
- The IMS was non-compliant because of inadequate and informed review of the IMS baseline, failure to use and understand common schedule health metrics, and the lack of routine and systemic monthly schedule reviews. Corrective action is to improve the schedule baseline development, the monthly schedule statusing process, and the forecast schedule updates. The procedures are being updated with more granularity, monthly review of

schedule health metrics report has been initiated, with team meetings to review results and address concerns.

Common themes noted in the better examples indicate that when the problem is addressed in more detail, and if fixed, would prevent error reoccur. All elements are considered, i.e. people, processes, and tools.

The intent of the adequate root cause is to address the proper corrective action and be able to eliminate the problem from reoccurrence. A weak RCA process will not drive adequate root cause identification and most likely lead to future EVMS compliance failures.

The RCA process is more than just initial identification. If the RCA stops there, repeat failures are inevitable. Effective RCA is identified as being formal and closed loop; that is the process and methodologies, to include support tools as identified above, are defined and utilized, and the process is monitored through time. It is the resampling or revisiting of the finding(s) through time as part of the contractor's EVMS compliance self-governance.

It is often the case that when a more thorough root cause analysis is conducted by the contractor team, they may uncover additional issues that need to be addressed and corrected. The contractor's obligation is to provide full visibility regarding the corrective actions associated with those findings identified in the CAR/DR.

To determine what happened and why it happened, the contractor will:

- Identify the specific problem(s) or issue(s) to be analyzed;
- Select RCA trained individual(s) to perform the analysis;
- Identify the RCA method, tools, and approaches it plans to use;
- Identify the contributing factors
- Identify the root cause(s);
- Document analysis results;
- Maintain all working papers;
- Fact check the results;
- Distribute draft results for review to all impacted parties;
- Finalize the RCA with any appropriate review edits and use as the basis for the CAMP development; and,
- Establish, modify, and revise as required a means to identify, store, prioritize, control, analyze, and document the CAR/DR corrective action process.

(4) **Assess and Update the CAMP**

This step is iterative as it may evolve as actions are taken. Therefore, the Review Director or Review Chief will coordinate with the contractor as necessary to provide feedback along the way.

Contractor considerations in developing the CAMP include several elements. For example, a single CAR/DR may lead to numerous corrective actions. A single problem may necessitate changes to processes, training, tools, or management approach, or a combination of these. Corrective actions prevent recurrence of similar outcomes while avoiding the introduction of additional problems. Even where a particular project has a specific deficiency, the contractor checks how the non-compliance might impacts its entire portfolio to ensure that a remedy is not specific to a particular project when it needs to be applied across the site. Involve contractor senior management to influence others in the organization to incorporate corrective actions and ensure the provision of all required resources necessary to produce a successful outcome.

In addition to items mentioned previously, the contractor's CAMP should also address:

- Corrective action resolution assignments;
- Listing of repeated or similar non-compliances from past CARs or DRs;
- A description of the nomenclature for tracking CARs, DRs, root causes, and corrective actions;

(5) **Develop / evaluate verification closure steps**

The contractor develops the CAMP and the Review Director or Review Chief evaluates it for identification of verification methods, objective measures, metrics, artifacts, and evidential products that will verify efficiency and efficacy of the corrective actions. This includes exit criteria for all activities in the CAMP timeline schedule. For data related findings, the criteria for verification involves producing three consecutive performance periods of results as evidence that the corrective actions were effective. In these cases, trending the data will provide evidence that corrective actions have targeted the root cause, are effective, and are producing improving results. The contractor is responsible for reviewing the status of the exit criteria and verifying that the required objective measures have been satisfied prior to notification to the Review Director and/or Review Chief. Set a deadline for data corrections.

(6) **Develop / evaluate a detailed RCA Timeline Schedule for CAMP implementation**

A critical component of any project, including corrective action development and implementation, is a method to establish and document the plan. Typically, this

would be accomplished within a detailed timeline schedule containing the scope and the required dates of completion. The contractor should identify a unique timeline schedule for each CAMP that includes: 1) Root Cause Analysis; 2) Changes to processes, tools, training, and other required system adjustments; 3) Management Review and regular team meetings; 4) Responsibility assignment for each activity; 4) Development of products and artifacts which will demonstrate effectiveness; and 5) Validation and Verification steps with Closure Criteria. The contractor PM issued CAR/DR provides the initial entrance criteria; the contractor's CAMP and timeline schedule should provide the exit or closure criteria. One deviation would be where, as part of the RCA, the contractor review team in executing the process identifies the breadth of the issue permeates into areas not identified by the review team and/or not part of the original CAR/DR. In these cases, the CAMP is expanded and formally revised to document the additional time and steps needed. Increases and scope may push closure of the CAMP to the right, so it is important to capture, document, and forecast effects within the timeline schedule.

Resource loading the timeline schedule is an important process, as it communicates to the management team the required personnel to accomplish implementation of the CAMPs and can serve as a commitment on its part to support the process until closure. The concept here is that resource assignments should be made and documented to provide clear ownership of responsibility and performance. The contractor may choose several methods to accomplish. If there is a lack of available resources available to support the process, this may impact the completion dates established for the corrective actions. All activities should be logically networked (with predecessors and successors) without any constraints. Progress should be clear and without subjective interpretation. As mentioned above, data validation normally requires several months of data submittals, and these deliveries should be milestones in the timeline schedule driven by the requisite fixes. Completion milestones should include notification of corrective action implementation and confirmation by the Review Director and/or Review Chief that the implementation is complete. Each activity should also have fields which identify the CAR/DR number, the EVMS Management/Process Area, the EVMS Guideline Attribute, the EVMS Guideline, the responsible manager for the CAMP, and a unique ID number for each activity. The Review Director and/or Review Chief will evaluate the timeline schedule and provide feedback as necessary.

(7) **Implement CAMP and track progress to successful completion**

PM-30 will monitor the progress made against the approved CAMP via regularly scheduled conference calls and/or on-site working group meetings, data sampling, etc. The contractor will track progress through the timeline schedule. Many

organizations discover that the actual implementation of the approved corrective actions is the most difficult part of the process. Sometimes a successful plan will include interim modifications or fixes in the short term, with long term changes identified as well. It is important to have CAMP solutions that not only resolve the findings, but also can also be implemented in an acceptable period of time. It is also important that the contractor meets interim commitments of data, processes, or any agreed to delivery of an artifact. If the execution of a CAMP will be delayed for any reason, the contractor should communicate this quickly to the Review Director and/or Review Chief and is part of the statusing of the CAMP timeline schedule.

A key component in determining completion is the understanding that CAM knowledge or technological improvements may progress at different rates. It is important to measure success with both components in sync and in support of each other. In many cases one component may outpace the other, the contractor team may feel they are ready for the review only to find out that CAM knowledge and the supporting data are not in phase.

(8) **CAR/DR closure and follow-up**

All corrective actions must be verified through follow up actions. The Review Chief (and others as designated) will plan, schedule, and approve all verification actions before closing CARs and DRs. Verification of corrective action is based on the following:

- Inspection of supporting documentation and/or on-site visual inspection of corrective actions; and,
- Compliance of the corrective action in satisfying the guideline(s)

As part of the CAMP verification, the Review Chief (and others as designated) will review the CAR or DR closure criteria. The Review Director or Review Chief is responsible for ensuring that the closure criteria are satisfied, and a mutual understanding has been reached. As part of closure criteria verification, the team should consider the following:

- Is the guideline being met?
- How is this different from when the guideline was not being met?
- Are internal controls in place to prevent guideline non-compliance from recurring?
- If applicable, have fixes been implemented beyond a particular project?
- Is the contractor performing analysis from within its RCA tools to prevent or mitigate future non-compliance issues?

If the Review Director and/or Review Chief determine that verification is not necessary, then the Review Chief (and others as designated) will document the

status of the closure verification. If the verification follow-up results in continued non-compliance or new deficiencies outside of the defined CAMP, then the Review Director and/or Review Chief will make a determination as to the effectiveness of CAMP closure and completion and recommend other courses of action which may include immediate certification withdrawal.

When the Review Director and/or Review Chief is satisfied that the contractor's corrective actions are appropriate to prevent recurrence of the non-compliance, and the solutions have been verified to be effective, the Review Director and/or Review Chief will notify the contractor that the CAR or DR is closed. Even after closure, the areas identified as needing improvement are often targeted for periodic follow-on reviews. The Review Director's or Review Chief's closure of a CAR or DR may be done remotely or on-site, depending on the nature of the verification.

APPENDIX A: PM EVMS COMPLIANCE ASSESSMENT GUIDANCE

Below are three documents used to assist in determining compliance. To view these files, download the ECRSOP and open it in a pdf viewer, e.g. Adobe. Click on the paperclip next to the associated filename.

The embedded files include:

1. The PM Compliance Assessment Guidance for use in understanding the aspects of compliance to support the EIA-748 Guidelines.

   PM CAG 20181128

2. The PM EVMS Compliance Review Checklist (CRC) Excel file for use in documenting the review of the contractor's EVM System Description and supporting procedures under configuration control.

   PM CRC 20180911

3. The PM Guideline Attributes and Tests Excel file for use in identifying and documenting the results of the automated and manual tests.

   PM GAT 20180911

APPENDIX B: REFERENCES AND RESOURCES

- Department of Defense. DOD Earned Value Management System Interpretation Guide 02-01-2018. https://www.acq.osd.mil/evm/docs/DoD%20EVMSIG%2001FEB2018.PDF
- Project Management Earned Value Management website. https://community.max.gov/display/DOEExternal/PM+Library
    - PM, *EVMS & Project Analysis Standard Operating Procedure* (EPASOP)
    - PM, *External Independent Review (EIR) Standard Operating Procedure (EIRSOP)*
    - PM, *Independent Cost Review (ICR) and Independent Cost Estimate (ICE) Standard Operating Procedure* (ICRICESOP)
    - Integrated Program Management Report (IPMR) Data Item Description (DID)
- DOE Order 413.3B, *Program and Project Management for the Acquisition of Capital Assets*, Washington, DC: Approved: 11-29-2010, https://www.energy.gov/projectmanagement/directives
    - DOE Guide 413.3-10A, *Earned Value Management Systems*
    - DOE Guide 413.3-20, *Change Control Management*
- Electronic Industries Alliance (EIA)-748. http://standards.sae.org/eia748c/.
- Federal Acquisition Regulations 34.2 and 52.234, Earned Value Management Systems. http://farsite.hill.af.mil/
- GAO. *GAO Cost Estimating and Assessment Guide*, GAO-09-3SP, March 2009, http://www.gao.gov/products/GAO-09-3SP.
- GAO. *GAO Schedule Assessment Guide*, GAO-16-89G, Dec 22, 2015, http://www.gao.gov/products/GAO-16-89G.
- NDIA Guides. https://www.ndia.org/divisions/ipmd/division-guides-and-resources
    - Planning & Scheduling Excellence Guide (PASEG) V3.0, EIA-748 Intent Guide, EVMS Acceptance Guide, EVMS Application Guide, Integrated Baseline Review (IBR) Guide, Surveillance Guide
- OMB Circular A-11, Part 7, *Capital Programming Guide Supplement to Office of Management and Budget Circular A –1, Part 7: Planning, Budgeting, and Acquisition of Capital Assets*, http://www.whitehouse.gov/omb/circulars_a11_current_year_a11_toc

APPENDIX C: ACRONYM LIST

ACWP	Actual Cost of Work Performed
AUW	Authorized Unpriced Work
BAC	Budget at Complete
BCP	Baseline Change Proposal
BCR	Budget Change Request
BCWP	Budgeted Cost for Work Performed
BCWR	Budgeted Cost for Work Remaining
BCWS	Budget Cost for Work Scheduled
BOE	Basis of Estimate
BOM	Bill of Material
CA	Control Account
CAM	Control Account Manager
CAMP	Corrective Action Management Plan
CAP	Control Account Plan
CAR	Corrective Action Request
CAS	Cost Accounting Standards
CBB	Contract Budget Base (See PBB)
CD	Critical Decision
CI	Critical Item
CIO	Continuous Improvement Opportunity
CP	Critical Path
CPM	Critical Path Method
CPI	Cost Performance Index
CPR	Contract Performance Report
CRC	Compliance Review Checklist
CTC	Contract Target Cost
CTP	Contract Target Price
CUM	Cumulative
CUR	Current
CV	Cost Variance
DA	Data Analysis
DID	Data Item Description
DOE	Department of Energy
DR	Discrepancy Report
EAC	Estimate at Complete
EFCOG	Energy Facility Contractor's Group
EIA-748	Electronic Industries Association - 748
EIR	External Independent Review
EOC	Elements of Cost
EPASOP	EVMS Project Analysis Standard Operating Procedure

ETC	Estimate to Complete
EV	Earned Value
EVM	Earned Value Management
EVMS	Earned Value Management System
EVT	Earned Value Techniques
FAR	Federal Acquisition Register
FF	Finish-Finish
FPD	Federal Project Director
FPRA	Forward Pricing Rate Agreement
FPRP	Forward Pricing Rate Proposal
G	Guide
G&A	General and Administrative
GAO	Government Accountability Office
GFE	Government Furnished Equipment
GFM	Government Furnished Material
GL	Guideline
HCA	Head of Contracting Agency
HDV	High Dollar Value (material)
ICE	Independent Cost Estimate
ICR	Independent Cost Review
IEAC	Independent Estimate at Completion
IECD	Independent Estimated Completion Date
IFF	Interview Findings Form
IMP	Integrated Master Plan
IMS	Integrated Master Schedule
IPMD	Integrated Program Management Division (of NDIA)
IPMR	Integrated Project Management Report
IPT	Integrated Product Team
IR	Implementation Report
IV	Initial Visit
KPP	Key Performance Parameters
LDV	Low Dollar Value (material)
LOE	Level of Effort
M	Million
M&O	Management & Operating Contract (M&O) Contractor
MR	Management Reserve
NCC	Negotiated Contract Cost
NDIA	National Defense Industry Association
NTE	Not to Exceed
O	Order
OBS	Organizational Breakdown Structure
ODC	Other Direct Costs

OMB	Office of Management and Budget
OTB	Over Target Baseline
OTS	Over Target Schedule
PARS	Project Performance and Reporting System
PASEG	Planning and Scheduling Excellence Guide (NDIA IPMD)
PB	Performance Baseline
PBB	Project Budget Base (PBB = PMB + MR)
PCA	Project Controls Analyst
PEP	Project Execution Plan
PERT	Project Evaluation and Review Technique
PM	Office of Project Management
PM	Project Manager (Contractor)
PM-30	Project Controls Division
PMB	Performance Measurement Baseline
PME	Project Management Executive
PMSO	Project Management Support Office
POP	Period of Performance
PP	Planning Package
PWS	Performance Work Statement
QBD	Quantifiable Backup Data
RA	Readiness Assessment
RAM	Responsibility Assignment Matrix
RAV	Readiness Assist Visit
RFC	Review for Cause
RSAV	Roadside Assist Visit
SF	Start-Finish
SLPP	Summary Level Planning Package
SM	Schedule Margin
SME	Subject Matter Expert
SOP	Standard Operating Procedure
SOW	Statement of Work
SPI	Schedule Performance Index
SR	Surveillance Review
SS	Start-Start
SV	Schedule Variance
SVT	Schedule Visibility Task
TAB	Total Allocated Budget
TPC	Total Project Costs
TCPI	To-Complete Performance Index
UB	Undistributed Budget
VAR	Variance Analysis Reports
VAC	Variance at Complete

WAD	Work Authorization Document
WBS	Work Breakdown Structure
WP	Work Package

APPENDIX D: PM EVMS COMPLIANCE REVIEW TEAM TOOLKIT

Additional guidance, templates, and forms referred to or supporting the PM ECRSOP are available at:
https://www.energy.gov/projectmanagement/services-0/earned-value-management or https://community.max.gov/display/DOEExternal/PM+EVM+Home.

Instructions for use of the templates are contained therein, and/or described in the ECRSOP Review process section. The templates below may change as needed to add, remove, or update. To view the Toolkit files, download the ECRSOP and open it in a pdf viewer, e.g. Adobe. Click on the paperclip next to the filename and it will open in its native software.

PM-30 compliance related toolkit files:

- PM Compliance Review Checklist (CRC) used to document EVM System Description reviews (see App. A)
- CAR/DR/CIO Form 20181029
- CAR/DR/CIO Log 20181029
- Cert Review Notification 20181107
- Data Call 20181128
- Document Request Log 20181011
- EVMS Cert Memo 20180915
- EVMS Review In Brief 20180915
- EVMS Review Out Brief 20180915
- EVMS Review Plan (in process)
- EVMS Review Reports (in process)
- GL Summary for Cert Rev 20181029
- GL Summary for SR RFC IR 20181029

- IFF Interview Template 20181019
- IFF Log 20181011
- IFF Questions Template 20181019
- Self-Governance Review Checklist 20181128

PM-30 Standard Operating Procedure relative to compliance:

- PM ECRSOP (including embedded Compliance Assessment Guidance, CRC, and EVMS Guideline Attributes and Tests)

APPENDIX E: DEFINITIONS AND SOURCES

Actual Cost of Work Performed (ACWP)	The costs actually incurred and recorded in accomplishing work performed; also referred to as Actual Cost (AC). (1)
Authorized Unpriced Work (AUW)	Work that the customer has authorized to be performed, but for which a formal proposal has not been negotiated. (1)
Basis of Estimate (BOE)	A part of a Cost Estimating Package or stand-alone document supporting a cost estimate. The BOE should describe the design basis, the planning basis (significant features and components, proposed methods of accomplishment, and proposed project schedule), the risk basis, supporting research and development requirements (important when new technologies are contemplated for certain components, equipment or processes), special construction or operating procedures, site conditions, the cost basis, and any other pertinent factors or assumptions that may affect costs. (1)
Bill of Material (BOM)	A listing of material items required to complete the production of a single unit. When actual or expected prices are applied, it becomes the Priced Bill of Materials (PBOM). (2)
Budget at Complete (BAC)	The total authorized budget for accomplishing the project scope of work. It is equal to the sum of all allocated budget plus any undistributed budget (Management Reserve is not included). The Budget at Completion will form the Performance Measurement Baseline, as it is allocated and time-phased in accordance with project schedule requirements. (1)

Budget Change Request (BCR)	In-scope to the Performance Baseline (PB), BCRs document events that only require an internal adjustment to the performance baseline components and that do not change the TPC, CD-4 date, or represent a change to some feature of the projects scope/Key Performance Parameters (KPPs) approved by the applicable Acquisition Executive. It may necessitate a contract action and/or changes to contractor documentation used to maintain configuration control (at the project level) of the Contract Budget Base (CBB)/Project Budget Base (PBB) and/or Performance Measurement Baseline (PMB). While BCR is a common industry term, some contractors may use other terms as defined in their Earned Value Management (EVM) System Descriptions. While the following terms and definitions are suggested to provide a common understanding of the different types of BCRs possible, this does not mandate contractor's changing their EVM System Descriptions. Objective evidence supporting the change should be maintained with the BCR, and all changes should be reconcilable and traceable via project documentation and required EVMS budget logs. • Budget Change Request – PMB (BCR-P): A type of BCR used by the contractor to maintain configuration control of the PMB for re-planning actions for remaining work scope. A normal program control process accomplished within the scope, schedule, and cost objectives of the project's PMB. A BCR-P requires Project Manager's approval prior to implementation. A BCR-P implements changes to the time phasing of the PMB only. A BCR-P does not include MR utilization and does not modify the contract.
	• Budget Change Request – MR (BCR-M): A type of BCR used by the contractor to allocate MR to Control Accounts within the PMB for authorized purposes. A BCR-M requires Project Manager's approval prior to implementation. A BCR-M does not modify the contract. • Budget Change Request – Contingency (BCR-C): A type of BCR used by the FPD to allocate project contingency to the contract for a change of scope to the contract. It results in a change to the Contract Budget Base (CBB) or Project Budget Base (PBB) and requires Contracting Officer action to modify the contract. [Note: There may be approval thresholds defined in the PEP.] (1)
Budgeted Cost for Work Performed (BCWP)	The value of completed work expressed in terms of the budget assigned to that work. (1)

Budgeted Cost for Work Remaining (BCWR)	The budgeted value for work remaining. It is calculated as BAC minus the BCWPcum (i.e. BCWR = BAC - BCWPcum). Note: ETC is the estimate to complete the BCWR. (1)
Budgeted Cost for Work Scheduled (BCWS)	The time-phased budget plan for work currently scheduled, also referred to as Planned Value (PV). (1)
Control Account (CA)	The intersection of one WBS and one OBS representing a discrete portion of program scope assigned to an individual manager. The control account is the minimum level where technical, schedule, and cost responsibility exists. (3) (NDIA IPMD PASEG v3)
Control Account Manager (CAM)	The individual responsible for cost, schedule and technical performance of the scope within a control account (also typically responsible for the creation, status, and maintenance of the IMS tasks within the control account). (3) (NDIA IPMD PASEG v3)
Control Account Plan (CAP)	A CAP is a time phased report of the budget spread by element of cost for the control account. (1)
Contract Budget Base (CBB)	The sum of the negotiated contract cost plus the estimated cost of authorized unpriced work. This represents the total amount of performance measurement budget that may be allocated to contract work. (See PBB and Total Allocated Budget). (2)
Contract Performance Report (CPR)	Contract cost and schedule performance data that is used to identify problems early on an acquisition contract and forecast future contract performance in Earned Value Management (EVM). (Source: AcqNotes.com) Report content was prescribed by DOD Data Item Description DI-MGMT-81466A. (DOE G 413.3-10A) (Note: The Integrated Program Management Report (IPMR) Data Item Description (DOE Version) integrates the CPR and the IMS.). Contractually required reports, prepared by the contractor, containing performance information derived from the internal EVMS. Provides status of progress on the contract. (1)
Cost of Money (COM)	An imputed cost determined by applying a cost-of-money rate to facilities capital employed in contract performance or to an investment in tangible and intangible assets while they are being constructed, fabricated or developed for the contractor's own use. (3) (http://www.lectlaw.com/def/c187.htm)
Critical Decision (CD)	A formal determination made by the Chief Executive for Project Management or Project Management Executive at a specific point during the project that allows the project to proceed to the next phase or CD. (1)

Critical Item	A critical item is material that may or may not be a high dollar value item yet if not tracked, could impact the critical path. They are high risk items, based on such criteria as sole source/limited availability, safety, quality, or environmental impact, etc.
Critical Path (CP)	A sequence of discrete WPs and planning packages (or lower level tasks/activities) in the network that has the longest total duration with the least amount of total float/slack through an end point that is calculated by the schedule software application. (2)
Cumulative (CUM)	Refers to reporting the summation of BCWS, BCWP, and/or ACWP from the initial reporting through the end of the current reporting period. (3) (IPMR DID)
Current (CUR)	Refers to reporting the BCWS, BCWP, and ACWP for the current reporting (accounting month end) period. (3) (IPMR DID)
Data Date	The date that the scheduling tool treats as "today" (also known as the update, time now, or status date) - all dates "to the left" of data date are considered by the scheduling tool to be "in the past" - all dates "to the right" of the data date are considered by the scheduling tool to be "in the future". (3) (NDIA IPMD PASEG v3)
Driving Path	The longest sequence of discrete tasks/activities from time-now to a selected interim contract milestone. Discrete tasks/activities on the driving path have the least amount of total float/slack to the interim contract milestone. Driving path may not be part of the contract critical path. (2)
Earned Value (EV)	See Budgeted Cost for Work Performed (BCWP). (1)
Earned Value Management (EVM)	A program management technique for measuring program performance and progress in an objective manner. (1)
Earned Value Management System (EVMS)	An integrated management system that integrates the work scope, schedule, and cost parameters of a program in a manner that provides objective performance measurement data. It measures progress objectively with earned value metrics; accumulates direct costs; allows for analysis of deviations from plans; facilitates forecasting the achievement of milestones and contract events; provides supporting data for forecasting of estimated costs; and fosters discipline in incorporating changes to the baseline in a timely manner. (1)
EVM System Description	The set or series of integrated process descriptions/procedures that describe a contractor's Earned Value Management System. (Reference 2 under SD)

Earned Value Technique (EVT)	A specific technique (e.g., Milestone Method, Percent Complete, 50/50, 0/100, Units Complete, Apportioned Effort, LOE, etc.) selected to represent the measurement of work scope progress and accomplishment in a work package. (2)
Electronic Industries Association –748 (EIA-748)	Standard that establishes the framework for a contractor's EVMS; consists of 32 Guidelines, used to determine compliance. (3) (Derived from FAR Subpart 34.2 and 52.234; DOE Order 413.3B)
Elements of Costs (EOC)	Product costs are decomposed into the elements of cost. These elements are comprised of labor, materials, other direct costs and overhead. EOCs represent the cost of products that are typical across industry. (2)
Estimate at Complete (EAC)	Actual cost of work completed to date plus the predicted costs and schedule for finishing the remaining work. The current estimated total cost for project authorized work. EAC equals the actual cost to a point in time plus the estimated costs to completion. (1)
Estimate to Complete (ETC)	Estimate of costs to complete all authorized work from a point in time to the end of the program/project or task. (1)
Finish-to-Finish (FF)	A logical relationship used in the IMS network that establishes the following rule between two activities: the succeeding task cannot finish until a preceding task finishes. (1)
Forward Pricing Rate Agreement (FPRA)	A written agreement negotiated between a contractor and the Government to make certain rates available during a specified period for use in pricing contracts or modifications. These rates represent reasonable projections of specific costs that are not easily estimated for, identified with, or generated by a specific contract, contract end item, or task. These projections may include rates for such things as labor, indirect costs, material obsolescence and usage, spare parts provisioning, and material handling. (1)
Finish-to-Start (FS)	A logical relationship used in the IMS network that establishes the following rule between two activities: the succeeding task cannot start until a preceding task finishes. (1)
Freeze Period	A period of time when baseline changes are limited. (2) Refer to Guideline 29 of Appendix A in this PM ECRSOP for more information.

General and Administrative (G&A)	Any management, financial, and other expense which is incurred by or allocated to a business unit and which is for the general management and administration of the business unit as a whole. G&A expense does not include those management expenses whose beneficial or causal relationship to cost objectives can be more directly measured by a base other than a cost input base representing the total activity of a business unit during a cost accounting period. (1)
Generally Accepted Accounting Principles (GAAP)	The standard framework of guidelines for financial accounting used in any given jurisdiction; generally known as accounting standards or standard accounting practice. (2)
Government Furnished Equipment (GFE)	A tangible item provided by the Government in a contract that is functionally complete for its intended purpose, durable, nonexpendable, and needed for the performance of a contract. Equipment is not intended for sale and does not ordinarily lose its identity or become a component part of another article when put into use. Equipment does not include material, real property, special test equipment or special tooling. (adapted from FAR 45.101) Note: equipment can include assemblies, components, parts, and engineered items. (1)
Government Furnished Material (GFM)	Material furnished by the Government consumed or expended in performance of a contract, component parts of a higher assembly, or items that lose their individual identity through incorporation into an end-item. Material does not include equipment, special tooling, special test equipment or real property. Property includes assemblies, components, parts, raw and processed materials, and small tools and supplies. (1)
High Dollar Value (material) (HDV)	Major components, assemblies, or critical piece-part items, etc. that are identified based on an analysis of material categories a company needs to procure and consume in the integration and build of an end item on a program. (2)
Horizontal Integration	The logical relationships and time-phasing between tasks and milestones from program start to finish. (2)

Integrated Master Plan (IMP)	An event-driven plan that documents the significant accomplishments necessary to complete the work and ties each accomplishment to a key program event. (2) A top-level program plan / hierarchy that is decomposed into program or project events, event accomplishments, and accomplishment criteria, the IMP is typically not time phased and often serves as the basis for the program Integrated Master Schedule (IMS). (3) (DoD IMP and IMS Preparation and Use Guide, 10-21-2005.)

Integrated Master Schedule (IMS)	The IMS is an integrated, multi-layered, networked and resource-loaded schedule containing all work scope including detailed work packages activities and planning packages necessary to support the events, accomplishments, and accomplishment criteria of the IMP or master plan. The IMS connects all the scheduled work scope of the Government, the contractor, and external efforts in a network of logically linked sequences of activities and milestones from project start to project completion. The IMS shall be vertically and horizontally traceable for all work scope including all discrete and Level of Effort (LOE) work package activities and planning packages. All events, accomplishments, and accomplishment criteria listed in the IMP or master plan shall be replicated in the IMS. The IMS shall include all the work scope associated with the design, construction, installation, test, and delivery of the total product(s), and the overall execution of project. Durations are entered for each work package activity and planning package, along with predecessor and successor network logic relationships, and any constraints, leads and lags that control the start or finish of each work scope segment. The resultant fully net-worked and resource-loaded schedule shall support the calculation of the project critical path and free and total float values to enable the analysis of the schedule's completeness, realism, and achievability. Designated LOE work scope shall never drive discrete work scope for the determination of the project critical path. Furthermore, work package activity and planning package durations shall be based on the allocation and availability of resources and materials and shall roll up vertically to demonstrate the overall duration required to perform any event, accomplishment, or accomplishment criteria. (1), (3) (Derived from DOE O 413.3B requirements for a resource-loaded schedule, the NDIA PASEG, and GAO Schedule Guide).
Integrated Product Team (IPT)	A cross-functional group of individuals organized for the specific purpose of delivering a project to an external or internal customer. It is led by a Federal Project Director. The IPT is accountable for planning, budgeting, procurement and life-cycle management of the investment to achieve its cost, schedule, and performance goals. Team skills include: budgetary, financial, capital planning, procurement, user, program, architecture, earned value management, security, and other staff as appropriate. (1)

Integrated Program Management Report (IPMR)	A contractually required report, prepared by the contractor, containing performance information derived from the internal Earned Value Management System. Provides status of contract cost and schedule performance). Provides status of contract cost and schedule performance (DI-MGMT81861). The IPMR is being phased in to replace the Contract Performance Reports (DI-MGMT-81466A) and the Integrated Master Schedule (DI-MGMT-81650). (2)
Level of Effort (LOE)	Baseline scope of a general or supportive nature for which performance cannot be measured or is impracticable to measure using activity-based methods. Resource requirements are represented by a time-phased budget scheduled in accordance with the time the support will likely be needed. The value is earned by the passage of time and is equal to the budget scheduled in each time period. (1)
Management & Operating Contract (M&O) Contractor	A Contracting Organization responsible for executing for a government site or grouping of facilities functions such as construction, repairs, physical plant operations, maintenance, equipment and systems stewardship, project and activity management, program and service personnel management, decommissioning, and waste management. (1)
Management Reserve (MR)	2. Management Reserve is an amount of the total contract budget withheld for management control purposes by the contractor for unexpected growth within the currently authorized work scope, rate changes, risk and opportunity handling, and other project unknowns. It is held outside the Performance Measurement Baseline but within the Contract Budget Base unless there is an OTB. (1)
Near Critical Path	The second, third, fourth, (etc.) longest sequence of tasks from time now to the project end date. (3) (NDIA IPMD PASEG v3)
Not to Exceed (NTE)	When the contracting officer formally authorizes the contractor to proceed with not yet negotiated work, a not-to-exceed (NTE) value is often established. The NTE is strictly a funding limit, and a contractor is required to observe the limit as the not yet negotiated work is underway. The full estimate associated with the authorized but not yet negotiated work is reflected as AUW. The budget for the work associated with the NTE may be distributed to control accounts, but the remainder must reside in UB until negotiations are complete and the contract modification is issued. (1) (See AUW in source 1)

Office of Project Management (PM)	DOE organization defined responsibilities in Order 413.3B, one of which is EVMS compliance. (1)
Organizational Breakdown Structure (OBS)	A tool that can be used by the project management team and/or project management team leader in a hierarchal manner for the purposes of conducting and creating a thorough and clearly delineated depiction of the project organization for the purposes of the identification of responsibility within the project. The CAM is typically the lowest level of the OBS. The OBS should be established at the onset of the project to help in the purposes of organization; however, it is possible to conduct this in an ongoing basis. (1)
Other Direct Costs (ODC)	An ODC is a cost that can be identified specifically with a final cost objective that the contractor does not treat as a direct material cost or a direct labor cost. There are several additional direct costs that can be proposed by the contractor. These additional costs include: • Special tooling, test equipment; • Computer services; • Consulting services; and • Travel. • Federal excise taxes; • Royalties; • Preservation, packaging, and packing costs; and • Preproduction costs. (1)
Overhead	1. Indirect costs other than those related to general and administrative expense and selling expenses. (FAR 31.203(b)) 2. A general term often used to identify any indirect cost. (1)
Over Target Baseline (OTB)	A project management tool that may be implemented when the cost overrun to the CBB or PBB is formally incorporated into the PMB for management purposes. An OTB is implemented to regain an executable baseline for performance measurement; there is no change to the contract requirements or schedule. The CBB/PBB does not change when an OTB is implemented. An OTB allows contractor PMs to retain visibility into the original CBB while measuring performance when a contract experiences an overrun. In an overrun condition, the revised TAB is equal to the sum of the CBB/PBB and the recognized overrun. (Note: Contractor OTBs required DOE approval.) (1)

Over Target Schedule (OTS)	A condition where the baseline schedule is time-phased beyond the contract's project completion date. While an OTS may be implemented without adding additional budget, normally an OTS also results in an OTB. (1)
P6	Abbreviation for Primavera software schedule tool. (3) (www.oracle.com)
Performance Measurement Baseline (PMB)	A time-phased resourced plan against which the accomplishment of authorized work can be measured. (1)
Performance Work Statement (PWS)	A statement of work for performance-based acquisitions that describes the required results in clear, specific and objective terms with measurable outcomes. (3) (Derived from FAR Subpart 37.6)
Planning Package (PP)	A segmented portion of discrete program scope within a Control Account that is not yet broken down into work packages but is logically linked in the IMS - performance cannot be taken against a Planning Package. (3) (NDIA IPMD PASEG v3)
Program Evaluation and Analysis Technique (PERT-Cost)	An earned value technique calculating Budgeted Cost for Work Performed (BCWP) by comparing the Actual Cost of Work Performed (ACWP) of received material to the expected total cost for that material (Estimate at Complete (EAC)) and applying the resulting percentage to the originally budgeted value for the material (Budget at Complete (BAC)), BCWP = (ACWP/EAC) x BAC. (2)
Project Budget Base (PBB)	This sum represents the cost of authorized contractor scope for a project. This differs from CBB as CBB represents a one to one relationship of contract to project. PBB is more common in DOE where there may be a one to many, contract to projects relationship and reporting is required at the project level. PBB = PMB + MR (3) Derived based on DOE project reporting structure.
Project Execution Plan (PEP)	DOE′s primary document for management of a project. It establishes the policies and procedures to be followed in order to manage and control project planning, initiation, definition, execution, and transition/closeout, and uses the outcomes and outputs from all project planning processes, integrating them into a formally approved document. A PEP includes an accurate reflection of how the project is to be accomplished, resource requirements, technical considerations, risk management, configuration management, and roles and responsibilities. (1)

Project Manager (PM)	The person assigned by the performing organization to achieve the project objectives. (1)
Project Performance and Reporting System (PARS)	A reporting process to connect field project status with headquarters to report and compare budgeted or scheduled project forecasts. (1)
Quantifiable Backup Data (QBD)	This is also sometimes referred to as "Predetermined Rationale" or "Rules of Performance", and essentially requires the establishment of lower level milestones, activities, or steps to determine the percent complete. These steps are established and weighted prior to beginning the effort. (1)
Responsibility Assignment Matrix (RAM)	A chart showing the relationship between the Contract Work Breakdown Structure elements and the organizations assigned responsibility for ensuring their accomplishment. The RAM depicts the assignment of each control account to a single manager. When resource values are applied to these relationships, it may be referred to as a dollarized RAM. (2)
Schedule Margin (SM)	An optional technique used for insight and management of schedule risks. A SM task is an un-resourced activity that is the Program Manager's assessment of the amount of schedule risk to a subsequent significant event. (3) (NDIA IPMD PASEG v3)
Schedule Visibility Task (SVT)	Tasks, activities or milestones in the Integrated Master Schedule (IMS) that increase management visibility and functionality of the schedule for non-Performance Measurement Baseline related items. SVTs are included in the IMS to characterize potential impacts to the logic-driven network. (2)
Self-Governance	An agreement with an EVMS certified contractor and the government, implemented by the contractor for a visible, structured, and management endorsed process to minimize the requirement for government oversight while ensuring contractual requirements are met in the provision of timely, accurate, reliable and auditable information available for informed contract and project management decision making. This approach is intended to engender a more transparent and collaborative environment. (3) Appendix D, Self-Governance Review Checklist.

Start-to-Finish (SF)	A logical relationship used in the IMS network that establishes the following rule between two activities: the succeeding task cannot finish until a preceding task starts (rarely used). (3) NDIA IPMD PASEG v3)
Start-to-Start (SS)	A logical relationship used in the IMS network that establishes the following rule between two activities: the succeeding task cannot start until a preceding task starts. (3) (NDIA IPMD PASEG v3)
Statement of Work (SOW)	A narrative description of contracted products or services. (1)
Subcontractor (Major/Minor)	Major subcontractors are those responsible for reporting the appropriate cost and schedule data to prime contractor to enable the prime to conduct cost and schedule data and management within the prime's EIA-748 compliant EVMS. For minor subcontractors, the project is expected to generate this information based on information gathered by the assigned subcontract manager or CAM. (3) (Derived from NDIA IPMD EVMS Scalability Guide, 11-22-16)
Summary Level Planning Package (SLPP)	An aggregation of work for far-term efforts which can be assigned to reporting level WBS elements but not to the control account level and are therefore not "undistributed budget". (1)
Total Allocated Budget (TAB)	The sum of all budgets allocated to the contract for the project. The TAB is equal to the Contract Budget Base/Project Budget Base (Performance Measurement Baseline plus Management Reserve) unless an over target baseline (OTB) has been implemented. After an OTB, the revised TAB=CBB/PBB + the over target budget. (1)
Total Project Costs (TPC)	All costs between CD-0 and CD-4 specific to a project incurred through the startup of a facility, but prior to the operation of the facility. Applicable costs to achieve CD-0 may also be included. Thus, TPC includes the total estimated cost and fee for all contracts included in the project and may include Government prime contracts for external independent review, technical support services, and other prime Government contracts for components of the projects. TPC is the summation of TEC plus OPC, as well as the summation of the PMB + MR + contingency + profit/fee + other DOE costs. (1)
Undistributed Budget (UB)	A temporary holding account for authorized scope of work and its budget that has not been assigned to a control account or summary level planning package or for scope coming off of a contract. This is a part of the PMB and is contractor controlled. (1)

Variance Analysis Reports (VAR)	A document that includes specific information about the cause, impact, and corrective action "provides management with early insight into the extent of problems and allows corrective actions to be implemented in time to affect the future course of the program". (3)(https://blog.humphreys-assoc.com/evms-variance-analysis-reports/)
Variance at Complete (VAC)	The difference between the budget at completion and the estimate at completion is VAC = BAC - EAC. (Source: DOE Guide 413.3-10A DOE EVM Gold Card). It may be calculated at any level from the control account up to the total contract. It represents the amount of expected overrun (negative VAC) or underrun (positive VAC). (1)
Vertical Integration	Demonstrates the consistency of data between the various levels of schedules and consistency of data between various Work Breakdown Structure elements and/or Integrated Master Plan/Integrated Master Schedule elements (if applicable) within the schedules. (2)
Work Authorization Document (WAD)	A contractor's internal process for authorizing the commencement of program work. All work within a program is described in terms of work scope, budget and schedule and authorized through the work authorization system. (2)
Work Breakdown Structure (WBS)	Used by the project management team to organize and define a project into manageable objectives and create a blueprint by which the steps leading to the completion of a project are obtained. It is a product-oriented family tree composed of hardware, software, services, data and facilities and other project-unique tasks which serves as an outline of the project that becomes more detailed under the subheadings or WPs (1)
Work Breakdown Structure Dictionary	A two-part document containing: 1) a listing of all WBS elements, and 2) the defined scope of each element. Work that is included, as well as closely related work that is excluded is normally contained in the definition of each WBS element. With EVM the Dictionary may be extended to the Control Account Level or one level above. (1)
Work Package (WP)	A WP contains a task or set of tasks performed within a control account, and is the point at which work is planned, progress is measured, and earned value is computed. (1)
Sources	(1) DOE APM PM Glossary of Terms
	(2) DOD EVMS Interpretation Guide 2/1/2018
	(3) Others as specified

APPENDIX F: PM COMPLIANCE REVIEW DATA CALLS

The following is the complete data call for an EVMS Certification Review (CR) during Phase 3, Data Analysis, Step 11. For other types of reviews, the data call will be limited to specific areas at risk of non-compliances. In all types of reviews, including CRs, the data call for Phase 5, On-Site EVMS Preparation and Review, Step 11, will focus on data-related concerns observed during Phase 3.

CERTIFICATION REVIEW:
Three consecutive reporting periods of data will be specified in the data call. All requested and supporting data are to be provided in the native format as specified (e.g., .doc, .xls, .csv, .xer), unless otherwise indicated or specific relief is granted by PM. Cost and schedule data should align with the contractor's accounting months.

This data call lists all of the artifacts that will be reviewed in the certification process. Data may be provided to the PM points of contact through the PM MAX website, using the collaboration site established for that purpose, and using the item designations or coding in the data table. The project team personnel requiring access to the PM MAX collaboration site must provide their email addresses to the PM point of contact that will provide access to the collaboration site.

Except when post-CD-3 a replacement contractor takes over a project, the EVMS certification review examines data produced following the approved Performance Measurement Baseline (PMB). While some requested data in this data call will include data generated prior to CD-2/3 approval (e.g., CBB/PBB[1] logs, etc.), in general all monthly data and detailed PMB documentation, including related change documentation, work authorization, and Cost Performance Reports (CPRs) must be from the CD-2/3 approval documentation or post-CD-2/3 monthly data. Requests in the data call for three months of data (example B11) should correspond to the last three months of data reported.

[1] PBB represents the Project Budget Base where the CBB is the Contract Budget Base. Because DOE reports at the project level, the use of the term PBB is more accurate when there are multiple projects per contract.

Item	Data
1	Contractor PARS Flat Files. Please provide applicable data in the 7 flat file tabs in **RED** and labelled as WBS, OBS, COST, SCHEDULE, LOGIC, RESOURCES, and IPMR as specified in the DOE PARS Flat File Format dated February 8, 2018 (***PARS Flat File Format – v1_1 20180208.xlsx*** ) To view the PARS Flat File Format file, download the ECRSOP and open it in a pdf viewer, e.g. Adobe. Click on the paperclip next to the filename above. The other 14 flat file tabs may be future options that would replace many artifacts in section B. Time-phased data is to be provided for the three reporting months requested; each time phased file requested shall contain the complete time phasing for the object (CA, WP, PP, SLPP). For example: Assuming a 30-month project with months 11, 12, and 13 being the three requested reporting months Month 11 reporting period snapshot – contains BCWS/ETC for months 1-30 and BCWP/ACWP for 11 months Month 12 reporting period snapshot – contains BCWS/ETC for months 1-30 and BCWP/ACWP for 12 months Month 13 reporting period snapshot – contains BCWS/ETC for months 1-30 and BCWP/ACWP for 13 months The flat files are from the contractor's schedule and cost processors. The specific files are Work Breakdown Structure, Cost, Schedule, Schedule Logic, Schedule Resource, Organizational Breakdown Structure, and IPMR/CPR Header from the previous PARS flat file formats.
2	Please provide a report from the cost tool with total project BCWS, BCWP, ACWP, BAC, EAC by period for verification of the flat files in number 1.
3	Baseline and forecast IMS *.xer formats for the periods specified. If three months are requested, then there are six individual *.xer submissions per project. Please also include any other schedules such as field level, daily, plan of the month etc. The file format for these subsidiary schedules may vary.
4	Please provide a complete data dictionary for both schedule and cost (items 1 and 3) exports. Key requirements for these data dictionaries include: 1) Every data field in the schedule and cost tool must be explained. If a field is not meaningful, then please state "no meaning". 2) For data fields with complex coding structures, define the meaning of digits within the structure. For example, a WP ID field may reference the first 3 digits as the CA, the second three digits as the OBS, and the third digits as the WP. In this example, each of the three-digit fields within the single structure should be defined. Please also include descriptions for any codes that are used to identify

	LOE EVT, SVTs, Schedule Margin, WBS, and OBS as applicable, and instructions regarding how to extract data using these codes for use in determining schedule analysis integrity. Without this identification the onsite portion of the review may be unnecessarily extended due to false flags observed in the analysis results. 3) Please explain the process of importing and integrating the schedule into the cost tool. Explain specifically how each is mapped to each other, which data fields in the schedule are mapped to which fields in the cost tool, and the definitions in each and whether they are the same. 4) Please explain any enterprise level codes used, as these do not automatically load from an *.XER import. 5) Please provide any notes that would facilitate the review team's understanding of the flat file submission and the data analysis.

Section B

ITEM #	DOCUMENTATION
B1	Accounting Calendar from [enter date] through the life of the project
B2	Accounting System Reconciliation with IPMR/CPR reported ACWP at total project level for the three months of reporting, including estimated actuals, if any
B3	Apportioned Effort EVT justification with documentation of time phased relations to base activity (if applicable).
B4*	Baseline Change Requests/control for MR and BCP implementations for last 12 months This includes contract and project level modifications affecting project CBB/PBB. This should reconcile with B6.
B5	Comprehensive EAC – Date of last update
B6*	Contract/Project Budget Base Log from beginning of the project through the current month*
B7	Contract Line Items identified in the contract, if any (non-M&O)
B8	Contractor Internal EVMS Surveillance Reports for the past year (past two years if done annually only)
B9	Corrective Action Logs for three months
B10	IPMR/CPRs at the Control Account Level for three months *in Excel or .csv (Formats 1-5 – note if any formats not required by contract)*
B11	Estimated actuals if any for last 3 months
B12	EVM System Description (latest version), policies and procedures that demonstrate EIA-748 consistency, including the mapping of the processes to the 32 EVMS guidelines.
B13	HDV material identification (total) and related purchase orders for last six months
B14	LOE EVT scope if not contained in the WBS dictionary for open LOE in the review period.

B15	Organization Charts (include location of subcontractors) Include total project and functions with identification at least to one level below the CAM.
B16	Project Execution Plan (PEPs), and Project Datasheet for each project being reviewed (note if already in PARS)
B17	Quantifiable backup data (QBD) basis of measurement to support percent completion earned value technique claimed for past 3 months, where applicable.
B18	Reports for the reporting period at the total and CA levels that provide at least CV, SV, CPI, SPI, TCPI
B19*	Responsibility Assignment Matrix (RAM) in Excel or .csv *(For each control account, please provide the $ value, % complete, and the % of work that is LOE) **
B20	Subcontractor Listing and where tracked within the WBS, as applicable.
B21*	Subcontractor Control Account Plans, if applicable*
B22*	Subcontractor EAC Procedures and Supporting Documentation, if applicable*
B23*	Subcontractor Project Schedule if applicable*
B24*	Subcontractor Scope of Work, if applicable*
B25*	Subcontractor Variance Analysis as applicable for the reporting period
B26*	Subcontractor Fee – Please specify how this is tracked in the prime cost tool.
B27	Technical Percent Complete if not a field within the schedule file
B28	Time phased ETC spread at control account level
B29	Variance Analysis Reports at the Control Account level for 3 months, for CAs that were reportable for the month
B30	Variance Analysis Correction Action Log
B31*	WBS Dictionary*
B32	Work Authorization Documentation for three months
B33	Work package exit criteria for the current and baseline schedules (if not in schedule)
B34	Current rates for the applicable direct and indirect pools. This needs to be available on-site.
B35	Current Risk Management Plan with Risk Log

*Clarification to the list above

1) Item #B4 – Includes the approval documentation for time-phased baseline changes at the CA level.
2) Item #B6 - There is no requirement for separate logs, or concern with multiple logs. The intent is to see changes to CBB/PBB, MR, and UB by month for the project duration.
3) Item #B19 - RAM (Responsibility Assignment Matrix) is a document/file that is used to display where the control accounts are defined. It lists the WBS on one axis and the OBS on another, showing intersections where control accounts are defined, and it

includes the dollar value of each control account. This is also sometimes referred to as a "Dollarized RAM".

4) Items #B21-B26 apply to subcontractors with EIA-748 flow down requirements.
5) Item #B31 - The WBS dictionary is where the list of WBS elements and the scope of each WBS element is typically documented. If not applicable, please include a note and omit.

ACCOUNTING DOCUMENT LIST:

The following accounting documents are requested in addition to the documents described in the table above.

1) Accounting Handbook (Procedures/Manuals/Desktop Guides) – Documents that describe how the accounting system works; how direct costs are captured; how & when accruals are processed; end of month (EOM) accounting procedures; policy for processing accounting changes, whether there are different categories of changes and whether (and under what conditions) retroactive changes are allowed.
2) The most recent Cost Accounting Standards Board (CASB) disclosure statement and the Defense Contract Audit Agency (DCAA) (or DOE) and CO approval letters.
3) Material and accounting approvals
4) Reports from timecard reviews with DOE participation for last 12 months.
5) Documentation (meeting minutes, emails, correspondence) regarding monthly recurring rate reviews with senior leadership and DOE.
6) Documentation of monthly and annual reviews of indirect charges as compared with the budget for alignment. This is for the current and prior FY periods.
7) Documentation of monthly variance analysis at the rate pool level. This is for the current and prior FY periods.
8) Documentation of actions taken to mitigate the variances or notification to the projects of rate impacts. This is for the current and prior FY periods.
9) Policies and procedures on indirect rates and copies of monthly indirect rate analysis or reports. Who in the organization is responsible for managing indirect costs and performs the analysis? How is the monthly and/or end of year (EOY) true up performed?
10) Labor and timekeeping policy/procedural manuals. (i.e., how and when do employees record time? What is policy regarding recording of overtime hours? Which employees (exempt/non-exempt) are eligible to be paid for overtime?)
11) Material Accounting Procedures and/or Desktop Guides. Specifically, how are material acquisitions planned and scheduled, when is performance taken, and when are costs claimed? What are the procedures for accounting for residual inventory?
12) Subcontract Procedures (as they pertain to accounting issues). Specifically, how are subcontract direct costs captured; how and when are accruals used; how & when is performance taken?
13) Accounting & Project Controls organization charts reflecting responsibilities/duties.
14) Results of any DCAA audits (or DOE audit results if DCAA does not perform audits).

On the first day of the review, also please have the following documents/records available to discuss with the EVMS accounting team:

1) Records for the performance of data traces of the following: Labor (direct & indirect) charges, material charges, subcontractor charges. Show from origination/requisition to final payment posted in accounting system and then reflected in EOM EVM reports.
2) Accounting corrections report/log for last 3 months.
3) Overtime report for last 3 pay periods showing exempt employees and how many charge codes were used.