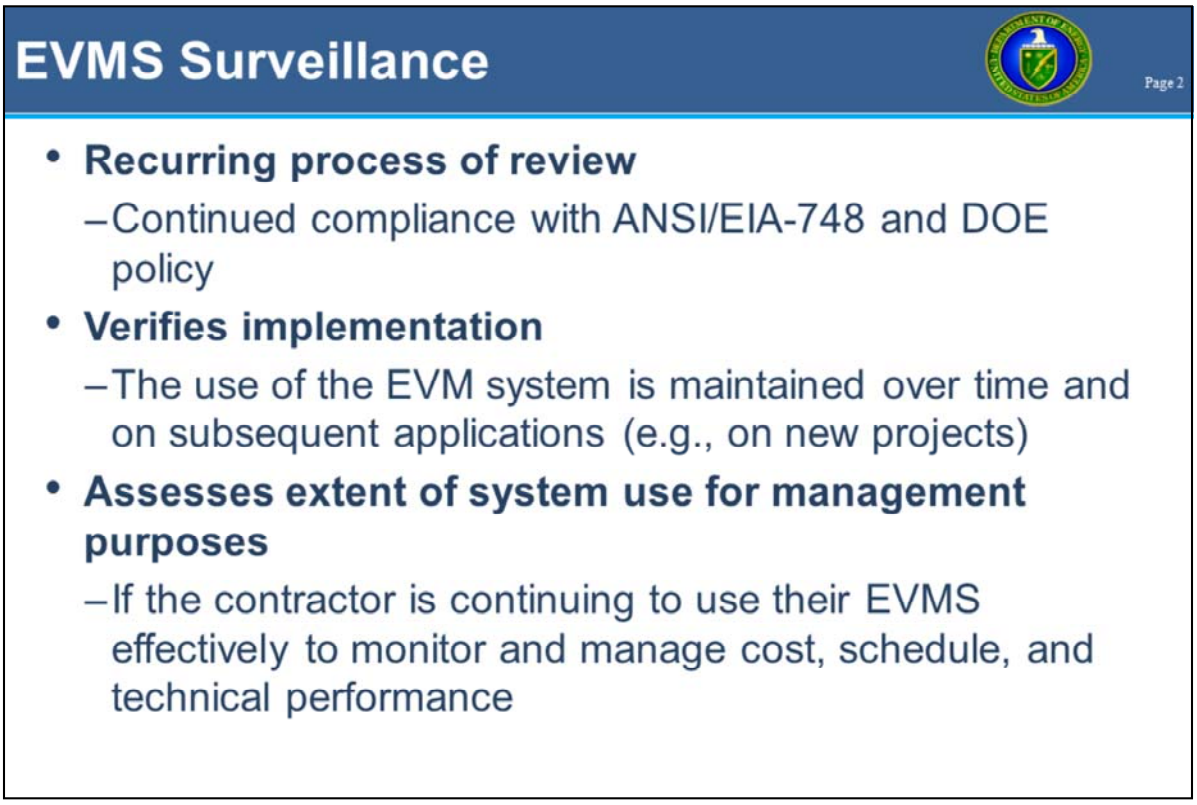
This EVMS Training Snippet sponsored by the Office of Acquisition and Project Management (OAPM) covers OAPM's approach to EVMS Stage 1 Surveillance.



What is EVMS Surveillance and why do we do it?

Surveillance is the recurring process of reviewing a contractor's EVMS to ensure continued compliance with ANSI/EIA-748 and DOE policy.

An effective surveillance process ensures that the key elements and the use of an EVMS are maintained over time and on current and subsequent projects.

The purpose of surveillance is to ensure that the contractor is continuing to use its EVMS effectively to monitor and manage cost, schedule, and technical performance.

DOE Surveillance Policy and Procedures

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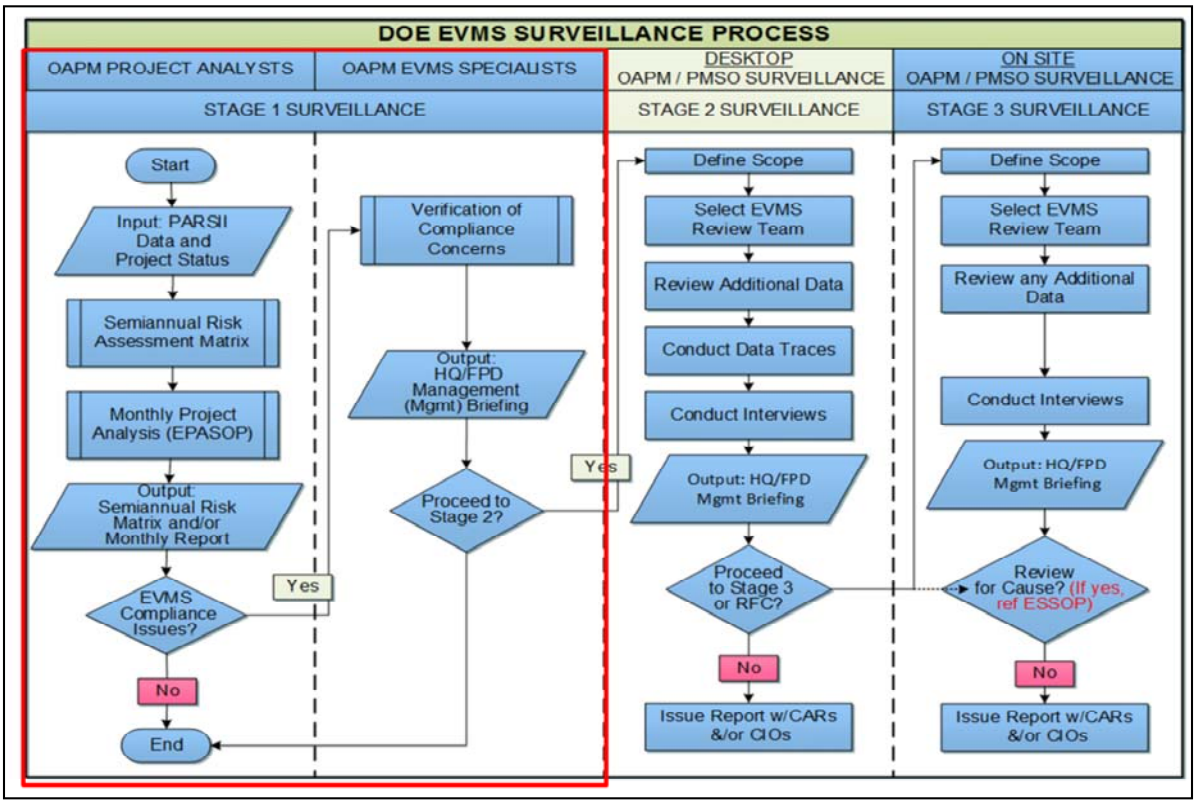
- Department of Energy (DOE) Order 413.3B, *Program and Project Management for the Acquisition of Capital Assets*, 11/29/2010
- DOE Guide 413.3-10A, Earned Value Management System (EVMS)
- OAPM EVMS Surveillance Standard Operating Procedure (ESSOP)

DOE Order 413.3B identifies surveillance requirements for the contractor, the Project Management Support Office, and for the Office of Acquisition and Project Management.

DOE Guide 413.3-10A provides overall principles regarding EVM and surveillance.

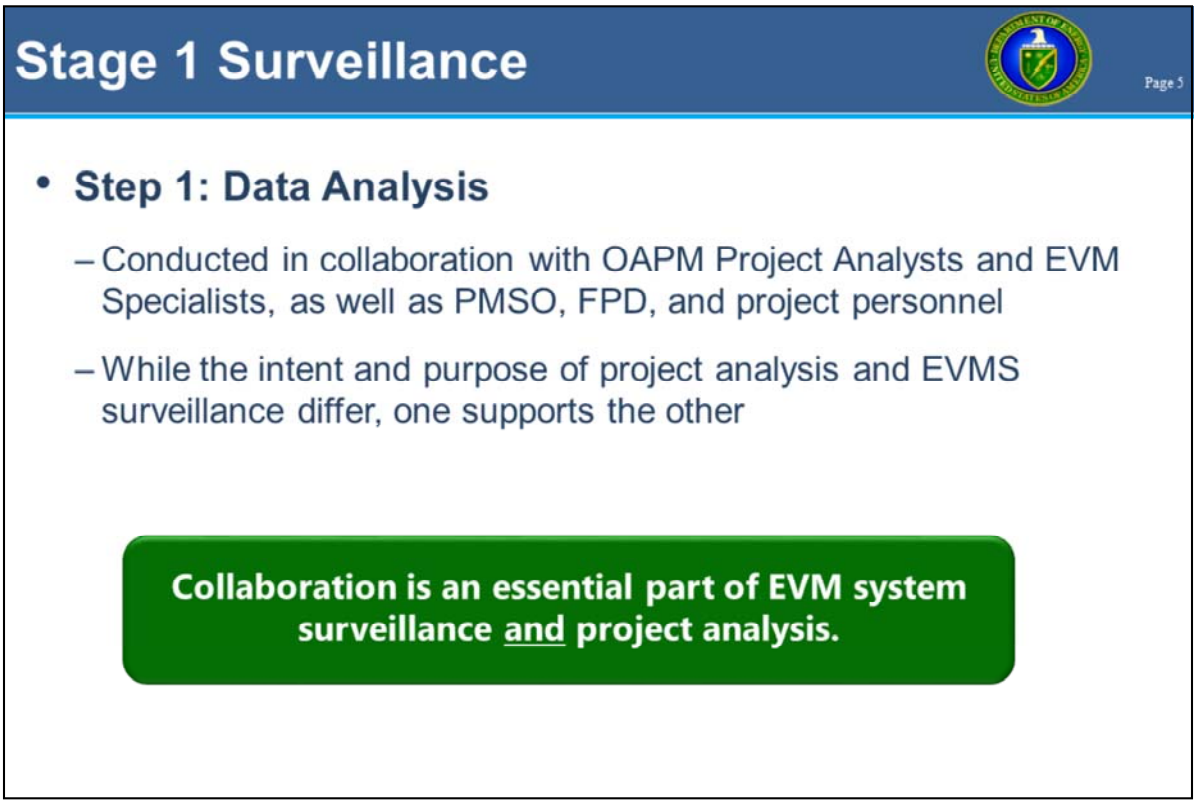
Rather than approach surveillance as an event-based task similar to the initial certification review, OAPM decided to adopt a risk-based, data-driven surveillance method modeled after the risk based, data driven EVMS surveillance approach widely endorsed by industry groups and Governmental agencies, such as National Defense Industry Association (NDIA), General Accounting Office (GAO), Department of Defense (DOD), and Energy Facility Contractor's Group (EFCOG). An OAPM EVMS Surveillance Standard Operating Procedure was developed to provide process level 'how to' instruction. While this is the approach used by OAPM, the SOP is available for use by the PMSO, FPDs and their project control staff, and the contractor.



This figure shows the three stages of surveillance in OAPM's process. In this Snippet, we are focusing on Stage 1 Surveillance elements outlined in red on the slide.
Stage 1 involves OAPM's Project Analysts, those assigned to one or more projects for technical oversight, and the OAPM EVMS Specialist, as the subject matter expert.

There are two key elements of Stage 1 surveillance: (1) Project level risk assessment and (2) project level data analysis. The results of these two processes drive the decision whether further EVMS assessment is justified and, if so, how to focus increased surveillance on processes and guidelines that have the greatest risk of unfavorably affecting system integrity.

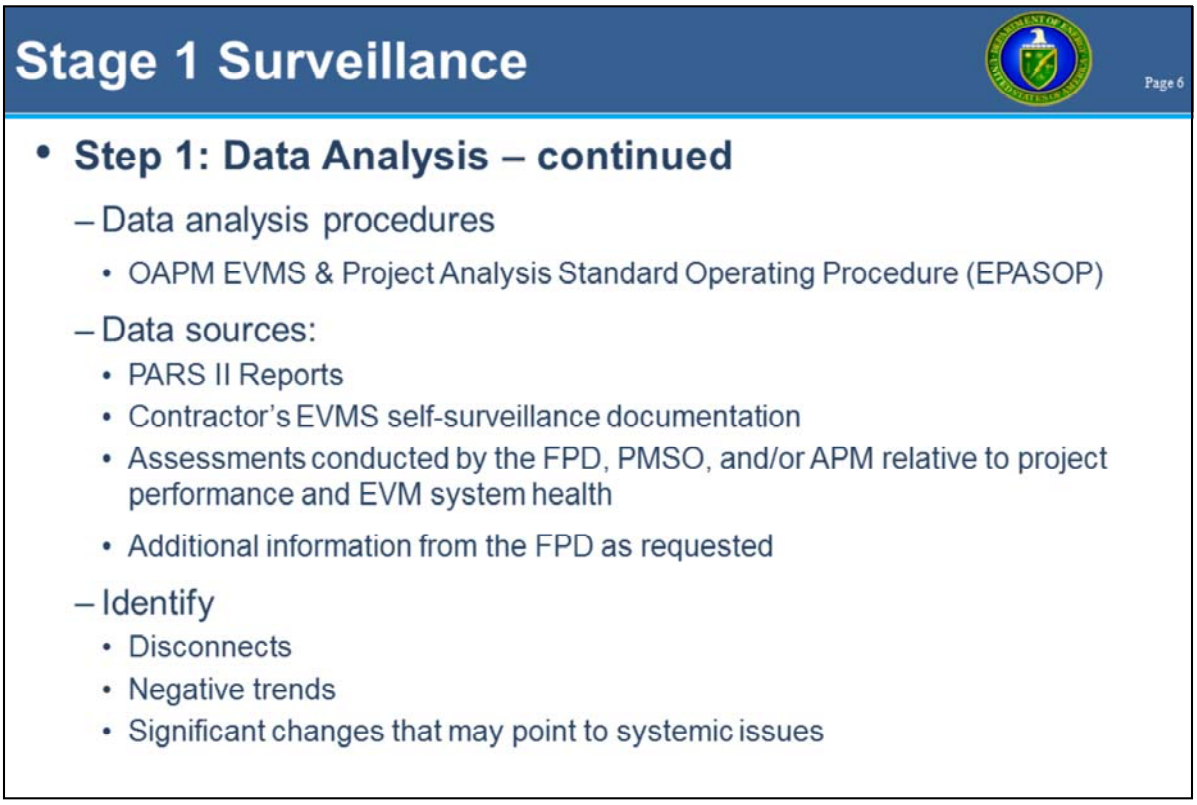
The OAPM EVM Specialist and Project Analyst review project level data and performance analysis reports from PARS II on a monthly basis. Reports are available to identify particular issues with data integrity and project performance and health. The OAPM EVM Specialist and Project Analyst conduct an EVM risk assessment to generate a risk profile for the entire portfolio of projects for each contractor, for which earned value is required and subject to surveillance. The risk assessment is done on a periodic (such as semi-annual) basis, or if there is a sufficient change to a project or the contractor's portfolio that could change the risk assessment results.



The first step of Stage 1 is data analysis. Monthly Project assessment is done as a part of the OAPM Project Analyst's role in managing the specific projects. While conducting project analysis, issues are identified that are not only project performance related, but which also may indicate EVM system compliance concerns. In this way, project analysis directly supports EVMS surveillance.

The OAPM Project Analyst coordinates with the OAPM EVM Specialist when potential non-compliances or systemic concerns are identified or suspected. Both interact with the PMSO and the FPD who have project level knowledge of the technical baseline, progress, as well as cost, schedule, and technical risks. This interaction provides valuable insight into the identification of disconnects and system issues among other projects.

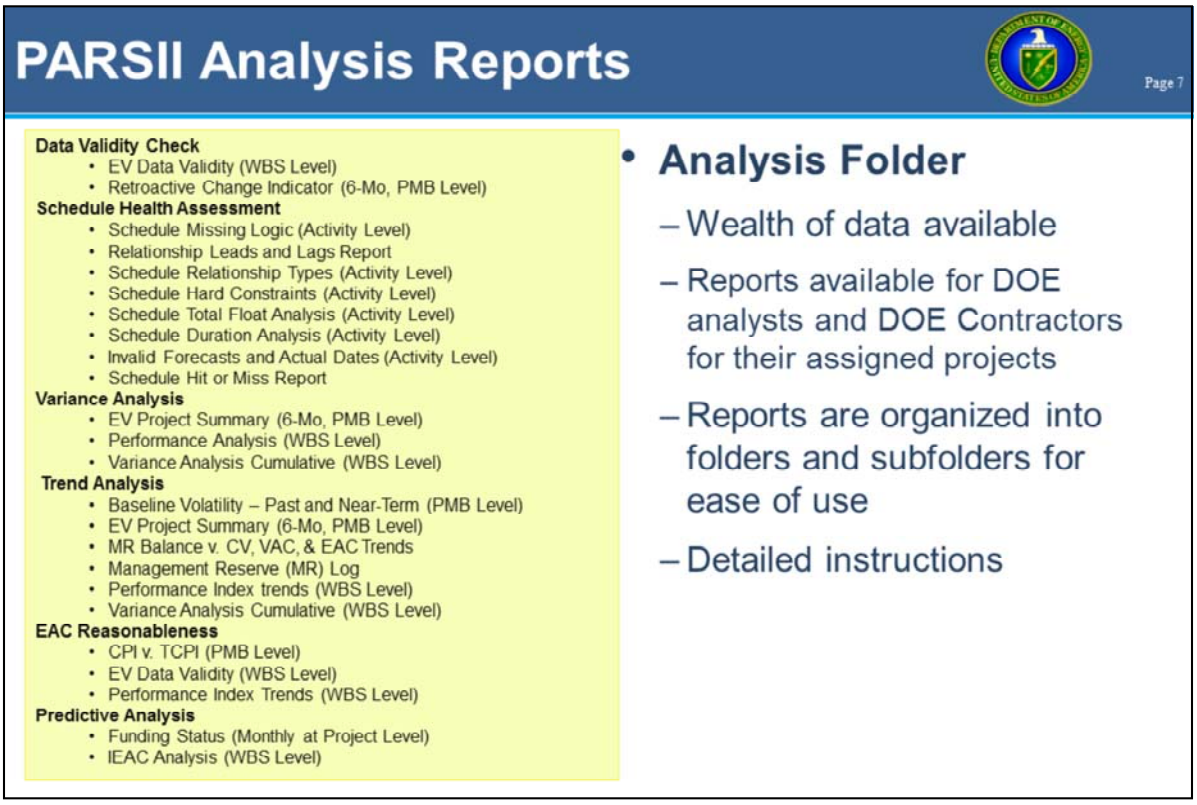
Due to the complementary and overlapping impacts of EVM System integrity and project analysis, collaboration is essential.



To fulfill both of these needs, that is project assessment and EVMS surveillance, the OAPM has issued a Standard Operating Procedure for EVM data analysis entitled EVMS and Project Analysis SOP, acronym EPASOP. It contains a data surveillance process, conducted monthly, using many PARS II reports specifically designed for this purpose.

Other data sources include the contractor's EVMS self-surveillance documentation, and any assessments conducted by the FPD, PMSO, and/or the OAPM that evaluate project performance, such as monthly project status reports and peer reviews. These sources are analyzed to identify data disconnects, negative trends, and significant changes that may, upon further review, indicate compliance issues within the contractor's EVM system. Additional information may be requested from the FPD for completion of stage 1, such as:

1) Contractor PM's experience using EVM to manage (in years)
2) Percentage of subcontracts verses the total, and material versus the total as a percent. These are generally to determine if these topics are significant on the project.
3) Primavera (or other tool) .XER type schedule files for the baseline and forecast.



PARS II is the central repository for key Departmental-level capital asset project information, including EVMS data provided directly into PARS II from contractor's systems. A key feature for conducting data analysis is the Analysis Reports in the Reports section of PARS II. To the left is a breakout of the “Analysis” folder which contains subfolders containing key reports that are helpful in conducting EVMS surveillance and project performance analysis. Each report has detailed instructions.

In Stage 1, the most common reports to use are located in the Data Validity subfolder and Schedule Health Assessment subfolder. More detail on these reports can be found in group 5 Snippets.

Data Validity and Schedule Health Assessment

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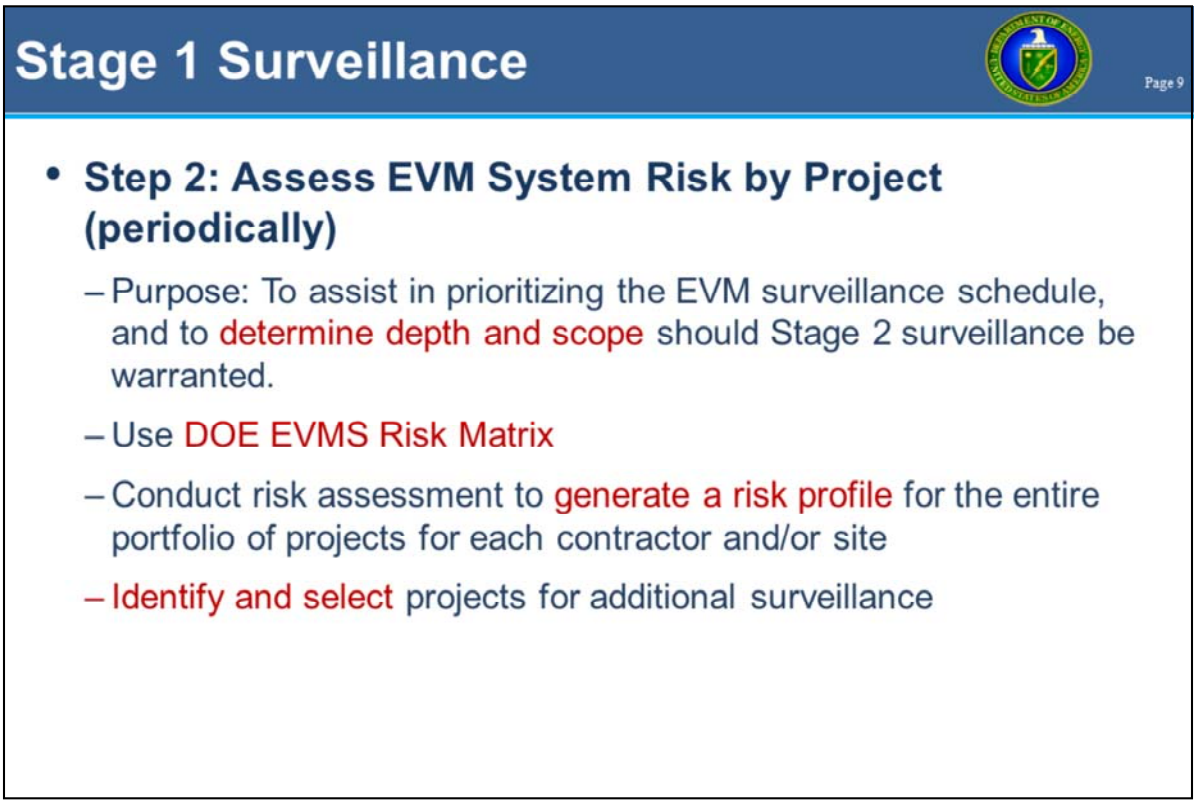
- **Data Validity Reports**
  - EV Data Validity errors, such as
    - Cumulative BCWP > BAC
    - Cumulative ACWP > EAC
  - Retroactive Change Indicator
- **Schedule Health Assessment Reports**

The PARS II reports, particularly those identified above, are used in identifying EVM system concerns or questionable actions. This includes data validity errors such as cumulative budgeted cost for work performed greater than the budget at completion, or cumulative actual cost of work performed greater than the estimate at completion for that work. The retroactive change indicator report shows whether history has been changed and if current period retroactive changes were made for unallowable reasons in violation of EVMS Guideline 30. Reports that are helpful in identifying systemic issues are located in the Schedule Health Assessment folder. These reports reveal issues with generally accepted scheduling practices and ANSI/EIA-748 EVM Guidelines 6 and 7.



Next we have Step 2 of Stage 1 Surveillance where the EVM system risk is assessed. The purpose is to identify where the risks are in terms of the health of the EVM system and the implementation of EVMS on each project. The results are then collected for the entire project portfolio for each contractor. This is done periodically (such as semi-annually) or whenever something significantly changes on a project that would impact the risk rating. Within OAPM, this is a collaborative effort between the Project Analyst and an EVM Specialist.

These results guide surveillance activities to particular EVMS processes or implementation areas where the risk assessment indicates possible compliance issues.

Assessing Project Risk

- **For EVMS Surveillance purposes:**
  - Apply Risk Matrix to *each EVM-applicable project within a contractor's portfolio*
  - Rate each project in each of 14 areas
  - Use results from portfolio perspective to determine where to focus surveillance efforts

DOE EVMS RISK MATRIX w/ SCHED RISK		DATE:	ANALYST:	
CONTRACTOR:	PMSO:		PROJECT:	
RISK ELEMENT	HIGH RISK PARAMETERS 3.00	MEDIUM RISK PARAMETERS 2.00	LOW RISK PARAMETERS 1.00	RATING
PROJECT PHASE	PRIOR TO CD-3 Organizing, Scheduling, Work Authorization	EARLY TO MID CD-3 Accounting, Material Management, Change Incorporation	1.0 LATE CD-3 Managerial Analysis, Change Incorporation	L
PM EVM EXPERIENCE	< 2 YRS Organizing, Scheduling, Managerial Analysis	2 – 5YRS Scheduling, Managerial Analysis	1.0 > 5YRS Managerial Analysis	L
CONTRACT BUDGET BASE VALUE	≥ $100M Work Authorization, Accounting, Managerial Analyisis	$50M < $100M Work Authorization	1.0 $20M < $50M Scheduling	L
PRIME WORK REMAINING %	> 50% Managerial Analysis, Change Incorporation	10 - 50% Managerial Analysis, Change Incorporation	1.0 < 10% Accounting, Material Management	L
SUBCONTRACTOR WORK REMAINING %	> 50% Work Authorization, Scheduling, Subcontract Management, Managerial Analysis	10 – 50% Work Authorization, Scheduling, Subcontract Management,	1.0 < 10% Accounting, Subcontract Management	L
MATERIAL REMAINING %	>30% Work Authorization, Scheduling, Accounting, Material Management	15 – 30% Accounting, Material Management	1.0 < 15% Material Management	L

This is a partial view of the DOE EVMS Risk Matrix. The risk assessment matrix approach used in the DOE is based on concepts from the NDIA Surveillance Guide and DCMA guidance, and has proven useful in application. OAPM applies this to all EVMS applicable projects within a contractor's portfolio, and recommends this method as a useful best practice for all those responsible for EVMS surveillance, including contractors, FPDs and PMSOs.

The template which includes instructions is available from OAPM.

Stage 1 Surveillance Output

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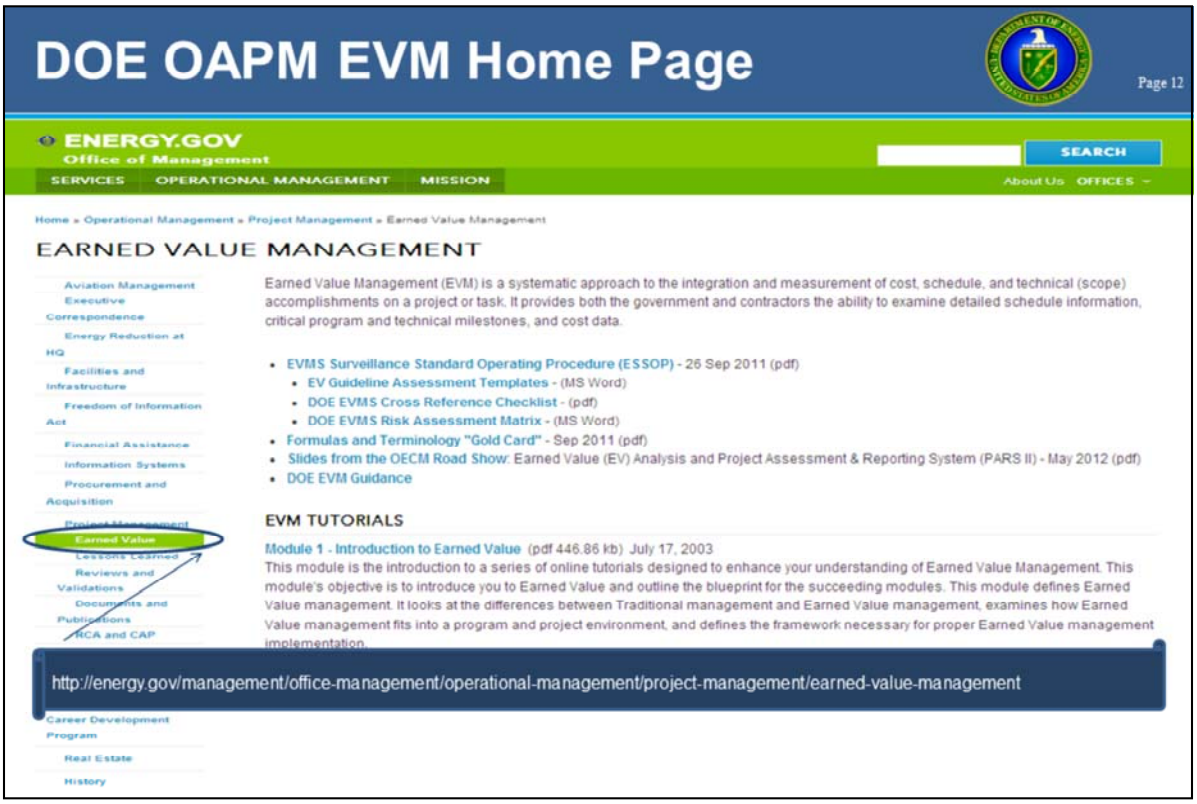
- **Determine if EVM compliance concerns exist**
  - If No – Stage 1 continues as defined with monthly data analysis and periodic risk matrix updates
  - If Yes -
    - Prepare and present Management Briefing
    - If Management supports the concerns, proceed to Stage 2
    - If not, concerns monitored as part of Stage 1 continuing activities

As the Stage 1 surveillance analysis and risk assessment processes are completed, the Project Analyst and EVM Specialist confer regarding any EVM system risk assessment ratings and compliance concerns. A high or medium risk overall, as well as data integrity concerns, would indicate continuing with Stage 2 surveillance. If nothing substantial was noted, then Stage 1 Surveillance continues as defined with the monthly data analysis and periodic risk matrix updates.

If EVM system-related concerns have developed, the Project Analyst and the EVM Specialist verify them, and then prepare and present a brief, which includes the results summarized by organizational categories to OAPM and PMSO management. Based on the outcome of the briefing or as requested by the Acquisition Executive (AE), a Stage 2 Surveillance may be authorized. If not, concerns may be put on a 'watch list' to monitor over the next few data analysis cycles as part of Stage 1 continuing activities.



For information on the other Stages of Surveillance, refer to the EVMS Training Snippet Library. For information relative to EVMS procedures, templates, helpful references, and training materials, please refer to OAPM's EVM Home page.

Thank you.