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**Statement:**

As part of DOE's effort to institutionalize EVMS across the Department and export best business practices across programs, EM and OAPM have conducted several EVMS certification and surveillance reviews.

EM Headquarters (EM-53) has developed an Earned Value Management Analysis Tool to analyze findings resulting from certification and surveillance review conducted by APM and EM. Over 230 EVMS Corrective Action Requests (CARs) from a total of seven certification and surveillance reviews have been input into the Earned Value Management Analysis Tool (EVMAT).

Major benefits of this Earned Value Management Analysis Tool include:

- Supports field offices and contractors in identifying common recurring issues and specifying current and future needs of EVMS improvements
- Assists field offices and contractors to identify common root causes
- Provides EM EVMS teams with the analytical bases for determination of trends and corrective actions

The EVMAT analysis has shown that more than 80% of CARs were written on the EVMS implementation, and less than 20% of CARs were written on the EVMS process.

The analysis has also indicated that among the five process areas (Organization; Planning, Scheduling and Budgeting; Accounting Consideration; Analysis and Management Reports; and Revision and Data Maintenance), Planning, Scheduling and Budgeting is the area which has the most issues. 33% of CARs were written in this process area.

**Discussion:**

EVMS is an integrated set of policies, procedures, and practices to support program and project management as a decision enhancing tool and a critical component of risk management. EVMS measures actual performance of work scope and the associated cost and schedule versus an agreed to baseline plan, while using disciplined means of baseline change control for documenting any changes to the agreed to baseline plan. EVMS is a best practice and standard adopted by the Federal Government and the project management industry.

DOE Order 413.3B, *Program and Project Management for the Acquisition of Capital Assets*, requires for projects greater than or equal to \$20M that the contractor employ an ANSI/EIA-748 compliant EVMS by Critical Decision (CD)-2. Contractor's EVMS needs to comply with DOE O 413.3B, ANSI/EIA-748, and contractual requirements. The contractor's EVMS should be certified as soon as possible, but no later than CD-3. In most cases, EVMS certification will be a condition for CD-3 approval.

After a contractor's EVMS is certified, surveillance is the recurring process of reviewing a contractor's EVMS to ensure continued compliance with ANSI/EIA-748. The contractor has the primary responsibility for implementing and maintaining a surveillance program to ensure continued compliance of the system with ANSI/EIA-748. While the contractor has the primary responsibility for EVMS surveillance, DOE line management and OAPM also share in the responsibility to oversight and continue surveillance.

**Analysis:**

Based on the CARs from the seven reviews, it was noted that a large amount of CARs were written on Change Controls, System Description & Processes, Accounting, Variance Analysis Reports (VARs), Integrated Master Schedule (IMS) Health, Contract Performance Reports (CPRs), Management Reserve (MR), Work Authorization, Estimated at Completion (EAC), Undistributed Budget (UB), and Authorized Unpriced Work (AUW). The data collected so far has indicated that Change Control, System Descriptions and Processes, Accounting, VARs, and IMS Health are the top five areas that are not in compliance with ANSI/EIA 748 guidelines .

**1. Typical issues on Change Control are:**

- Changes incorporated into the Baseline prior to approval
- Baseline Change Control Log not maintained in a manner to allow traceability throughout the EVM System
- Changes to PMB and CBB not input in a timely manner
- Baseline Change Control procedure does not define how to handle removed/deferred scope
- Retroactive changes performed to mask variances
- WBS dictionary and other project documents are not updated as a result of baseline changes

**2. Some of the issues on System Description and Processes are:**

- Improperly addresses DOE Contingency; MR Tracking, and appropriate application/use of MR
- Inadequate description of how to integrate Work Authorization, scheduling, budgeting, accounting, analysis, and revisions
- System Description clarification required on topics related to Planning Package Conversion, AUW, and EVMS flow down to Subcontractor
- Baseline Change Control procedure does not define how to handle removed/deferred scope

**3. Some of the issues on Accounting are:**

- Accounting and PC cost processor data indicates significant disconnects between the two systems
- Lack of a robust timecard correction policy
- Lack of policy to address indirect budgeting

**4. Typical issues on Variance Analysis Reports are:**

- Lack necessary detail to address root cause or impact of the variance
- VARs are not reviewed by management
- Corrective Actions identified in VARs were not captured or annotated adequately in the Corrective Action Log

**5. Typical issues on IMS Health are:**

- IMS does not have a meaningful critical path
- IMS has high floats, excessive constraints, inappropriate logic, out-of sequenced tasks, and large durations
- Improper use of Earned Value Techniques; missing EVT's within the IMS/Schedule
- No vertical traceability from Filed Execution Schedule to IMS
- CAMs do not understand their schedule and are not able to substantiate schedule details

**Actions:**

In addition to working with EM and OAPM on identifying root cause analysis, closing CARs and improving EVMS processes and procedures, EM recommends the following three actions:

**Conduct Independent Reviews:** Contractors may consider engaging Independent EVMS reviews from industry EVMS experts. These industry EVMS experts can review contractors' EVMS systems and help contractors identify issues and improve their processes and procedures prior to DOE HQ Certification and Surveillance reviews.

**Study OAPM EVM Training Snippets:** APM introduced Earned Value Management (EVM) training snippets on key topics of interest in Project Management on the use of earned value. This training is designed as web-based modules posted via the link on the DOE EVM website <http://energy.gov/management/office-management/operational-management/project-management/earned-value-management>. The training snippets were also provided to EFCOG to post on its web site via link: [http://www.efcog.org/wg/pm\\_evmsg/index.htm](http://www.efcog.org/wg/pm_evmsg/index.htm). EM encourages FPDs, field staff and contractors to use these snippets to supplement their understanding of earned value and demystifying the expectations in EVMS surveillance.

**Participate on EVMS Reviews:** EM also encourages DOE field offices to participate in HQ's EVMS reviews. Through the review experience, these representatives can not only have a better understanding of HQ's EVMS review expectations, but can also learn best practices on EVMS and take them back to their home offices. All the valuable knowledge they gain through participating on HQ's reviews will increase their success rate in preparing for their project's HQ reviews.

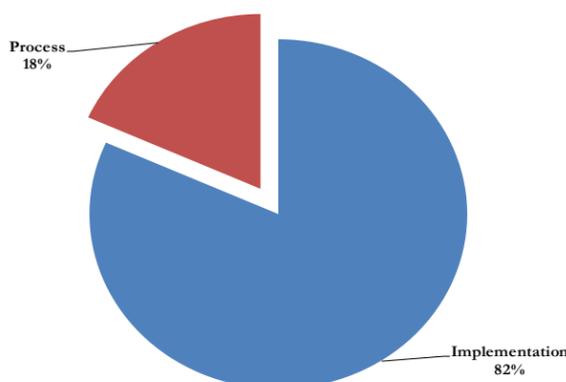
Critical Decision(s): CD2, CD3 and CD4

Facility Type(s): All

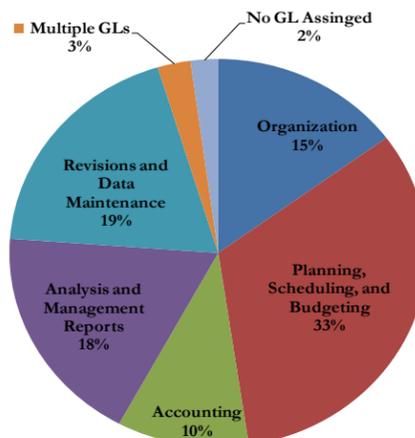
Work Function(s): EVMS Certification and Surveillance Reviews

Technical Discipline(s): All

Process/Implementation Percentage Spread



Process Area Issues by Percent of Total Issues



1\*. The Process/Implementation Percentage Spread chart indicates that less than 20% of CARs were written on EVMS process, and more than 80% of CARs were written on EVMS implementation.

2\*. The Process Area Issues by Percent of Total Issues chart shows that among the five process areas, 15% of CARs were written against Organization guidelines, 33% of CARs were written against Planning, Scheduling, and Budgeting guidelines, 10% CARs were written against Accounting Consideration guidelines, 18% of CARs were written against Analysis and Management Reports guidelines, and 19% of CARs were written against Revision and Data Maintenance guidelines,

\*Data for the two charts are based on the results of seven EVMS certification and surveillance reviews EM and OAPM have conducted since 2013.