

Fermilab EVMS Surveillance Review Close-out Presentation

December 10 -11, 2014

Fermilab Surveillance Review

Team Members

- Bob Wunderlich, (Team Leader) Consultant (DOE Retired)
- Jenn O'Connor, (Deputy Team Leader) BNL, Project Management Specialist
- Betsy O'Connor, ANL, Assistant Chief Financial Officer
- Kelly Krug, JLAB Project Management Office Manager
- Rick Larson, LBNL, Project Controls Analyst
- Katie Martin, ANL, Project Controls Scheduler
- Sherese Humphrey, ANL, Project Controls Scheduler
- Bob O'Sullivan, FNAL, LBNE Project Controls Manager

Fermilab EVMS Surveillance Team Assignments

Team Member	Responsible Area	Guidelines
Bob Wunderlich	Organization	1-3,5
Jenn O'Connor Katie Martin	Planning, Scheduling, and Budgeting	6-12, 14, 15
Betsy O'Connor	Accounting Considerations	4,13, 16-21
Rick Larson Sherese Humphrey	Analysis and Management Reports	22-27
Bob O'Sullivan Kelly Krug	Revisions and Data Maintenance	28-32

Surveillance Review

DOE Guide 413.3 Definition

- A review conducted to demonstrate continued compliance of a certified system to the ANSI/EIA-748-B, or as required by the contract, and in accordance with FAR clause 52.234-4, *EVMS*, to ensure company processes are being followed, verify the EVM data is useful, timely, and effective, and assess whether the data is used to make informed decisions.
- Provides a record for both DOE and the Laboratory in support of future assessments of their EVMS and/or DOE Order 413.3B compliance.

Review Team Report

- Write-up for every EVMS 32 Guidelines
- Corrective Action Request (CAR)
 - Requires a corrective action and system implementation to be compliant with Fermilab's EVMS and ANSI Guidelines
- Continuous Improvement Opportunity (CIO)*
 - Suggested Improvement requiring a corrective action
- Continuous Improvement Opportunity (CIO)
 - Enhancements or other suggested improvements
 - CIOs do not require a corrective action plan
- Draft report will be provided to Fermilab for factual accuracy check.

Basis for Team Observations

- ANSI/EIA-748-B Standard
- Fermilab's Certified EVMS including EVMS Systems Description and Procedures
- Project presentations and status
- Interviews with Fermilab Management, Project Managers, CAMs, Project Controls and Accounting staff
- Supplied Project Documents including the website
- Daily outbriefing to summarize team's assessment and feedback provided by Fermilab..

General Observations

- FRA EVMS still meets the requirements and intent of ANSI/EIA-748 Standard.
- Overall improvements noticeable since the August 2013 surveillance review.
- EVMS cultural shift was evident.
- EVMS training program has been helpful. Tailored training program, with short individual topics, has been effective.
- Introductory presentations, provided to the Review Team, helped to put the Laboratory, FRA EVMS, as well as the CMS and Mu2e Projects in perspective.
- CAMs knowledgeable and engaged. Ownership is clear.

General Observations

- Formation and staffing of the Chief Project Officer and OPSS organization have supported the structured Lab-wide emphasis on project performance in general and EVMS in particular.
- FRA EVMS continues to mature but some elements still need some refinement.
- Recognition that CMS was just baselined and Mu2e is not yet baselined, the Review Committee believes that the team is capable of resolving the issues identified and implementing an FRA EVMS that provides useful and accurate information that can be used to identify issues and provide the basis for management decisions.

Review Results

Corrective Actions

Corrective Actions fall into two broad categories:

- 1) non-compliance with the ANSI/EIA 748B EVMS guidelines (process).
- 2) non-compliance with the approved EVMS description or procedures (implementation)

Failure to resolve Corrective Actions reduces confidence in the ability of project management to effectively use the EVMS process to achieve project goals and objectives of the stakeholders. A Corrective Action Plan is required for each finding.

Review Results

Continuous Improvements

The team members may recommend EVM implementation enhancements such as sharing of successful practices, tools, or other items that come to their attention. Continuous Improvements, however, are not the same as Corrective Actions and, therefore, need not be tracked for closure. However, should a recommendation have an asterisk (*), the team members have elected that this practice is critical enough to require tracking to closure.

Corrective Action Requests

- 1) Traceability -The information provided to the reviewers lacked key elements to allow for a cradle-to-grave traceability to confirm that Baseline Change Requests were implemented in accordance with the EVMS Systems Description. (GL-28-29-31)
- 2) Properly identify and track MR, UB and contingency - Tracking for MR, UB, and contingency for CMS Project not in compliance with EVMS Change Control Procedure (GL-14-15)

Continuous Improvement Opportunities *

- 1) Continue to improve the variance analyses to remove quality variability. (GL-23)
- 2) Continue to examine the use of LOE tasks to ensure that they are being appropriately used. (GL-12)
- 3) Continue to refine the calculation of Estimate at Completion (EAC) to be standardized across the projects and better reflect CAM/PM assessments. (GL-27)
- 4) The Corrective Action Logs, that reflect variance analyses, needs to be standardized so they can be tracked by the PMs and provide a single source of issues for Fermilab Management. (criteria, process, and timely updates) (GL-26)

Continuous Improvement Opportunities *

- 5) Make a recommendation to the FPD on Fermilab PARS II reporting and obtain FPD direction. (GL-25)
- 6) Review and validate the accuracy of the schedule logic. Perform schedule clean-up (include integrity checks) on a regular basis. CAMs should be trained to better understand how their sub-projects roll up into the master project schedule and which high level project milestones they impact. (GL-6)
- 7) Continue CAM training to include accruals and indirects. (GL-16)
- 8) Continue to ensure that no retroactive changes to the BCRs. (GL-30)

Continuous Improvement Opportunities

- 1) The number of cost and schedule reports supporting the BCRs varied across the projects. A Fermilab Change Control Process/Procedure needs to be standardized for consistent implementation across the projects. (GL-32)

Noteworthy Practices

- Desktop Instructions provide additional guidance for CAMs.
- EVMS training program and OPSS support has been very helpful.
- The Project Teams demonstrated a thorough understanding of the Change Control Process, including the process flow and controlled documents. They are knowledgeable and engaged.

Root and Contributing Causes

- There is a continuing need to develop standardized Fermilab EVMS processes and procedures (that allow tailoring) to ensure that direction/guidance is provided to the project staffs, regardless of the projects that they are working on.
 - Develop a plan to examine, develop and/or update Fermilab EVMS procedures to reflect usage across Fermilab and provide appropriate guidance/direction to Fermilab staff.

Other Topics

- Fermilab Management structure and reporting
 - Fermilab has made a number of significant changes in their organization/management structure to reflect change to a project management emphasis/culture. (POG, PMG, OPSS, Chief Project Officer, Resource Manager, etc.)
 - Working relationships are still evolving.
 - DOE FPD and HQ Program Office are supportive of the changes.
 - Fermilab CMS and Mu2e Project Managers are supportive of the changes.
 - Chief Project Officer and OPSS Manager are supportive of the changes.
 - CAMS know who they report to.
 - While a bit unusual, no inherent reason for the Review Team to recommend changes to their organizational structure.

Other Topics (2)

- Cautions
 - Chief Projects Officer authorities are not consistent with responsibilities.
 - Projects report up through matrix managers which may have undue influence on project managers relative to resources.

Other Topics (3)

- Use of artificial constraints in the baseline schedule.
 - It is understood that there are different methods to build a schedule where the intended plan can be included in the baseline while at the same time planning for an attainable BCWS profile.
 - There does not seem to be an optimal solution to this issue concerning the use of artificial constraints.
 - The practice of including artificial constraints in the Baseline schedule to slow-down the BCWS profile and then remove the constraints in the working schedule, results from a lessons learned from NOvA, where significant VARs occurred even though the project critical path remained on schedule.
 - The practice of removing the artificial constraints after baselining may result in a disconnect between the current plan and the baseline plan. Removal of the constraints may also be subject to Baseline Change Control.
- OPSS discussed the practice with other labs and the Review Team believes that this needs to be discussed at a higher level.
- The DOE Project of Office Assessment should examine this to determine best practices and/or acceptable practices.

Closing Remarks

- Thanks to Fermilab management and staff, including project control organization, accounting, and the CMS Project and Mu2e Project teams for their support of this EVM System Surveillance Review.
- Thanks to the review team members for taking the time to apply their expertise in conducting this Surveillance Review.