

## Comments/Question on FRA EVMS Description

### 1.0 Introduction

“This system description also applies to large and/or high-risk projects that have been determined by **Fermilab management** to require EVMS project management controls. The assigned **Fermilab Project Manager** has the primary responsibility for implementing the EVMS and for ensuring projects are planned and executed consistent with the requirements and processes defined in this system description. The **Fermilab Office of Project Management Oversight (OPMO)** has the primary responsibility for maintaining the EVMS and maintaining interfaces with existing **Fermilab business and management systems.**”

1. Where is FRA in all of this? The EVM System belongs to FRA not the Lab
2. Are these folks employees of FRA or DOE??

### 1.3 TAILORING THE EVMS PROCESS

“The EVMS process ensures that **all federal Line Item and Major Items of Equipment projects** will consistently follow the process outlined in this document. Although **tailoring to a project's specific needs** is appropriate and expected, an EVMS must be applied in a consistent and formally documented process commensurate with the project's budget, scope, and risk. Implementing, monitoring, controlling, and self-auditing the process assures the highest level of project performance.

**Deviations** from any requirement or process as described in this Earned Value Management System Description document or associated implementing procedures **must be documented in Federal Project Execution Plans (PEP) or Fermilab-prepared Project Management Plans (PMP).** Customization of reporting or approval thresholds different from those established in this manual must also be documented in project-specific management plans.”

3. Why the distinction in projects when the need for an EVMS is clearly articulated in 413?
4. Please explain what can be tailored?
5. If the project meets the DOE413 requirement for EVM then deviations are not allowed?  
Please explain.

### 2.0 Organization

**“The Project Manager reports to the appropriate Fermilab Associate Director, or to the Fermilab Director.** The organizational structure is described in the Project Execution Plan (PEP). The Project Manager has authority and the responsibility to execute the project within the

scope, budget, and schedule *agreed to between Fermilab and the customer*. The Project Manager delegates the same responsibility to the Control Account Managers (CAMs) for the control accounts assigned to them.”

6. I need to better understand the FRA organization structure.

7. Are the Fermilab Director and Associate Director a FRA employee or DOE employee?

### **2.3.4 Planning Packages**

“Planning packages are created to describe work within a control account that will occur in the future. Planning packages must have a work scope, schedule, and time-phased budget. Planning packages are normally larger (scope, schedule, and budget) than individual detailed work packages, but planning packages must still relate to a specific work scope. Individual planning packages do not require the detail found in work packages. *When planning packages are converted into work packages, they are defined in greater detail.*”

8. This section needs to be expanded to include a ‘freeze period’. Words such as “... a planning package must be detailed planned no later than 2 months before the work is to begin...”

## **3.0 Planning, Scheduling and Budgeting**

### **3.5.1 Cost Estimating**

“Cost estimating is a key component of the project baseline budget development process and an integral element in the establishment of annual funding requirements. Estimates are developed and maintained from project initiation through project completion.”

9. What is the purpose of discussing ‘annual funding requirements’ when EVM deals with life-cycle baselines?

### **3.5.2 Baseline Budget**

“**Total Project Cost (TPC):** The total project cost consists of all costs associated with a project, including contingency and management reserve. It is the sum of all capital costs and the operating costs associated with the project, including engineering studies, conceptual design, construction, startup, and costs to complete transition and facility occupancy. *Tailoring strategies may be employed regarding operating costs to most effectively use project funds. (See Fig. 4.1 for additional information.)*”

“**Management Reserve:** That portion of the approved contingency budget assigned by the customer or the Federal Project Director (on DOE Projects) to the Project Manager for management control purposes. (See Section 3.6 for additional information.)”

“The time-phased baseline budget, plus time-phased contingency, are **used to communicate and establish annual funding requirements for the project.** For projects that include significant third party subcontractors (i.e. A/E or General Construction Contracts), annual incremental or full funding requirements are time phased so that sufficient funding is identified and allocated to the project to maintain adequate schedule progress. **Funding authorization may be required significantly earlier than when the actual costs are incurred.** The project must ensure that sufficient funding is authorized by the customer to cover planned actual cost and subcontract commitments in advance of the completion of project work scope.”

10. Why is an EVMS document discussing project funds?
11. Please explain the statement “Tailoring strategies...”.
12. Does FRA have more than 1 customer? I thought FRA was “created specifically to manage and operate Fermilab for DOE”.

### 3.5.3 Control Account Planning

“Although records can be kept at lower levels of detail, the lowest required level of detail for maintaining the BCWS and the BAC is by resource, **within the work package subsets** of the control account.”

“Control account budgets may be further subdivided into one or more work packages in the project schedule. The CAM selects the performance measurement technique (PMT) – the method for measuring the work performed for each work package. **Only a single PMT may be used on each lowest level activity..**”

13. What is a work package subset?
14. How does **“Only a single PMT may be used on each lowest level activity..”** reconcile with the statement made in Section 5.1, **“Stability: One PMT is chosen for each work package.”**

### 3.5.5 Overhead Budgets

“At Fermilab, the financial management system has a documented process and the Finance Section is the identified organization responsible for managing, monitoring, and distributing overhead rates.”

15. Who at FRA is responsible?
16. How can Fermilab be responsible for o/h rates for the company known as FRA?
17. This relationship is unclear to me; I need to better understand. An Company’s EVM System cannot be certified when using another’s accounting system.

### 3.6.1 Contingency

“Contingency is an amount of the approved Total Project Cost (TPC) that is identified at the start of the project. The contingency is established to provide budget coverage for future uncertainties (risks) that are within the scope of the project **but are not funded** in the control account budgets.”

18. Earned Value does not concern itself with FUNDING. I think I understand your intent but the phrasing needs to change. “...that are within scope of the project but are not part of the control account budgets.” If this is NOT your intent please explain.

### 3.6.2 Management Reserve

“Management reserve is the portion of project contingency specifically assigned to the Project Manager for the management of changes within his approval authority. The Federal Project Director on DOE funded projects, **or the customer on non-DOE projects**, may chose to periodically allocate a portion of the contingency budget to the Project Manager as management reserve.”

19. How much NON-DOE work does FRA do?

20. How can you reconcile the following statement with the highlighted section above?

“Fermi Research Alliance, LLC (FRA) is a Universities Research Association (URA) and University of Chicago (UChicago) limited liability corporation, **created specifically to manage and operate Fermi National Accelerator Laboratory (Fermilab) for the Department of Energy**. This FRA Earned Value Management System Description provides the requirements, procedures, authorities, and responsibilities for implementing an Earned Value Management System (EVMS) **on Fermilab projects** subject to U.S. Department of Energy (DOE) Order 413.3A, “*Program and Project Management for the Acquisition of Capital Assets.*””

### 3.7 WORK AUTHORIZATION

“**External Work Authorization:** On DOE projects, the DOE Federal Project Director is responsible for granting authority to perform project work scope **related to Federal Line Item constructed facilities and major DOE programmatic research projects**.”

**Work authorization for non-DOE projects follows customer specific authorization processes.**

On DOE projects, documentation is prepared for review by DOE representatives prior to each Critical Decision to support the work authorization process. Upon successful completion of this

review, the DOE Acquisition Executive (AE) issues a Critical Decision approval and **a written authorization for Fermilab** to perform work consistent with the approved baseline plan. Once an external customer work authorization is received, and funding allocations are made, project work is performed consistent with the integrated baseline technical, schedule, and budget elements.”

21. Why the distinction between construction and reserach?
22. Same question as # 41 and 42.
23. Written authorization for Fermilab? Or FRA?
24. There is no discussion as how FRA receives authorization to proceed

**“Internal Work Authorization:** The objective of the internal work authorization process is to ensure that all defined project work is authorized by the Project Manager and formally communicated to the appropriate and responsible CAM. The work authorization process involves management approval of the expenditure of project resources, by a responsible individual, to accomplish a specified scope of work within agreed to budget, schedule, and technical objectives. The work authorization process utilizes the products of the baseline development process to provide specific direction to the performers of the work. **It assures that work assigned to responsible individuals, time-phased budget estimates, and work schedules are all integrated with each other and are related to the WBS within the funding limitations on the project.** Formal work authorization provides a means for effective internal coordination, communication, and a process to obtain the required management approvals before work begins.”

25. While funding limitations are important, EVM does not concern itself with funding. A plan is developed without concern for funding. If it becomes evident that the funding profile is less than the value of the planned work the change control policy is invoked. Work and its associated budget is moved and the EV documentation is updated. YOU DO NOT PLAN BASED ON A FUNDING PROFILE.

**“Project management** delegates work down to the CAMs within the authority provided in Control Account Plan/Work Authorization form.”

26. Shouldn't this be the Project Manager?

### **3.8.2 Subcontracts without Flow-Down**

“The method of payment to non-EV flow-down subcontractors and to collaborators will generally drive the planning for receipt of cost and schedule information required to perform

earned value management. For most subcontracts, payment will be made based either on the achievement of planned milestones or, for design and construction, the percentage of completion of those milestones, or on the basis of cost reimbursement for labor hours expended and materials consumed. For collaborator purchase orders, payment will be made based on the terms of the MOU, typically for items produced or labor expended. Information provided by the subcontractor with requests for payment must be sufficiently detailed that accurate cost information can be incorporated in the earned value reporting.

**An EV flow-down requirement is not mandatory for collaborators** or for any of the following types of subcontracts:

- Firm Fixed Price (FFP)
- Time and material
- Support subcontracts that are primarily level of effort (LOE)”

27. Please explain.

#### **4.0 ACCOUNTING CONSIDERATIONS**

28. In general, I need a better understanding of the accounting system and procedures used at FRA; not Fermilab.

“For FRA projects at Fermilab, financial data accumulation and management for projects is performed within the established financial systems. All financial transactions are documented, approved, and recorded properly in the financial accounting system on a consistent and timely basis in accordance with Generally Accepted Accounting Principles (GAAP) and applicable Cost Accounting Standards. Any change in Fermilab’s accounting practices that may have a material impact on the financial data must be approved by the Laboratory’s Chief Financial Officer (CFO). In accordance with Fermilab practice, the CFO is delegated the authority to direct and monitor adherence to generally accepted accounting principles to ensure compliance with all applicable laws and regulations.

Fermilab’s Revised “Cost Accounting Standards Disclosure Statement” dated August 4, 2006, describes the methodology for handling various actual costs.”

29. Are there FRA projects outside Fermilab?
30. What is the established financial system?
31. Are you saying that FRA itself does not have an accounting system??
32. Who can make changes to the Lab’s accounting practices?
33. What are FRA’s accounting practices?
34. Need a copy of the CASDS to review.

35. Need a copy of FRA's organizational structure to understand FRA's role in Accounting.

#### 4.1.2 Cost Code Structure

"The Project Office submits a request to Accounting to open a control account in the financial accounting system for collecting actual costs. This ensures that actual costs are recorded at the control account level. Control accounts will be closed when the work is complete."

36. Which Project Office; FRA/Fermilab/other? This is unclear.

37. Is the Accounting Department staffed with FRA employees?

#### 4.1.4 Direct Costs

"Each direct labor employee allocates their time worked on a periodic basis in a uniform manner via an institutional time and effort reporting system. The hours or **percent effort are recorded**, direct labor dollars are charged to the project control accounts, and are available monthly from the financial system."

38. Please explain 'percent effort'?

#### 4.1.5 Material Cost and Accounting

**"Encumbrances are recognized at the point an approved order is placed.** Equipment and material costs enter the general ledger through the accounts payable system. When an invoice is received the accounts payable group applies the invoice to the appropriate purchase order (PO). **If further approvals are required, or if receipt of goods has not been entered into the system, the invoice is placed on hold.** Once the receiving department has recorded receipt in the procurement system, or the PO requestor acknowledges physical receipt of materials by signing the invoice or sending electronic approval, invoices are approved for payment. The hold is then released and the payment is processed by the accounts payable group. **The receipt of materials in the procurement system provides the system with information needed so that monthly accruals are automatically recorded for items that have been received but not invoiced. Additionally, procedures are in place to allow for accruals of items or services not physically received at Fermilab.** This allows project management to record estimated actual costs in cases where value has been earned but invoices have not yet been received."

39. Please explain the 'encumbrances are recognized...' statement.

40. It appears that the 'receipt of goods not entered into the procurement system' and the 'receipt of material in the procurement system' statements are at odds with one another.

41. Please explain how the accrual process works when "If further approvals are required, or if receipt of goods has not been entered into the system, the invoice is placed on hold." Costs should be accrued appropriately.

42. Please provide the documented procedures for accruing items/services not physically received at the lab.

#### 4.2 INDIRECT COST PLANNING AND CONTROL

43. Who in FRA is responsible for controlling indirect costs? The ANSI-748 requires that the organization or function responsible for controlling overhead (indirect costs) be identified.

#### 5.0 ANALYSIS AND MANAGEMENT REPORTS

**“The Performance Measurement Baseline is used to measure and analyze cost and schedule status and to evaluate project performance.** Project variance thresholds provide the parameters for monthly project variance reporting. The Monthly Report identifies project performance parameters (as both time-phased and as a “snapshot” in time) based on variance analysis. The report may also recommend corrective actions, as appropriate. **Management actions (e.g., requesting a change and applying or returning contingency/management reserve) are implemented as prescribed in DOE Order 413.3A or through other customer reporting requirements.”**

44. The PMB is used firstly to measure progress/performance; not to measure and analyze cost. EVM is not a financial report.
45. Management Reserve (MR) cannot be returned; it belongs to the contractor, not the government. MR cannot be used to fund additional work scope, cannot be used to offset variances. It is risk based and is tied to those risks.

##### 5.1.1 Performance Measurement Techniques (PMT)

**“50-50:** 50% of the value is earned as soon as the work package is started, and the rest is earned when it is completed. This PMT should be used only for work packages that span a maximum of **two fiscal periods** since value cannot be earned in any intervening periods.”

**“0-100:** No value is earned until the work package is completed; at which point, the entire budget is earned. This method should be used only if the work package is scheduled to start and finish in the **same fiscal period.**”

**“User-Defined %:** A variation of the 50-50 PMT. The percentage earned at the start of the work package (1 to 99%) is defined in advance by the user. The remaining percentage is earned when the work package is completed. This method should be used only for work packages whose schedule dates span a maximum of **two fiscal periods.**”

**“100-0:** All of the value is earned as soon as the work package is started. This method should be used only if the work package is scheduled to start and finish in the same fiscal period.”

**“Level of Effort:** If the work package is started, it is assumed to progress (and thus earn value) according to the original budget without deviation. This PMT is most suitable for only a small number of work packages that are by their nature immeasurable. By definition, the value earned by an open work package using this PMT is equal to its to date budget.”

46. Suggest adding the word “ACCOUNTING” between “fiscal” and “period” in order to clarify what type of fiscal period.

47. **There is NO SUCH technique as 100-0. DELETE THIS ENTRY IN ITS ENTIRETY!**

48. Suggest adding to LOE definition the following “BCWP or Performance is earned through the passage of time equal to the BCWS or Plan for that time frame.”

### **5.1.2.3 Current Schedule Stating**

“Every month following **the processes described in the project’s Project Management Plan,** each control account manager will determine the status of each open or scheduled activity in the current schedule for which they are responsible and the schedule will be updated accordingly.”

“The schedule is updated to reflect the current status **in accordance with the procedures described in the project’s Project Management Plan.**”

49. What processes/procedures?

## **6.0 Change Control**

### **6.1.1 Objective**

“DOE Manual 413.3-1, and other DOE guidance documents, establish change control requirements for DOE projects. All major projects will implement similar requirements in project procedures for change control. Change control processes begin after CD-1 for design activities (scope/budget/schedule) and between CD-1 and CD-2 for the working baseline. Change control processes continue when the performance measurement baseline is approved.”

50. Why are specific CDs mentioned? And if specific CDs are required where is CD3?

51. The EVMS Change Control Process should be evoked regardless of what CD or whether or not a baseline is approved. You develop a plan or baseline and work that plan. If changes to the plan are made as a result of an IPR/EIR you work the change control process. This is all about traceability and transparency.

### **6.1.5 Internal Changes**

“The objective of an internal change is to reflect a more accurate, realistic project plan. It is sometimes necessary to perform replanning actions that are within the scope of the authorized

contract. **These replanning actions may be appropriate to compensate for cost, schedule, and technical problems that cause the original plan to become unrealistic, require reorganization of work or personnel to increase the efficiency of accomplishing the effort, or require different engineering or construction approaches.**

52. GL28 is clear in its intent that incorporating changes must not arbitrarily eliminate existing cost and schedule variances. So with that in mind, please explain under what conditions replanning would occur.

#### **6.1.6 Formal Rebaselining**

“The formal rebaseline process is a comprehensive replanning effort of the remaining work on the project. A rebaseline occurs when there is recognition by the customer and the project manager that in order for the project baseline to continue to be a useful management tool, significant changes are necessary. Common reasons for a formal rebaseline to the PMB include **substantial changes to funding profiles, subcontract bids being significantly higher than budgeted, significant additional or changes to work scope that affects the budget and schedule of a project, or delays to schedules because of insufficient timeframes for acquiring approvals.** Rebaselining can only occur with the future PMB and is to be avoided if at all possible.”

53. I’m not sure how changes to a funding profile would require a comprehensive replan. Please explain.
54. “Subcontract bids being higher than plan” is not an appropriate reason for a replan. Please explain the need for a replan.
55. “Additions and/or changes to work scope” are controlled by the contract mod process; BCP, BCRs. Why would a replan be required to incorporate the new or changed SOW?
56. “Project delays as a result of insufficient timeframes” is not an appropriate reason for a replan. You carry these as a schedule variance.

#### **7.0 Surveillance**

##### **7.2 SELF ASSESSMENT FOR SYSTEM SURVEILLANCE AND MAINTENANCE**

“FRA self assessment is executed through a continuous quality control monitoring process and through periodic surveillance by knowledgeable and independent individuals. This process will be conducted by the **Fermilab Office of Quality and Best Practices** on an annual basis....”

57. Are these government employees or contractor employees?