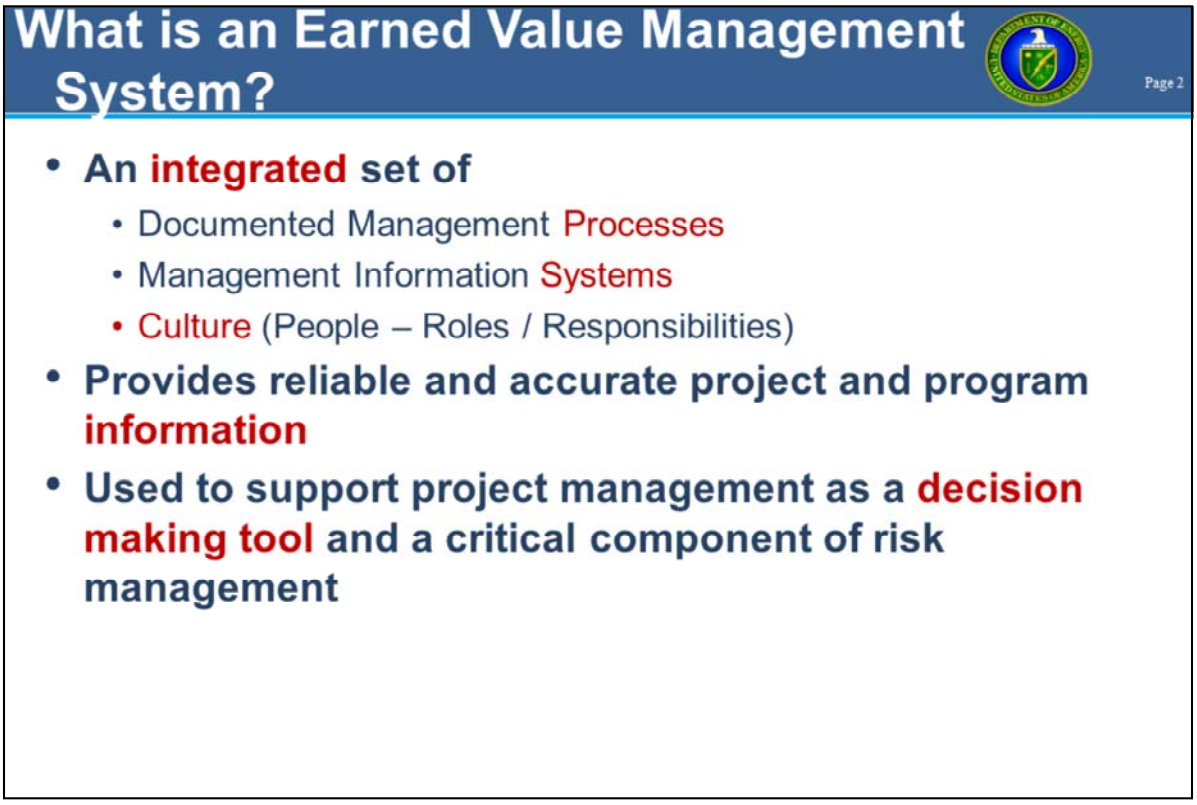
This EVMS Training Snippet, sponsored by the Office of Acquisition and Project Management (OAPM), covers the DOE Earned Value Management Systems Certification process.



An EVMS is also comprised of Management Information Systems. Some software system examples include scheduling applications such as MS Project, Primavera, and Open Plan; cost processing programs such as Micro-Frame Program Manager, Cobra, and Cost View; Accounting systems such as PeopleSoft; and performance reporting such as the Project Management Reporting System.

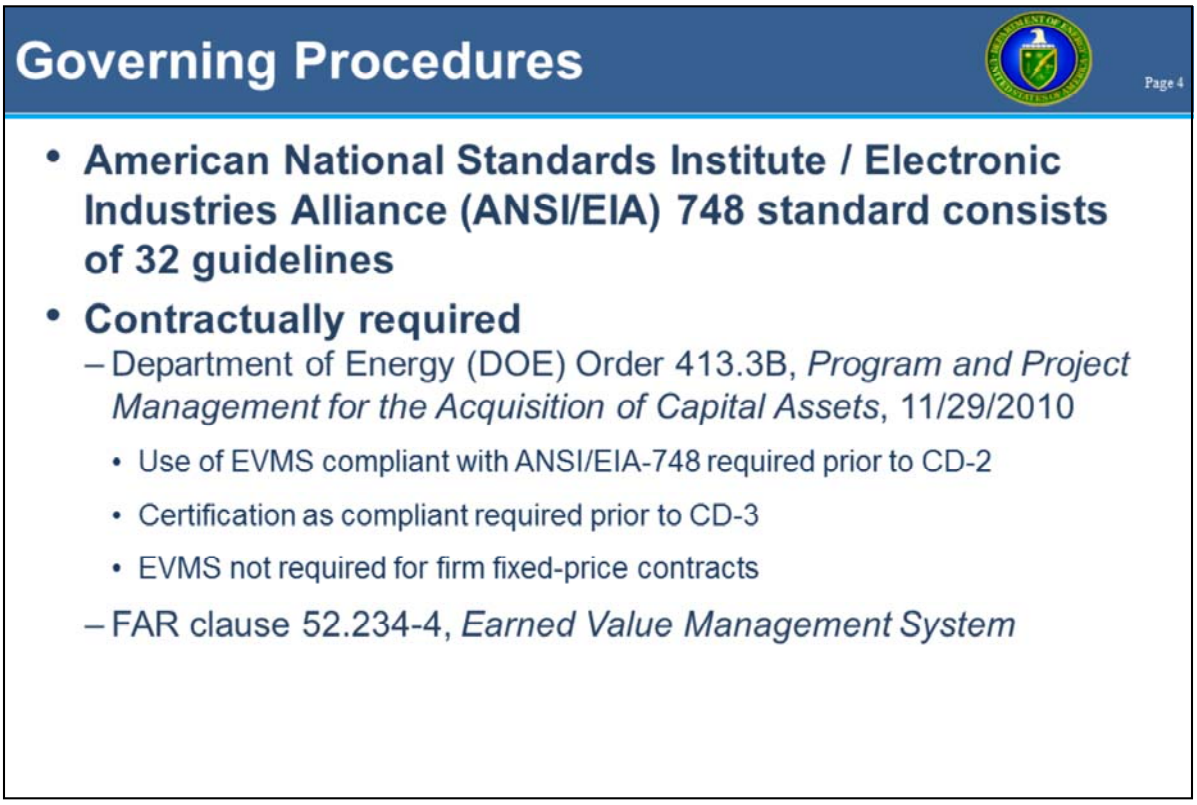
And lastly, an essential part of the EVMS is the company culture and people. By that we mean the various roles and responsibilities of project personnel and their importance in the EVMS process. Some of the project personnel include Program/Project Managers, Control Account Managers (CAMs), Integrated Project Teams (IPTs) and their leaders, Functional Managers, Program Control Analysts and Schedulers.

The EVMS effectively integrates the project scope of work with the schedule, cost and performance elements for optimum project planning and control. The EVMS must provide reliable and accurate project information which is used to support project management not just a performance management tool but also as a decision making tool.

Types of EVMS Reviews

- **Pre-Certification**
  - Certification Review
- **Post Certification**
  - Surveillance
  - Implementation
  - Review for Cause

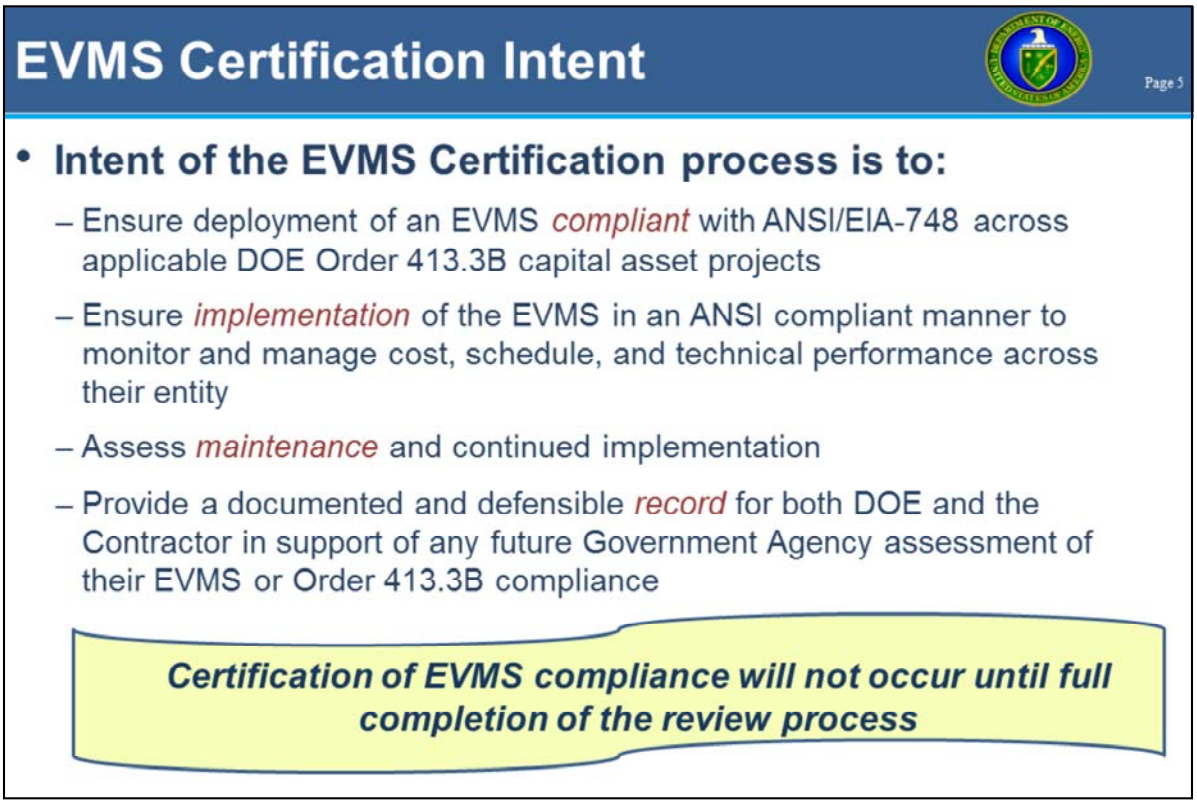
There are four types of EVMS compliance reviews conducted by the OAPM. A Pre-Certification review is the Certification Review which is the focus of this Snippet. Post Certification Reviews include Surveillance, Implementation, and Review for Cause, which are addressed in separate snippets.



The American National Standards Institute/Electronic Industries Alliance, ANSI/EIA-748, consists of 32 guidelines for an Earned Value Management System.

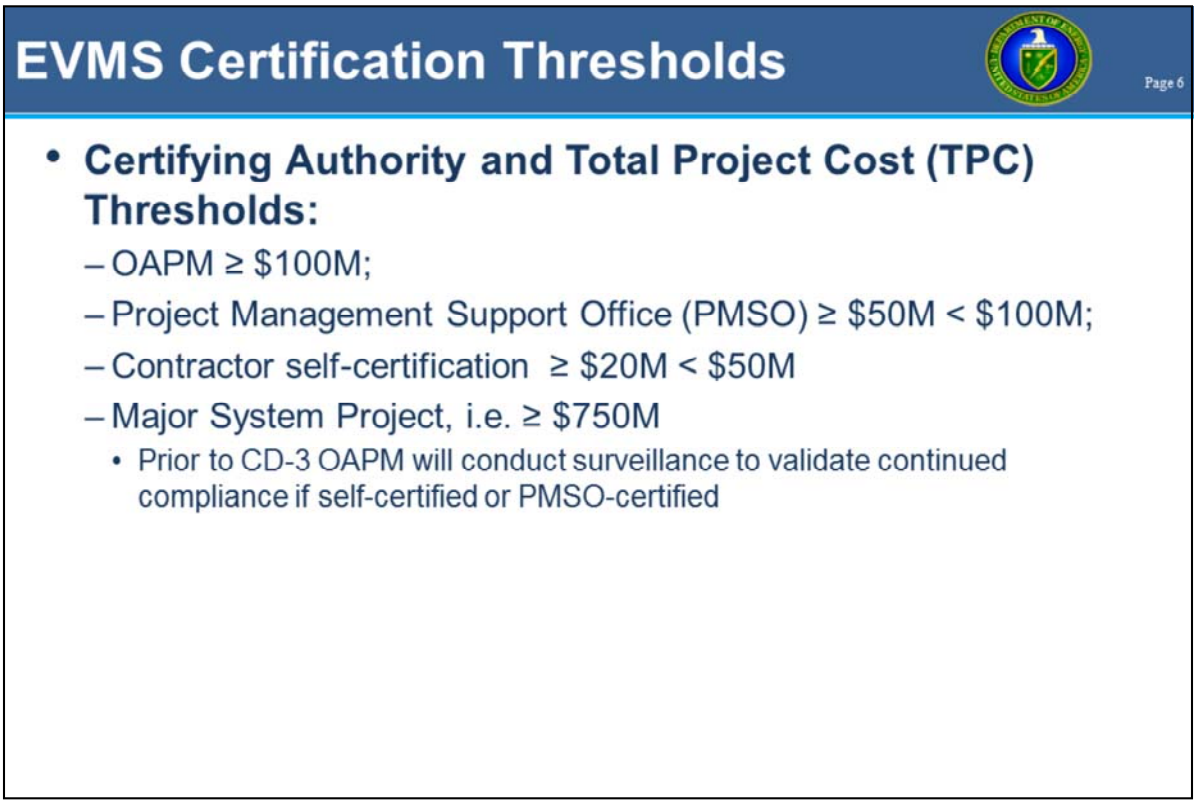
Requirements for certification and surveillance of a contractor's EVMS are contained in DOE Order 413.3B. Certification and surveillance requirements are also in Federal Acquisition Regulation clause 52.234-4. Either one or both form the contractual basis.

DOE Order 413.3B requires, except for firm fixed-price contracts, that contractors employ an ANSI/EIA-748 compliant EVMS prior to critical design (CD) 2 for projects with a TPC greater than or equal to $20M. If not previously certified, the contractor's EVMS is required to be certified as compliant prior to CD-3. Therefore, efforts need to be made to plan and execute the certification process on a schedule that can meet this requirement.



The Certification review process is designed to ensure the contractor's system is compliant with ANSI/EIA-748 and the requirements of DOE Order 413.3B. The system must be implemented in a manner such that all EVMS-applicable projects are compliant with the requirements and provide accurate and reliable data for management of cost, schedule, and technical performance. The review process also is used to assess the contractor's maintenance of the EVM system. Lastly, documentation is a necessity to ensure a defensible record is kept for not only DOE and the contractor, but also should either be subject to an outside government audit. Another reason for maintaining a record is to support acceptance of the contractor's system by another Federal Agency under other contractual circumstances.

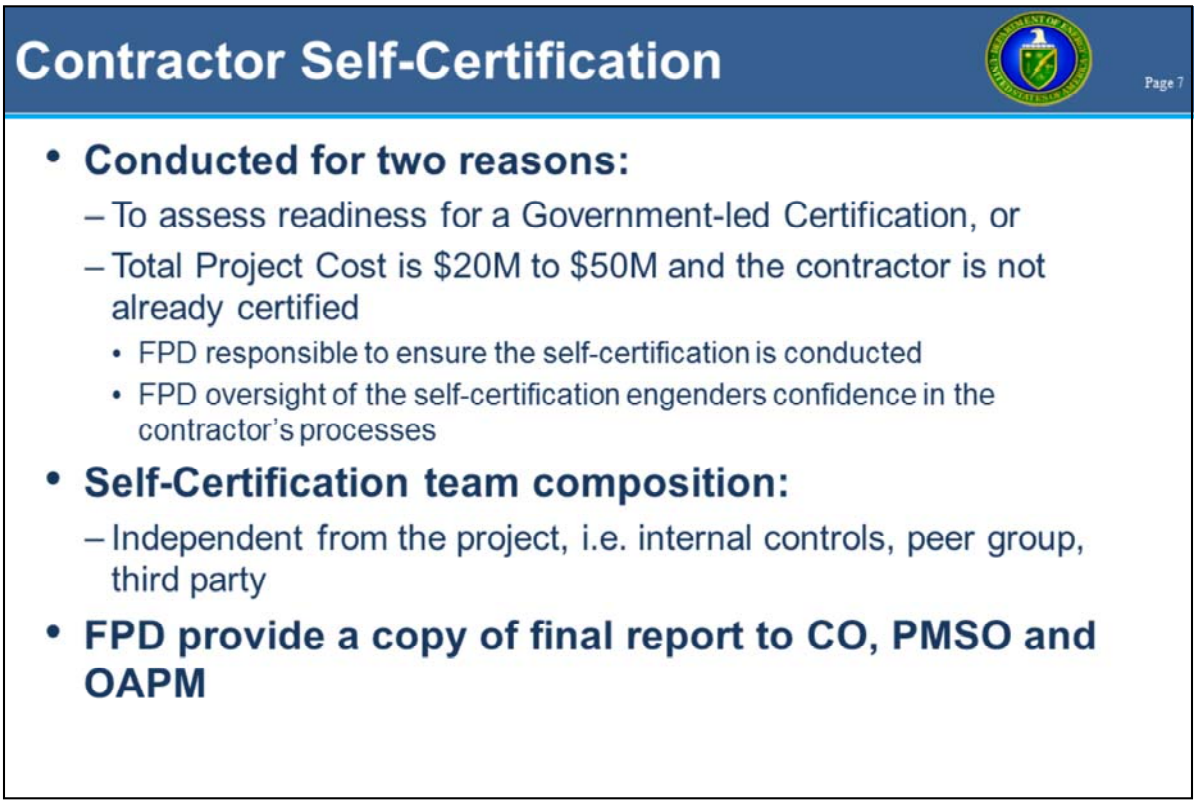
Certification is not intended to verify how well projects or programs are performing, but to assess the capability of the system to provide an objective measure of progress, and the effective use of the system for making management decisions. Project data are simply means of demonstrating EVMS compliance. Elements of the EVMS (that is, the design as reflected by policies, procedures, and processes; and the implementation as reflected by reports and other documents) are evaluated individually and as a whole to ensure that they meet the intent of ANSI/EIA-748.



As defined in DOE Order 413.3B, Certifying Authority responsibility is based on Total Project Cost. A contractor with a project equal to or greater than $100M is certified by OAPM. A contractor with a project having a TPC equal to or greater than $50M but less than $100M is certified by the Project Management Support Office. A contractor may self-certify if the TPC of the project is equal to or greater than $20M but less than $50M.

However, should the initial certification be conducted by a lower level certifying authority and a project is later awarded in a higher threshold, the applicable certifying authority may conduct a review to ensure compliance. For example, let's say the initial certification was for a project with a TPC between $20M - $50M, and the certification was conducted via contractor self-certification. Later the contractor is awarded a project with a $200M TPC. OAPM may then conduct a review of the contractor's EVMS.

When a contractor is awarded a Major System Project, defined as those with a TPC equal to or greater than $750M, an OAPM review is mandatory if prior certification was conducted by self-certification or the PMSO.

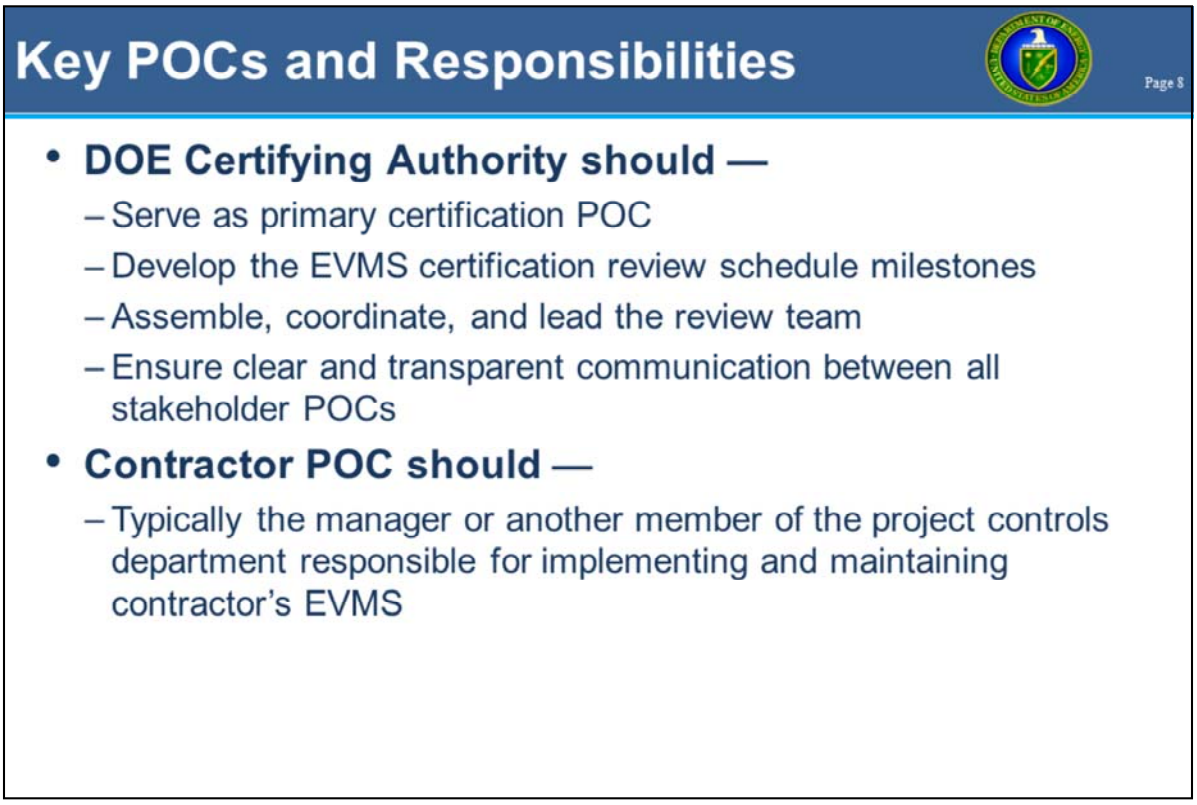


A Self-Certification Review is a process whereby the contractor conducts a self-assessment either (1) in assessing readiness for a Government-led certification, or (2) when all the capital asset projects include only TPCs between $20M and $50M and the contractor is not already certified.

The FPD is responsible, as stated in DOE Order 413.3B, to ensure that the self-certification is conducted. A best practice is for the DOE FPD's office to participate as a team member on the contractor's team. At a minimum, the FPD needs to provide adequate oversight to understand the review methods used by the contractor to ensure a valid assessment is conducted. The FPD or contractor may request PMSO or OAPM assistance.

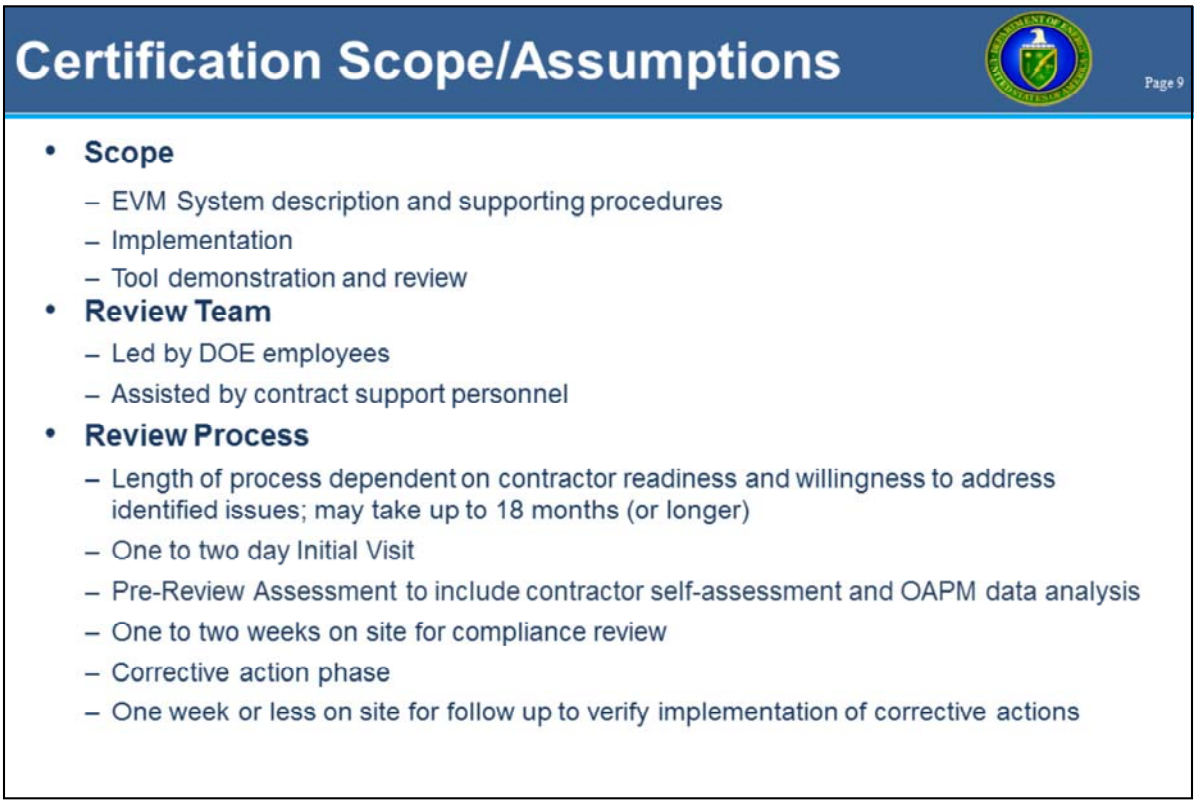
In addition to providing the standard and basis by which an EVMS is to be certified, ANSI/EIA-748 section 5.1 suggests that the self-certification be conducted by one or more of the following:

(1) Contractor's internal resources independent of the project team,
(2) A peer group from the contractor's internal resources and/or other organizations,
(3) An outside organization to assist with evaluation.
Once a self-evaluation or self-certification is completed, the FPD should formally notify OAPM and the PMSO. OAPM maintains the official record of certification status in PARS II.



Key responsibilities for the DOE Certifying Authority include serving as the primary certification point of contact; development of the EVMS certification review schedule milestones by working with the contractor, the FPD site office, the PMSO, and the OAPM, as applicable; assembly of the team, contractor data and other elements as required; coordination, and leading the review team; and ensuring clear and transparent communication between all stakeholder points of contact relative to the certification review.

The Contractor POC may be the manager or another member of the project controls department, who is assigned responsibility for implementing and maintaining EVMS in accordance with the contract requirements.



Before proceeding into the steps defined for the Certification review, the basic scope and assumptions warrant discussion. The scope of a certification review includes assessment of all 32 guidelines to determine compliance. The scope of the review includes a thorough review of the EVM system description and supporting procedures, an evaluation of implementation of the procedures on the project, and a demonstration of how the cost and schedule tools used by the contractor meet the intent of the guidelines.

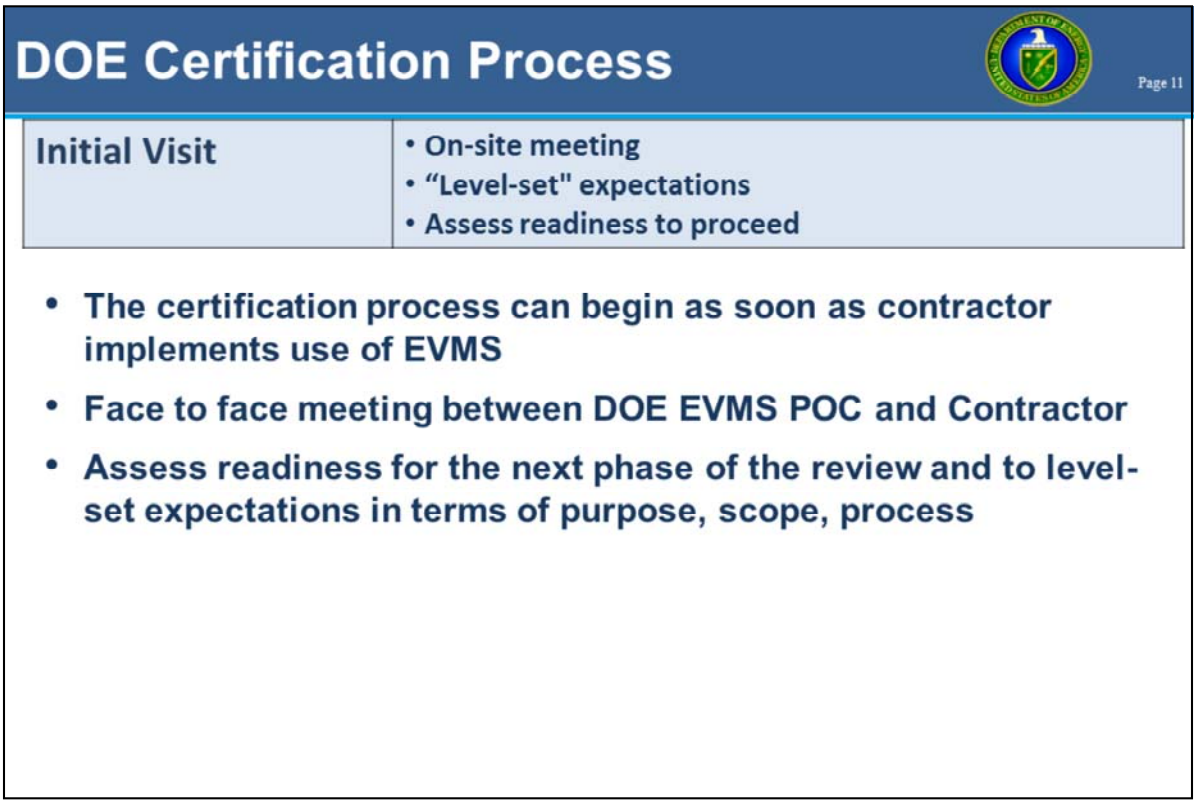
In a certification review, the focus is to assess compliance. Therefore, it is the responsibility of the contractor to demonstrate compliance to all guidelines with objective evidence.

The Compliance Review Team is led by DOE employees, assisted by contract support personnel. The length of the process is dependent on the contractor readiness and willingness to promptly and properly address issues identified during the various stages. While there is a possibility it could be done in less time, it may take up to 18 months or longer to make it through these process stages, again dependent on contractor readiness and willingness to promptly address issues. This timeline includes a one to two day Initial Visit, time for a pre-review assessment stage which includes both contractor self-assessments and the OAPM data analysis, a one to two week on site compliance review, followed by a week or less on site follow up review to close Corrective Action Requests by verifying implementation of corrective actions.

DOE Certification Process

Initial Visit	• On-site meeting • "Level-set" expectations • Assess readiness to proceed
Pre-Review Assessment	• Contractor self-assessments and OAPM data analysis • Assess policy/procedures, i.e. System Description • Review and analyze available data
On-Site EVMS Review	• CAM and Managerial Interviews • Conduct Data Traces
Follow Up Review	• Review CAP Evidence Submittal • Assess CAP Implementation
Certification	• Final Report • Certification Letter from Contracting Officer
Surveillance	• Follows Certification • Contractor conducts annual surveillance • Certifying Authority conducts on-going, data driven, risk based surveillance (OAPM SOP)

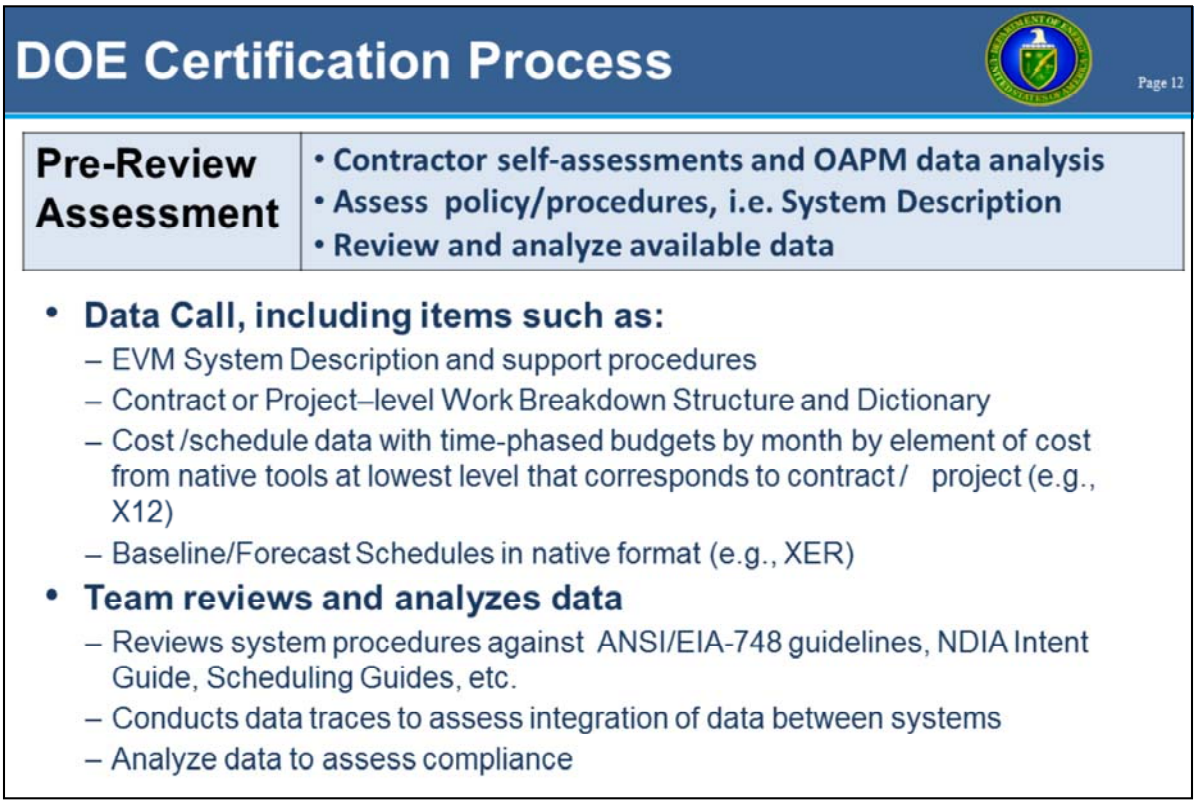
This slide outlines the steps of a typical certification review. This approach is common throughout the Department of Defense and other Civilian Federal Agencies. Each of these process steps will be discussed in more detail on the following slides.



The first stage of the Certification process is the Initial Visit. The Initial Visit is an on-site meeting of one to two days between the DOE EVMS Certifying Authority POC and the contractor to ensure that the contractor is ready for an EVMS certification review.

The Initial Visit consists primarily of discussions of the general scope of the projects for which a review of the EVMS is conducted; the purpose, scope, and requirements of the certification review process; DOE expectations for the Pre-Review Assessment stage including contractor self-assessment and data required for OAPM data analysis; the on-site review process including required documents, interview schedule, timeframe for the on-site review, and all administrative support needed to conduct a quality review; and comments regarding certification review documentation provided by the contractor.

Based on the outcome of the Initial visit, there may one or more follow on visits prior to the actual Certification Review.



The next phase of the Certification process is the pre-review assessment. At this point the DOE Certifying Authority and the Contractor have agreed on a schedule for the on-site review. In order for the DOE Certification Team to adequately prepare for the review and minimize time on site, the DOE submits a data call for items to be submitted by the contractor and analyzed by the team prior to the on-site review.

Types of data requested from the contractor include EVM System policies, often referred to as the EVM System Description, as well as supporting procedures and a mapping of the processes to the 32 EVMS guidelines, a Dollarized Responsibility Assignment Matrix, Organization Charts, Contract (or project-level as appropriate) Work Breakdown Structure (CWBS) and Dictionary. Cost and schedule data with time-phased budgets, by month, by element of cost, from the native tools will be requested at the lowest level that corresponds to the contract or project, for example an X12 file. Baseline and forecast schedule will also be requested in the native format, for example a dot XER file.

This list is not all inclusive. For a complete list, refer to the OAPM templates available from the OAPM or from the OAPM EVMS home page (the address is noted on the last slide in this snippet).

The review team reviews the procedures against the ANSI/EIA-748 guidelines, the NDIA Intent Guide, Scheduling guides, the EVM Implementation Guide (EVMIG), the Bowman Interpretive Guide, the DOD / DCMA interpretation guide and test steps, as well as other resources as needed. Data traces are conducted to assess system integration, and data is analyzed to assess compliance; that is, the data must be accurate, reliable and auditable.

The team will compare their results with the contractor's self-assessments and provide feedback to the contractor.

DOE Certification Process

Page 13

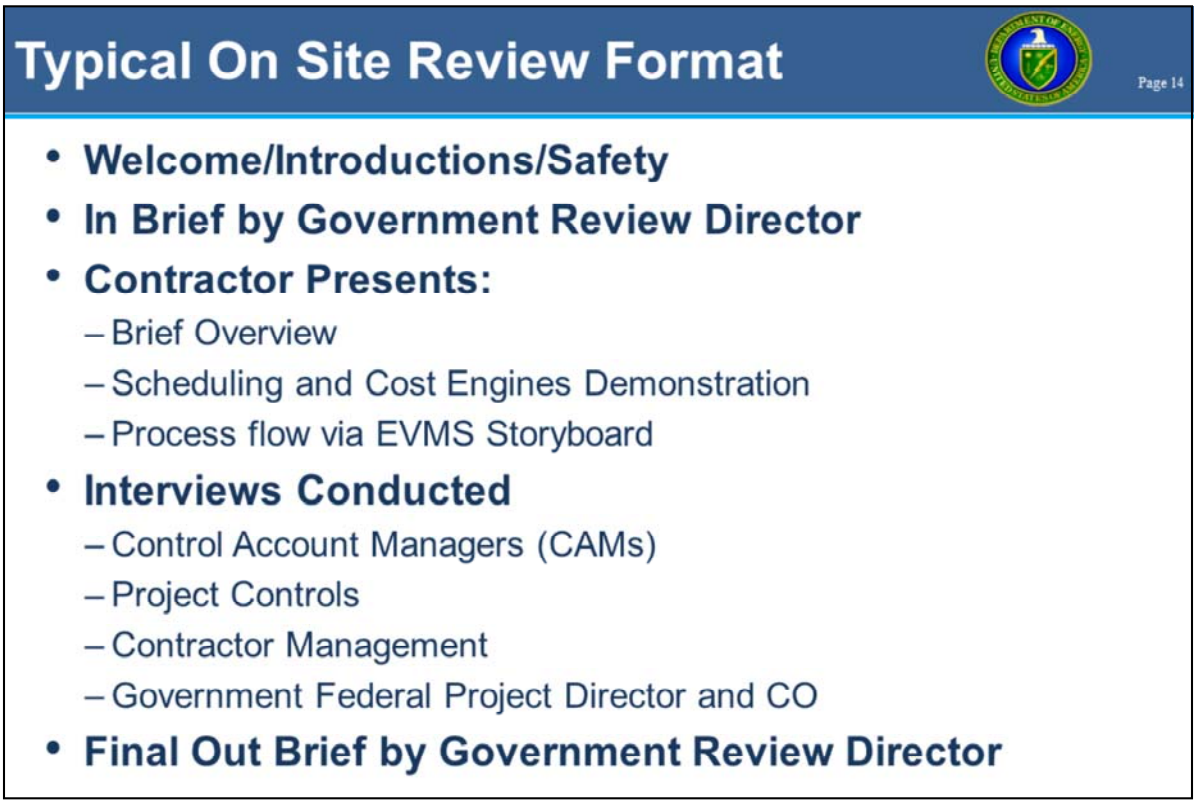
On-Site EVMS Review	• CAM and Managerial Interviews • Conduct Data Traces

- **Expectations:**
  - Team
    - Arrives on time
    - Well prepared
    - Professional
  - Contractor
    - Safety/security
    - Facilities
    - Responsive
    - Available

MUTUAL TRUST AND RESPECT

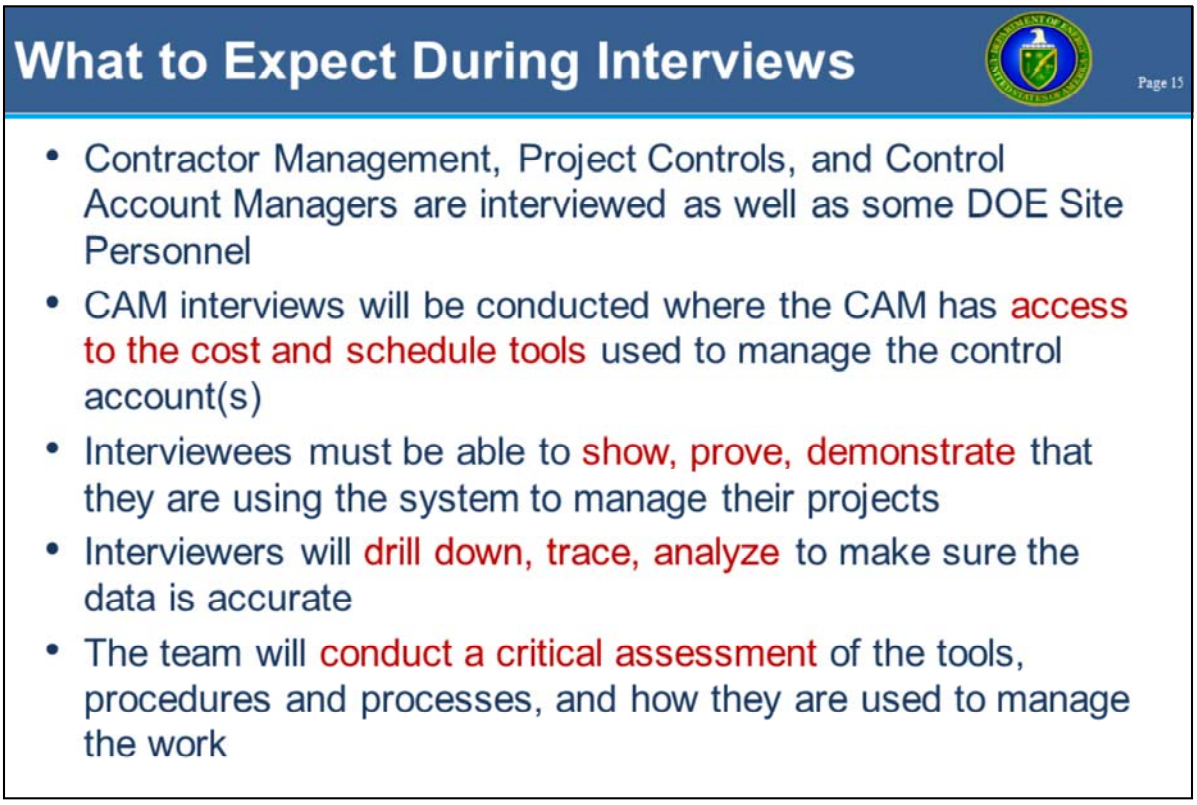
In order for the on-site review to go smoothly, there are expectations for both the team and the contractor. To allow the team to conduct its work efficiently with minimal disruption to the contractor, the team must be prompt, well prepared and ready to get started. The team should also be polite and professional at all times.

The contractor is expected to provide for the team's safety and security by ensuring the team is briefed, security procedures are handled in advance of arrival to the extent possible and facilities are provided to allow the team to operate comfortably with access to computers, printers and copiers, etc. The contractor must be responsive to requests for directions and any additional materials, and available for scheduled meetings and interviews. The team's mission can be conducted smoothly by working together with a positive spirit of cooperation, open and honest communication, and mutual trust and respect.



On the first day following the welcome, introductions, and safety briefing, the Government Review Director will provide a formal In brief explaining the purpose, intent, and scope of the review. The contractor then will provide a brief overview and a demonstration of its scheduling and cost engines. Typically a contractor will demonstrate how its EVMS system operates via the use of a storyboard. A storyboard is a graphic organizer in the form of sample EVMS objects displayed in sequence for the purpose of demonstrating system integration, process flows and relationships. Interviews will follow as previously scheduled by the Review Team.

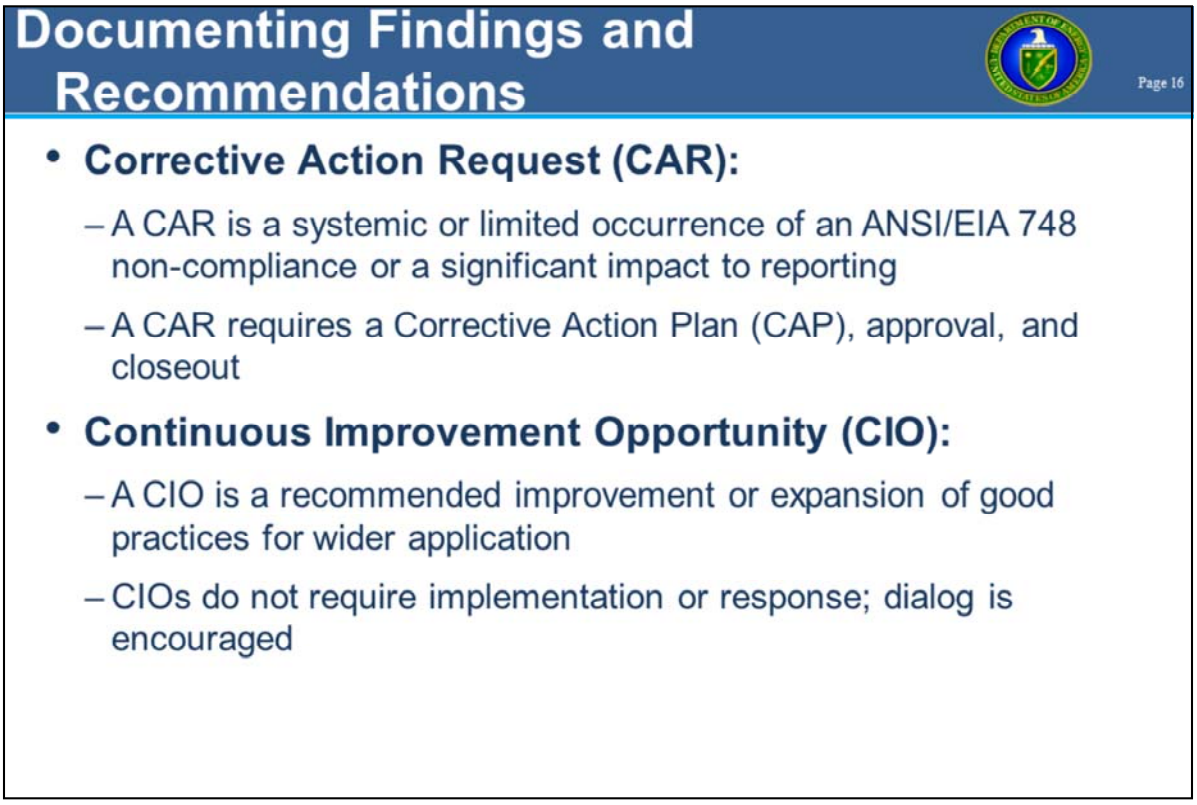
At the end of each day, the Review Team will notify the contractor regarding any additional needs (facilities support, data, etc.). At the conclusion of the Review, the Review Director will conduct a formal Out Brief.



The team conducts interviews during all on-site reviews, and may conduct some via conference call or VTC on desktop reviews. Interviewees include the contractor's management, Project Controls staff, and Control Account Managers (CAMs). Although the focus is on the contractor's compliance, DOE site personnel, such as the FPD and CO, may be interviewed as well to provide a more complete understanding.

The team's focus is to verify compliance. Therefore CAMs **must** have live access to the cost, schedule, and any other systems required to show, prove, and demonstrate compliance. It also allows the interviewers to drill down, trace, and analyze data. CAMs **must** have access to MS Power Point or MS Word to copy and save screen shots from these systems as requested by the review team for review documentation purposes.

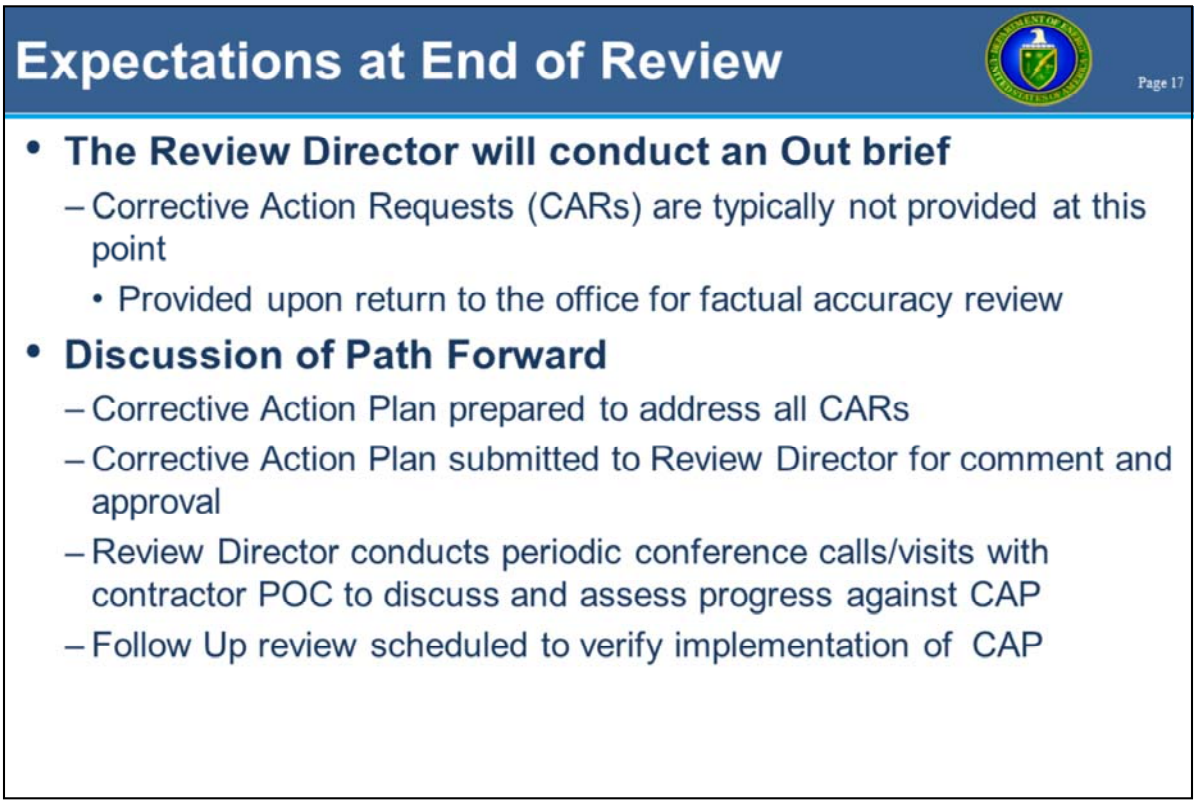
The team conducts a critical assessment of the tools, procedures, and processes, as well as how the interviewee has implemented the processes and demonstrated not just basic cost and schedule tracking, but management of the work using variances, trends, and projections.



Non-compliances identified during the Certification Review will be documented via a Corrective Action Request, also called a CAR. The purpose of a CAR is to formally notify the contractor of process or implementation deficiencies. All CARs require a documented course of action (that is, corrective action plan) prepared by the contractor, and approved by the Review Director.

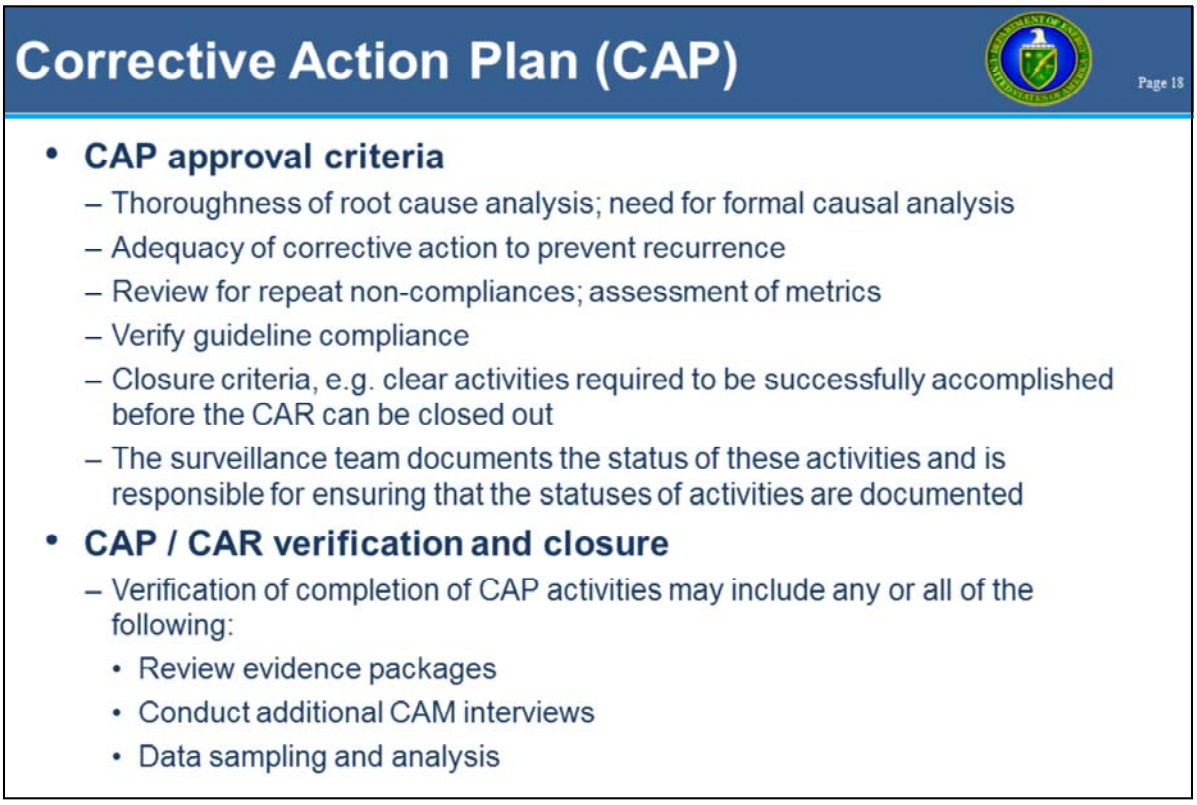
All CARs will be documented and tracked to closure. Verbal CARs are not acceptable.

Continuous Improvement Opportunities (CIOs) may be issued to identify areas for process improvement. These may include suggested best practices, lessons learned, or other efficiency or effectiveness measures to streamline processes. CIOs do not require a written response from the contractor or approval by the team; however, contractors are encouraged to share their thoughts and plans pertaining to the ideas provided.



At the end of the review, the Review Director provides an Out-brief which includes an overview of review results, and an explanation of the path forward. CARs are typically not provided to the contractor at this point as they may still be in final stages of completion. They will be provided later, first for a factual accuracy review, then as a final issuance so the contractor can proceed with developing its Corrective Action Plan.

The path forward consists of the contractor's receipt of the CAP, review and approval by the DOE and typically bi-weekly status calls to assess progress against the CAP. Once the contractor advises the DOE that all corrective actions have been completed, the DOE will request a verification package which may allow some CARs to be closed remotely; others may require a follow up visit to verify implementation of the corrective actions.

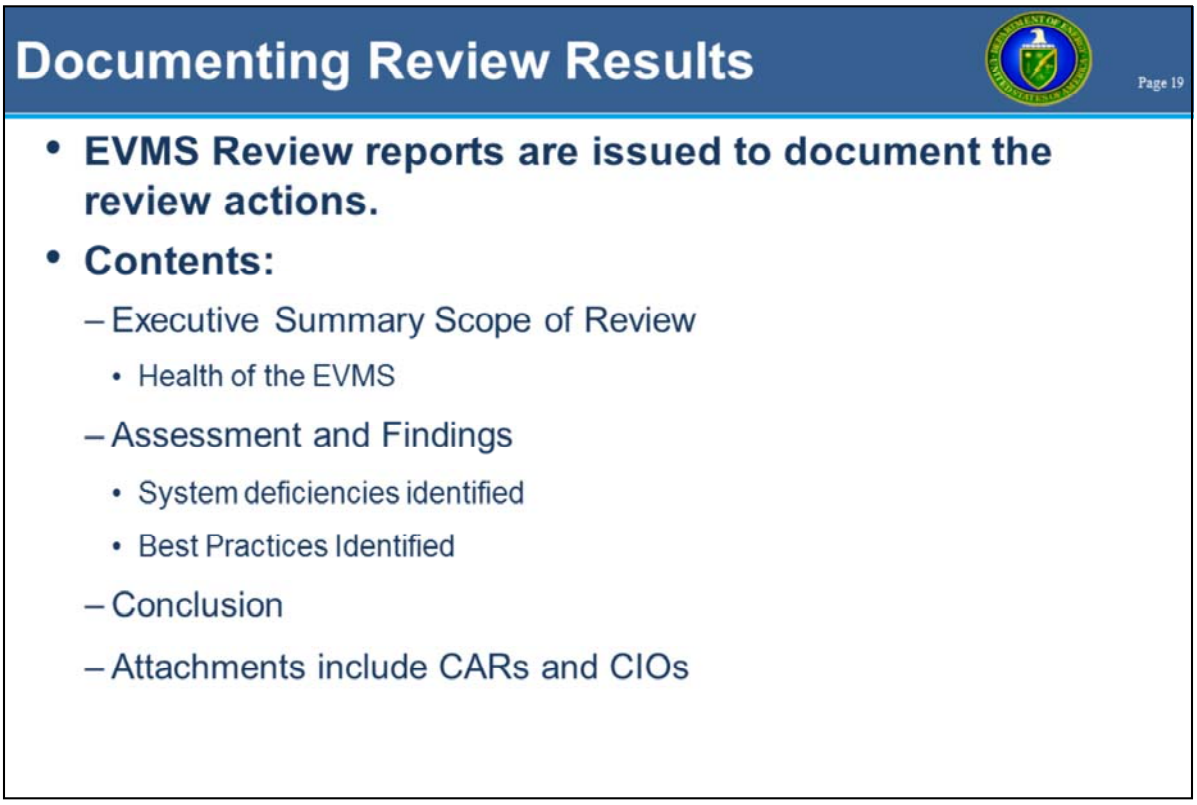


The contractor prepares and submits a Corrective Action Plan (CAP) addressing the CARs. A CAP clearly documents assumptions, constraints, and the commitment dates for (a) completion of corrective actions, and (b) submittal of any documentation of completion.

If the certifying authority's CAP analysis concludes that the CAP logically outlines in sufficient detail the proposal to remedy the ANSI/EIA-748- non-compliance or a significant negative impact to reporting, the CAP is approved. It may take more than one CAP submission before acceptance to ensure all concerns are addressed.
The contractor is cautioned about implementing CAPs prior to the DOE acceptance as it may result in the need for further systemic changes.

The surveillance team is responsible for ensuring that the closure criteria are followed, and that a mutual understanding has been reached.

Verification may consist of reviewing the completeness of any of the products and data that are required for each of the guidelines.



The Review Team documents the results of Compliance Reviews in a written report that is issued by the OAPM Director. The report includes scope of the review, an overall assessment of the contractor's implementation of the EVMS, and findings of deficiencies or non-compliances that resulted in CARs. A report template is available from the OAPM or on the OAPM EVMS home page.

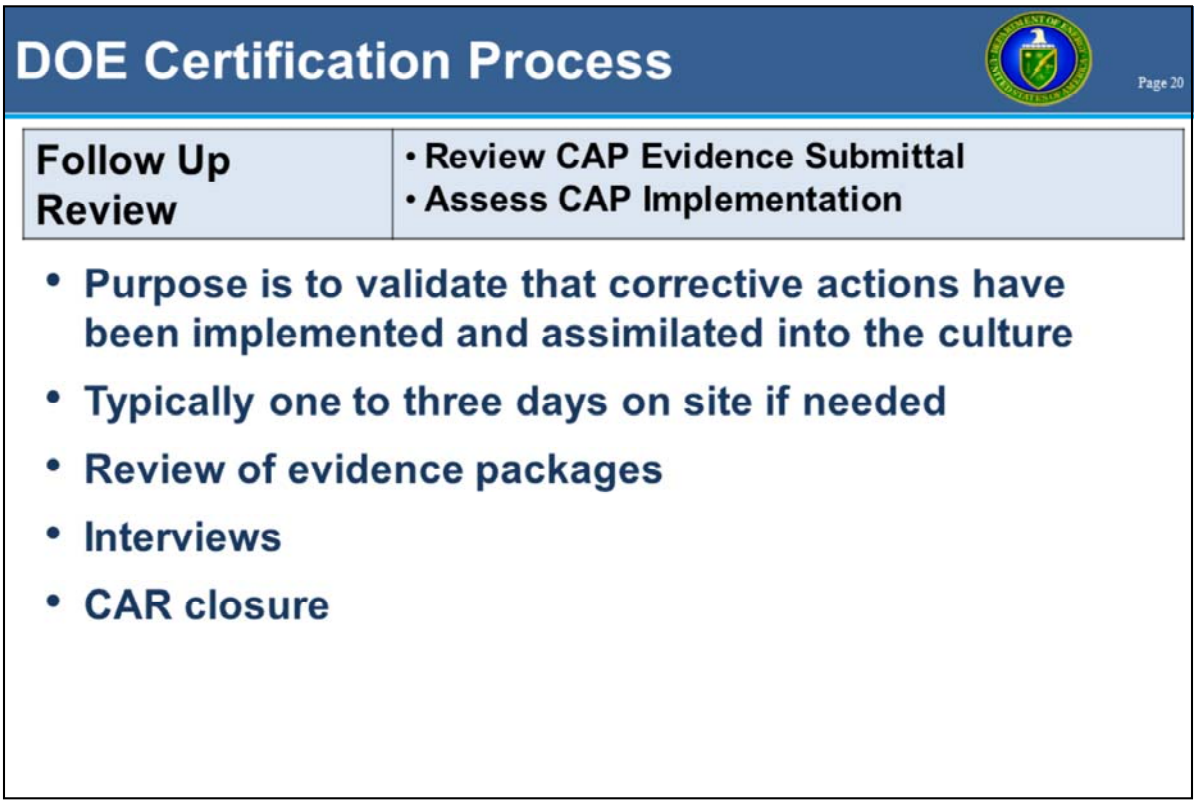
EVMS Review Reports should include at a minimum:

An Executive Summary of the Scope of Review with highlights of the overall health of the contractor's EVMS as assessed by the review team.

An Assessment and Findings section which includes summarizations of trends and systemic issues identified during the review with a table of the Corrective Action Requests and Continuous Improvement Opportunities issued, as well as any Best Practices identified during the review.

A Conclusion section.

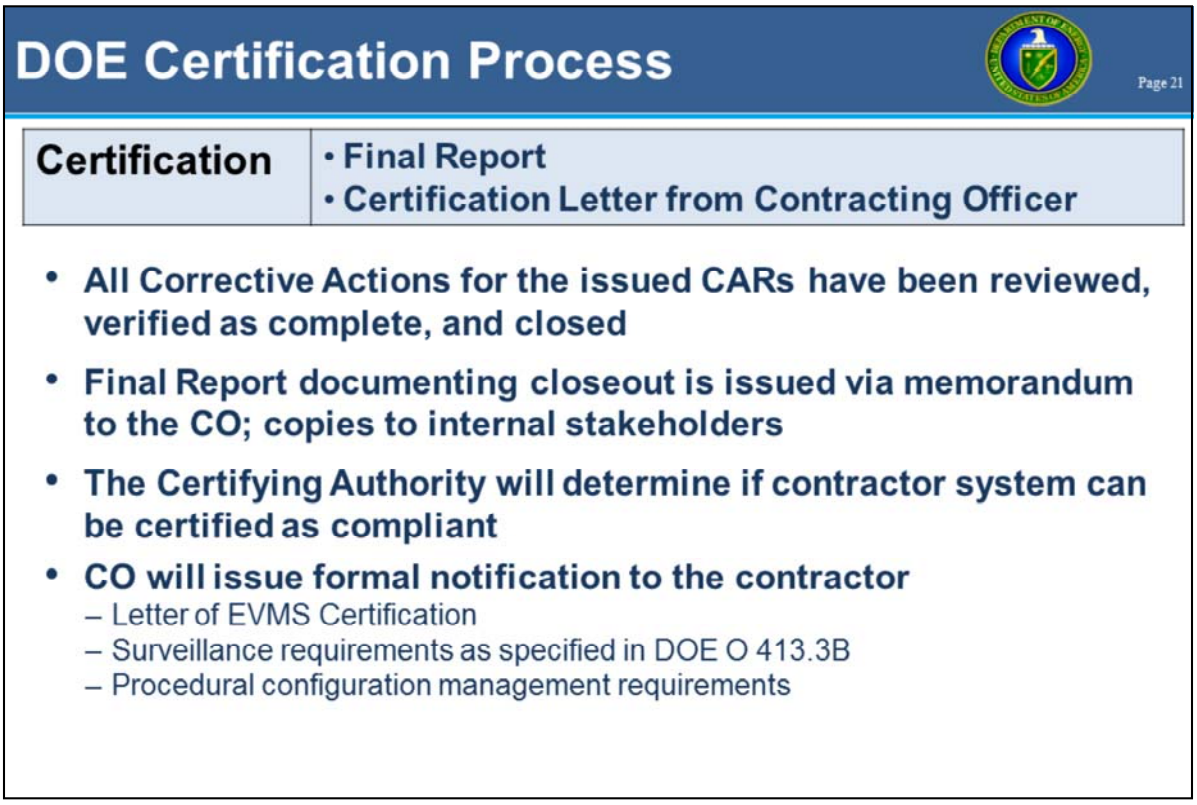
Attachments to the report include the CARs, and CIOs. Supporting documentation from the review, such as the data trace documentation and PARSII reports, are kept on file at OAPM.



The follow-up review with the contractor is to verify corrective actions have been implemented. This typically is an on-site review; however, the certifying authority may use teleconferences or video conferences in lieu of an on-site review depending on the complexity and the number of CARs.

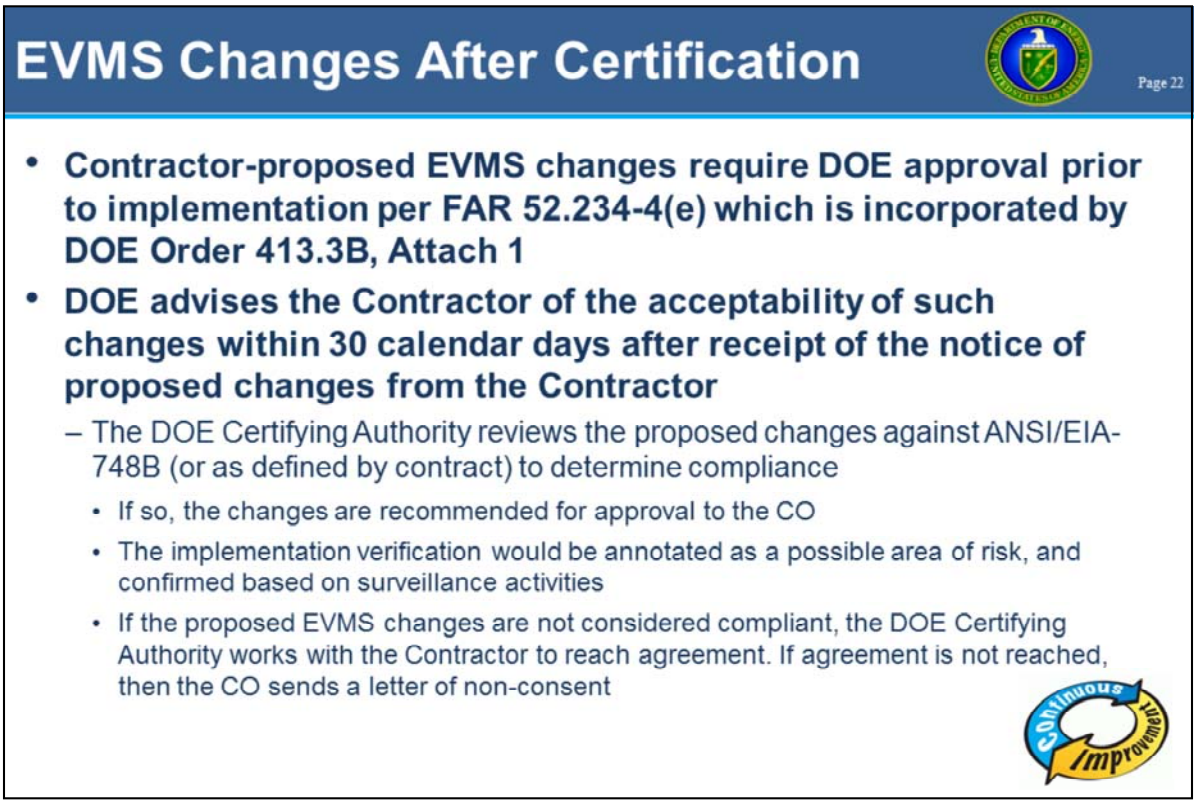
The follow-up review primarily consists of a review of the evidence packages, and may include interviews of the contractor's CAMs, functional managers, and senior managers to validate that the resolutions are implemented and assimilated into the project 'culture' and ongoing staff operations.

Should the follow-up review show that some further action is required before the certification can be recommended, then subsequent reviews may be necessary.



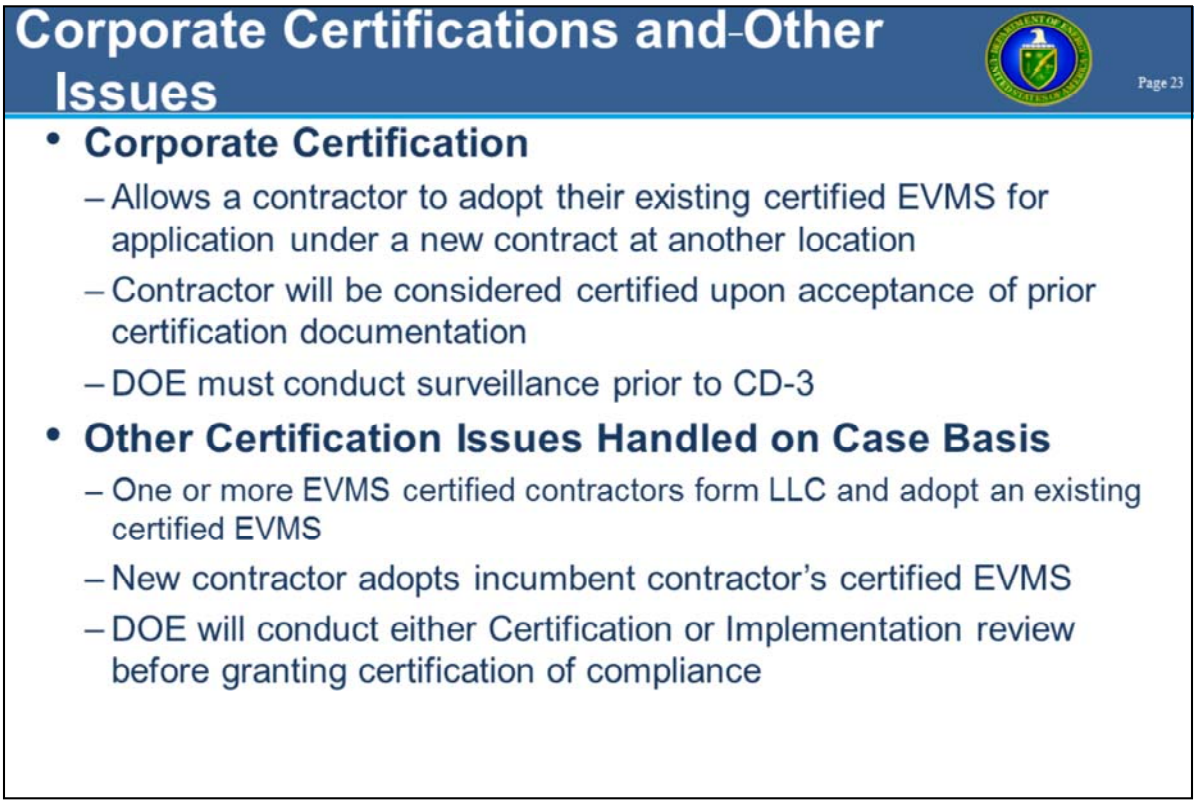
After all the Corrective Actions have been completed and the CARs have been verified as complete, the Certifying Authority can proceed with formal closeout activities. For documentation purposes, a final report is issued along with a recommendation to the Contracting Officer to approve the EVMS. As the final step in the Certification process, the Contracting Officer issues a letter to the contractor stating the contractor's EVMS has been certified as compliant to the ANSI/EIA-748 requirements in accordance with the contractual requirements.

The letter will also address surveillance requirements and direction to the contractor to apply configuration management whereby all changes to the certified EVMS documentation will be provided to the certifying authority for review in accordance with FAR 52.234-4(e).



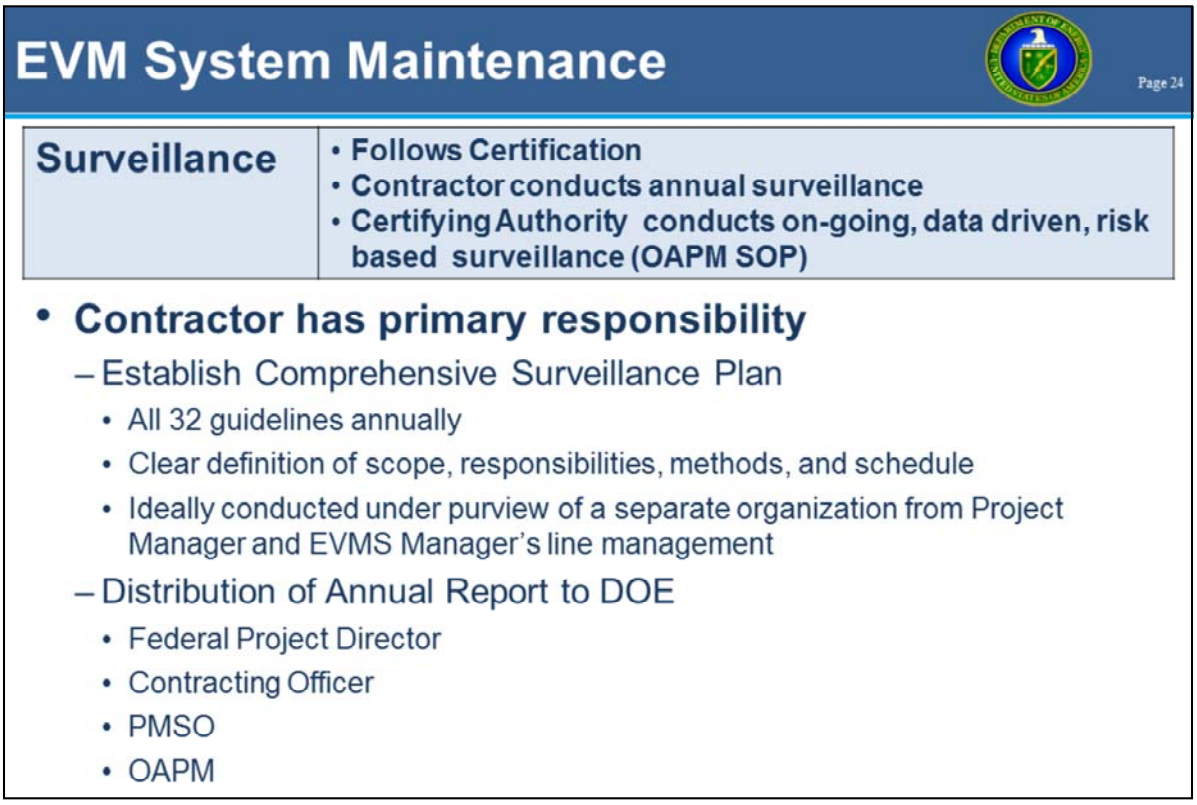
Changes to policies and procedures are expected and encouraged as a matter of continuous improvement. DOE Order 413.3B requires that the contractor notify the DOE certifying authority when making any changes to its system description and supporting procedures. This requirement is designed to protect both parties in the event a change may unintentionally cause non-compliance.

The Certifying Authority should respond within 30 calendar days after receipt of the notice of proposed changes. If the change causes non-compliance, both parties must reach an agreement. If agreement is not reached, the Contracting Officer should send a letter of non-consent based on the findings of the Certifying Authority. The contractor is encouraged to submit the proposed process changes electronically, to both the CO and Certifying Authority simultaneously, to avoid delays in approval.



DOE Order 413.3B allows a contractor to adopt its existing DOE-certified EVMS for application under a new contract at another location. For a pre-existing certified EVMS to be considered, the contractor must provide the prior certification documentation to the responsible DOE certifying organization. The Certifying Authority must conduct a surveillance review prior to CD-3.

Other certification issues will be handled on a case by case basis such as one or more EVMS certified contractors form a Limited Liability Corporation (LLC) and adopt an existing certified EVMS, or a new contractor adopts the incumbent contractor's certified EVMS. DOE will conduct either a certification or an implementation review before granting a certification of compliance.



The contractor has the primary responsibility for implementing and maintaining a surveillance program to ensure continued compliance of the EVM system with ANSI/EIA-748. Complying with this requirement helps to ensure EVM system health is maintained and avoid future non-compliances through Government EVMS surveillance reviews.

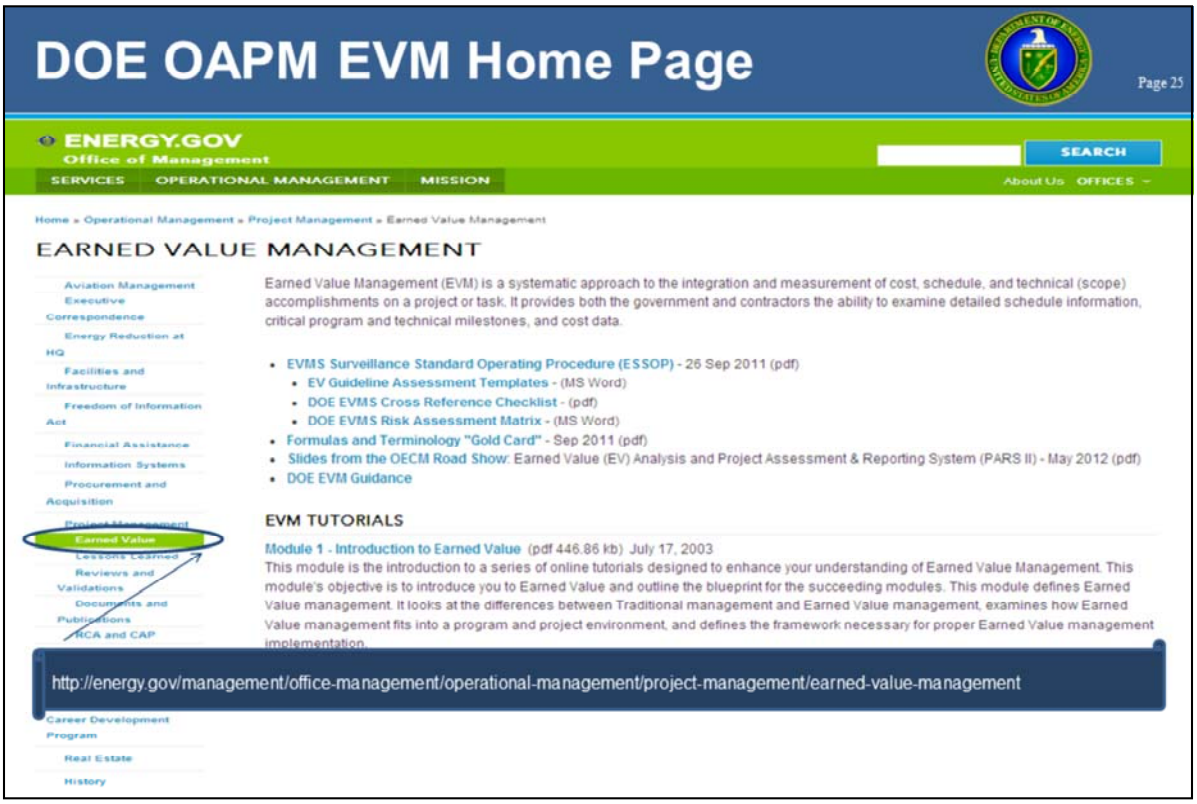
This annual self-surveillance, whether conducted as a single event or multiple events over the course of the year, should cover all 32 guidelines of the ANSI/EIA-748. DOE Order 413.3B requires the Federal Project Director to ensure the contractor conducts a self-surveillance annually.

The ANSI/EIA-748 states that the surveillance approach will be accomplished in accordance with the contractor's policies. The policies associated with surveillance are reviewed as part of the DOE certification process.

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

Documentation of the self-surveillance is sent to the Contracting Officer, the PMSO, and

OAPM, confirming the continued compliance of the EVMS with ANSI/EIA-748.



For information relative to EVMS procedures, templates, helpful references, and training materials, please refer to OAPM's EVM Home page. New documents are added so check back periodically.

Thank you