# EVMS Self-Governance

Earned Value Management System (EVMS) Self-governance is an approach to ensure long-term sustainability and a continuously improving EVMS through implementation of a visible, structured, and management endorsed process that minimizes the requirement for government oversight while ensuring contractual requirements are met in the provision of current, accurate, complete, repeatable, auditable, and compliant information, available for informed contract and project management decision making. This approach is intended to engender a more transparent and collaborative environment. It is the preferred path following DOE Certification. Self-governance looks to shift EVMS compliance oversight back to the contractor, allowing the contractor to take the initiative to course correct and avoid further DOE involvement.

The self-governance commitment for the contractor’s EVMS implementation, maintenance and data sharing is codified in the contractor’s EVM System Description or in a Self-Governance Charter/Plan. Self-governance benefits all parties in the effective and efficient use of the contractor’s EVMS for managing the design and construction delivery process of all projects subject to DOE O 413.3B. It provides the contractor with the opportunity to:

* Plan and schedule internal compliance reviews without disrupting work scope performance;
* Self-disclose EVMS related issues and implement corrective actions without disrupting work scope performance; and
* Plan and schedule peer or joint reviews with other contractors or DOE without further stressing limited resources.

Further, self-governance allows the DOE/NNSA Program Office and DOE Office of Project Management (PM) to act in a true oversight role, resulting in less intrusive government oversight; and voids the need for future on-site DOE PM-30 EVMS surveillance reviews, assuming submittal of EVMS data and information in PARS, inclusive of quarterly EVMS ribbon runs, remain within acceptable compliance thresholds, and absent DOE/NNSA Program Office or DOE/NNSA Site Office/Project Team request.

Any measure that falls outside historic norms or deviates from a predetermined threshold is flagged. Within minutes, both federal staff and contractor personnel will know what issues to focus on and whether additional engagement with a contractor is required. The level of engagement with a contractor may result in a self-governance arrangement with the DOE. Self-governance is done through a three-stage process, beginning with a less formal approach where the contractor is given the opportunity to remedy any EVMS non-compliances within two-three reporting periods before the matter is elevated to PM, the DOE Certifying Authority. This approach engenders a more collaborative environment, ensures consistency, and obtains results faster, thus ensuring the EVMS performance data remains valid for managers to make informed project performance decisions.

The characteristics of self-governance include:

* Leadership engagement via oversight, progress assessment, open dialogue, routine, transparency, demands continuous improvement, and defines and enforces the culture;
* Authority via charter with cross-organizational engagement, establish enduring processes to assess health, implement corrective and improvement actions, and report to and interact with institutional leadership (i.e. internal Governance Board);
* System health via position and definition of program surveillance, health dashboards and reporting processes, evaluate metrics and monitor actions to correct and improve, joint-surveillance between DOE and the contractor, and transparency;
* Process effectiveness via obtain trained resources (e.g., Lean Six Sigma); establish, prioritize, and execute process improvements; report improvement progress to Governance Board; data-driven, risk-based approach; consistent, repeatable, and transparent; and
* Workforce skill via refresh curricula and training materials, standardize by role/position, establish peer-to-peer monitoring, be a learning organization.

# Leadership Engagement

A supportive organizational environment includes a senior management team that is committed to maintaining a knowledgeable project team that is motivated and committed to ensuring an EVM compliant system and ensures the necessary resources and authority are provided.

Senior management demonstrates their commitment to this culture by routinely meeting with project management and stakeholders to focus on transparency of issues identified by EVM progress assessments and system surveillance. Creating a culture that promotes open-dialogue is essential to identifying issues and developing actions for continuous improvement.

# Authority

A project charter provides the authority and defines the following:

* Appointment of a Surveillance Lead (aka, Program Surveillance Officer) charged with responsibility and authority to conduct project surveillance;
* Overall approach to implement the EVM system;
* Key stakeholders involved in the implementation of the EVMS and their key roles and responsibilities;
* Budget and other resources available to implement the EVMS (if available);
* Management requirements that the EVMS will address (e.g. types of reports, management questions, and analysis it will produce and deliver); and
* Expected benefits of implementing the EVMS.

## Earned Value Management System Description

A properly implemented EVMS will provide internal controls with documented, formal program management processes for managing the project. These controls and processes will ensure both contractor and Government program managers, as well as other Government stakeholders, receive contract performance data that:

* Relates time-phased budgets to the corresponding scope of work.
* Objectively measures work progress.
* Reflects achievement of program objectives within budget, on schedule, and within technical performance parameters.
* Allows for informed decisions and corrective action.
* Is current, accurate, complete, repeatable, auditable, and compliant.
* Supplies managers at all levels with appropriate program status information.
* Is derived from the same EVMS the contractor uses to manage the contract.
* Enables timely and reliable Estimate at Completion (EAC).

The Earned Value Management (EVM) System Description is a formal document developed to provide a comprehensive description of processes and guidance for cost, schedule, and technical performance management and reporting to ensure effective project execution using earned value management. Electronic Industries Alliance (EIA) standard EIA-748-D identifies 32 guidelines for establishing and applying an integrated EVMS and categorizes these guidelines into five functional groups. The project’s EVM System Description should addresses these guidelines and functional areas in detail. This document is typically organized in one of two structures:

Around the five functional groups as follows:

1. Organization
2. Planning, Scheduling, and Budgeting
3. Accounting Considerations
4. Analysis and Management Reports
5. Revisions and Data Maintenance.

Around the nine process groups:

1. Organizing
2. Scheduling
3. Work Authorization
4. Accounting
5. Indirect Management
6. Management and Analysis
7. Change Management
8. Material Management
9. Subcontract Management



The elements addressed in the EVM System Description include:

* Work Breakdown Structure (WBS)
* Organizational Breakdown Structure (OBS)
* Responsibility Assignment Matrix (RAM)
* Financial reporting requirements
* Fully integrated resource-loaded schedule
* Performance Measurement Baseline (PMB)
* Assignment of CAMs and implementation of EVMS for CAs within the WBS elements
* Rolling-wave concept for baseline planning
* Implementation of EVMS performance metrics
* Accessibility of EVMS data throughout the project structure
* Formal baseline change control procedures.
* Appendix with information on acronyms and terminology.

In addition to the EVM System Description, a set of procedures should be developed to be used for the management of the projects utilizing EVMS. These documents are used in the surveillance process and may include:

* Preparation & Control of Procedures
* Project Work Breakdown Structure (WBS)
* Project Organizational Breakdown Structure (OBS)
* Control Accounts, Work Packages & Planning Packages
* Control Account Plan/Work Authorization
* Project Schedule
* Cost Estimating
* Monthly Status, Analysis and Reporting
* Change Control
* Risk Management
* Earned Value Management System Surveillance Plan

It is recommended that Contractors utilize the ECRSOP, Appendix A: PM EVMS Compliance Assessment Guidance, item 2. The PM EVMS Compliance Review Checklist (CRC) Excel file (PM CRC 20180911.xls) to document the compliance of their EVM System Description and supporting procedures.

# System Health

Projects should establish routine testing to continuously monitor and ensure data integrity throughout the duration of the project. These data validation reports should be monitored and utilized for making continuous improvements to the EVM system. The surveillance plan should clearly define the responsibilities and provide a process for managing and tracking the results of both internal and external assessments.

## Health Dashboards and Reporting Processes

Processes should include monitoring EVM data to ensure data integrity. This will also aid in documenting EVM compliance as well as serve as a basis for identifying opportunities to continuous improve the overall EVM system.

The DOE ECRSOP, APPENDIX A*, PM EVMS Compliance Assessment Guidance*, includes 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.xls). Routine tests for EVMS and Schedule Integrity tests, per the PM GAT, should be performed by the project to verify the health of the project data.

## Data Traces

Projects should include a review of data that is being mapped between the multiple business systems. Included in this are:

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| SCOPE TRACE: Is there a logical tie between the scope description in the Contract and the Work Package/Activity descriptions in the IMS? |
| Contract SOW or PEP 🡪 WBS Dictionary 🡪 WADs 🡪 IMS |

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| SCHEDULE PoP TRACE: Doe the Period of Performance line-up across the systems? |
| WADs 🡪 CAP BCWS Spread 🡪 P6 Baseline Start/Finish |
| WAD Approval Dates 🡪 Work Start (First ACWP) |

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| BUDGET TRACE: |
| BAC Dollars: WAD 🡪 RAM 🡪 CAP 🡪 PCRs 🡪 Logs 🡪 Performance Reports 🡪 VARs |
| Hours: WAD 🡪 CAP Work Packages 🡪 P6 Work Package Roll-up |

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| STATUS TRACE: |
| QBD Status 🡪P6 Activity % Complete 🡪 WP % Complete in Performance Report |

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| COST TRACE HOURS: |
| Labor System Reports Rolled to WP Level 🡪 CAP Hours |
| COST TRACE DOLLARS: |
| Ensure ACWP is the same value on all reports (Control Account Plan & VARs). If not, the CAM (Not Project Controls) should explain why it might be different values on different reports. |

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| FORECAST TRACE: |
| P6 Current Forecast Start & Finish 🡪 ACWP Start and ETC Finish in CAP 🡪 Staffing Forecast |

## Evaluate Variance Analysis Metrics

Projects should establish Variance Analysis Reporting criteria and thresholds, including a frequency required for review. As a minimum, the following criteria should be included:

* Cost Variance - Current and/or Cumulative, Plus At Completion
* Schedule Variance – Current and/or Cumulative
* CPI
* SPI
* TCPI Margin

## Monitor Actions to Correct and Improve

A process for managing and tracking issues and resulting actions identified in the normal course of assessments, self-evaluations, or other reviews of EVMS compliance should be defined. This process establishes the requirements and responsibilities for the timely identification and evaluation of events or conditions and the platform to document recommendations for improvement to current processes. The use of a formal Issue Management System is recommended to track Corrective Action Requests (CARs), Discrepancy Reports (DRs), and Continuous Improvement Opportunities (CIOs) identified in surveillance reviews.

## Joint-Surveillance between DOE and the Contractor

An assessment of the 32 guidelines must be evaluated at least once during the year. This annual assessment may be performed throughout the year.

* Identify participants – in addition to individuals from the Project Controls organization, includes participants from peers, external consultants and joint participants from local DOE Planning and Execution Division, Planning and Baseline Management Branch.
* Select members based on the following attributes:
  + Practical experience using EVMS
  + Technical knowledge and experience as it relates to the objective of the review
  + Strong support of EVMS compliance
  + Good relationships with field and functional project members
* Develop an annual assessment plan
  + Consider organizing reviews by EVM Functional Areas
  + Develop assessment templates that identify the attributes and lines of inquiry being reviewed and the approach to be used. Start with a data-driven approach to not isolate CAMs and follow-up with CAM interviews.
  + Document findings and review results
  + Document updates made to EV systems during the year
  + Prepare a list of findings, observations, good practices
  + Similar findings or observations discovered in multiple reports may reflect a systemic EVMS compliance problem that requires further attention.
  + Conduct an out-briefing with each review

The ECRSOP APPENDIX D, *PM EVMS Compliance Review Team Toolkit,* provides the following documents as resources that can be utilized when planning and conducting project reviews:

* IFF Interview Template 20181019
* IFF Questions Template 20181019
* Self-Governance Review Checklist 20181128

# Process Effectiveness

A process for managing issues identified through self-governance and surveillance reviews should be established. This should include procedures that establish the process to prioritize and execute process improvements.

Tracking is necessary to ensure items, issues, or conditions receive management disposition as adjudicated. Use of control logs to document issues and capture/record management decisions is recommended.

## Data-Driven, Risk-Based Approach

EVMS risks should be reviewed on a routine basis. Items with high to medium risks are those most likely to cause unfavorable cost, schedule, and/or technical performance impacts. Emphasis should be placed on these specific areas of vulnerability during EVMS reviews. Risk Matrix evaluations may consider the following when making a determination on the potential for adverse impact to the project:

* Program Phase
* PM EVM Experience
* Total Project Value
* Value of Prime Work Remaining
* Value of Subcontract Work Remaining
* Value of Material Planning
* Remaining Management Reserve Value
* Over Target Baseline
* SV%, CV%, or VAC%
* Critical Path Float
* Baseline Volatility
* Indirect Rates
* Ongoing Systems Issues
* Time Since Last Review

# Workforce Skills

Projects should develop a systematic effort to identify and continuously develop the knowledge, skills and abilities required for each position to support an effective EVMS system within the organization. Typical roles associated with the EVMS function include:

* Project Managers
* Control Account Managers
* Project Controls Management
* Project Controls

Establishing peer-to-peer monitoring by utilizing resources from other sites to enhance programs by sharing best practices is recommended.

## Be a Learning Organization

Various roles within the organization that include EVM responsibilities should be identified. Defining the specific roles will allow projects to establish standardized training requirements to ensure personnel are appropriately trained. Projects should maintain training records/checks to ensure training is completed.

Curricula and training materials should be refreshed to incorporate changes and focus on areas where weaknesses have been demonstrated. It is recommended that projects present training in bite-sized pieces and use various methods of delivery such as weekly video blasts and lessons learned to reinforce training efforts throughout the duration of the project.

# Reference Documents:

* Electronic Industries Alliance (EIA) Standard 748 Rev D (Revised 2019-01)
* DOE 413.3B, Change 5, *Program and Project Management for the Acquisition of Capital Assets*
* DOE-PM-SOP-04-2018, Office of Project Management (PM) Earned Value Management Systems Compliance Review Standard Operating Procedure (ECRSOP) dated November 28, 2018