LCLS Project Management Document # 1.1-022	Project Management	Revision 1.0
Earned Value Management System		
Monthly Status and Reporting Procedure		

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Change History Log

Rev Number	Revision Date	Sections Affected	Description of Change
0.0	03/22/06	All	Initial version released.
1.0	11/01/2006	Section 6.3	EAC Calculation

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LIST OF FIGURES

Monthly Status and Reporting Procedure

1.0 PURPOSE

This document describes the process used to status the schedule and cost data and to produce project performance reports on a monthly basis for the LCLS project following all guidelines in the LCLS Project Execution Plan, Project Management Plan, and Earned Value Management System Description.

2.0 SCOPE

This procedure applies for the entire life cycle of the LCLS project. This procedure must be followed for every monthly reporting period.

3.0 REFERENCES

LCLS Project Execution Plan, Section 7, Project Management, Control, and Reporting

LCLS Project Management Plan, Section 11, Information and Reporting

LCLS 1.1-015 Earned Value Management System Description, Section 2, Earned Value Analysis and Progress Reporting

LCLS 1.1-018 Control Account and Work Package Planning Procedure

LCLS 1.1-019 Change Control Procedure

LCLS 1.1-020 Project Schedule Procedure

LCLS 1.1-021 Cost Estimating Procedure

Monthly Status Sheets (automatic template from online toolset)

Monthly Technical Status Report (template)

Project Management Control System (PMCS) Utility (online toolset)

Risk Registry (database)

4.0 DESCRIPTION

This document describes the methodology used to:

- Update the current schedule with the latest status for the current monthly reporting period;

- Use the current schedule status to determine earned value costs for the current monthly reporting period;

- Collect actual costs from the accounting system for the current monthly reporting period;

- Perform independent estimate at complete (EAC) calculations;

- Review known risk factors and identify new risk factors that can impact project performance;

- Create monthly technical status reports which highlight accomplishments and issues;

- Conduct system and project status and performance reviews;

- Perform variance analysis and define corrective action plans;

- Produce the formal project performance reports for the DOE.

The goal of this process is to ensure that the project status and performance is assessed, reviewed, and reported in a consistent manner on a regular basis for the life of the project. This project status and performance information is vital information that everyone on the project uses to ensure that the project's technical, schedule, and cost objectives are met.

Central to this goal is the PMCS Utility that is used on the LCLS project. The PMCS Utility is an online toolset that is used by everyone on the project. It is an integrated schedule, cost, and financial tool that allows the ability to view detail and summarized project data in a central repository. It does this by combining source information from the schedule, cost management, and accounting systems.

For the monthly status and reporting process, the PMCS Utility provides a central view of the:

- Detailed cost estimate. This combines information from the schedule, cost, and accounting systems at the various levels of the WBS. It includes control account and work package details along with activity resource loading details. It also includes charge number details; this information is widely used to ensure valid charge numbers are open and available.

- Contract Performance Report. This provides a summary view of the cost data based on the WBS with drill down analysis capability. At the lower levels, related earned value milestone data is included to identify which milestones are related to a particular scope of work. This information helps the control account managers analyze the variances for the current reporting period.

- Schedule, performance, and actual cost trend line reports. This provides a graphical view of the data for further analysis.

- Total float report. This provides a means to further assess the status of the schedule. It is useful for identifying trends related to the use of schedule float at various levels in the schedule. It is also useful for tracking the status of key project milestones.

As needed for further analysis, the PMCS Utility also provides the ability to view:

- Change Control Board log. This is useful for reviewing proposed and approved change requests.

- Milestone Dictionary. This is useful for reviewing key milestone parameters.

- WBS Dictionary. This is useful for reviewing statement of work details.

- Responsibility Assignment Matrix. This is useful for reviewing who is responsible for what.

- Work Authorization Documents. This provides the ability to track how budget is allocated to the control accounts.

The variance thresholds used for performance analysis and reporting are defined in the LCLS Earned Value Management System, Section 2.3.3. Any Project Office specific variance thresholds are identified in the LCLS Project Execution Plan. These thresholds may change during the life of the project depending on the management needs of the project.

The monthly status and reporting process is illustrated and described in Section 5. Note that the acronym PMCS is used to identify the LCLS project management control team in the process flow charts.

5.0   PROCEDURE DETAILS

5.1   Collect and Compile Status Data
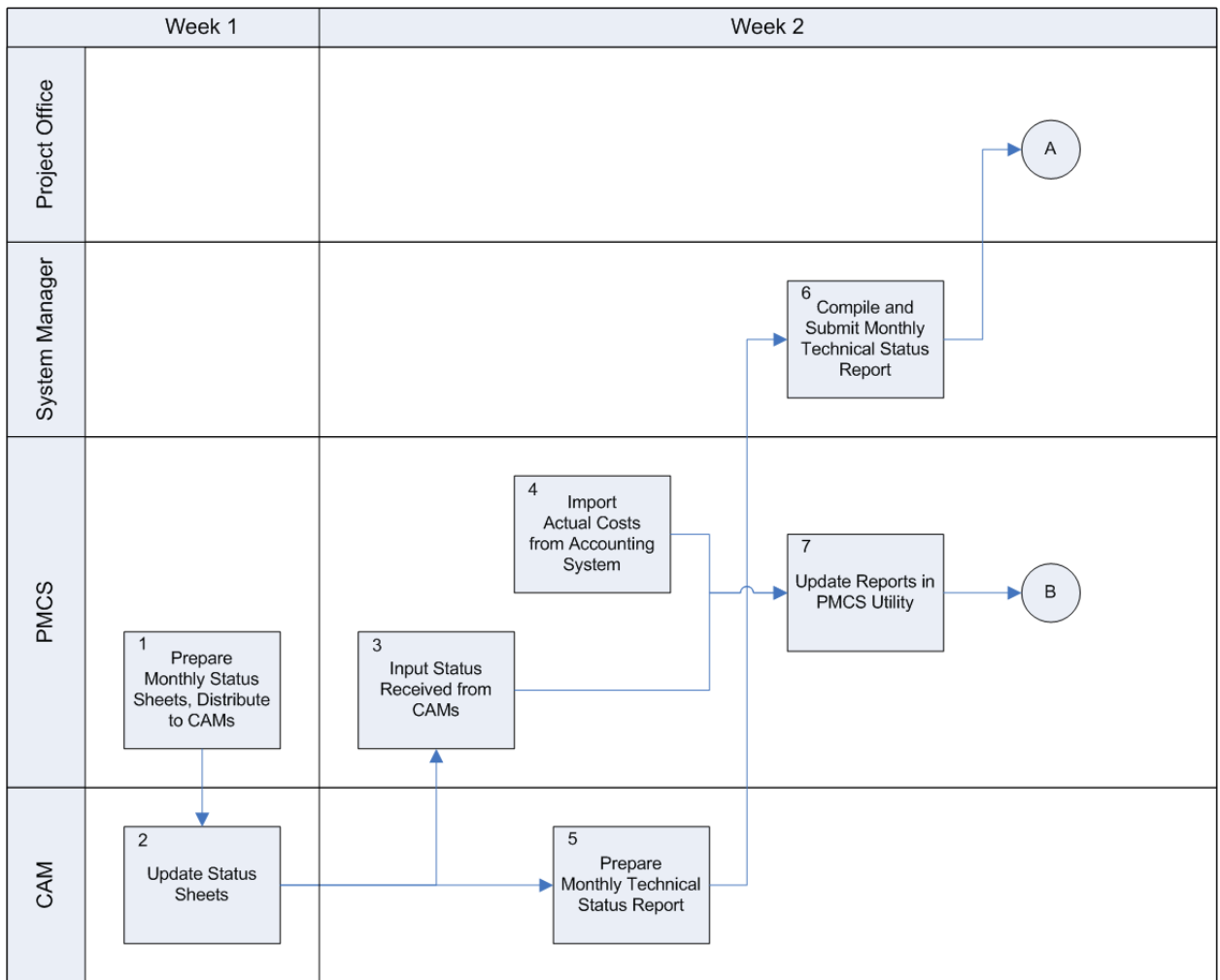

Figure 1. Collect and Compile Status Data

Step 1   Prepare Monthly Status Sheets, Distribute to CAMs

Responsibility: Project Control Team

At the start of the month, the project control team generates the Monthly Status Sheets for the control account managers. This is an automated report generated from the schedule database organized by WBS and control account manager assignment. This report selects those schedule activities that are scheduled to start or finish within the current reporting month, as well as an advanced look at the activities scheduled to occur in the next three months. Once generated, these Monthly Status Sheets are posted to a shared project portal or emailed to the CAM if he is located offsite.

Step 2   Update Status Sheets

Responsibility: Control Account Manager

The control account managers enter the status for their work activities or milestones into the status sheet. They must update the Monthly Status Sheets in the next five business days.

If an activity has started, been completed, or if the expected finish date is known, the control account manager enters the dates in the Actual/Expected Start or the Actual/Expected Finish columns in the report. Otherwise, the control account manager indicates the percent complete in the Earned Value % Complete column.

Once the control account manager enters their status information, they post the updated Monthly Status Sheet to the shared project portal or email it back to the Project Control Team.

Step 3   Input Status Received from CAMs

Responsibility: Project Control Team

Using the updated Monthly Status Sheets from the control account managers, the project control team uses the reports to post the status updates to the schedule database.

Once the schedule status is entered, an integration utility is used to update the cost database based on the current schedule status. Once the cost database is updated with the current schedule status, earned value costs are calculated in the cost database.

This process step ensures that the schedule is the source for determining the earned value costs.

Step 4   Import Actual Costs from Accounting System

Responsibility: Project Control Team

At the same time the project control team is collecting status from the control account managers, they are also responsible for importing actual costs into the cost toolset from the accounting systems. This is done via an electronic file that accounting provides to the project control team. This file is typically provided within seven working days after the month end.

Step 5   Prepare Monthly Technical Status Report

Responsibility: Control Account Manager

Once they have completed their Monthly Status Sheets, the control account managers are then responsible for preparing their Monthly Technical Status Report. This report highlights accomplishments, provides a written assessment of what is currently going on with the scope of work they are responsible for, and identifies any issues. The control account managers provide their reports to the applicable system manager.

Step 6   Compile and Submit Monthly Technical Status Report

Responsibility: System Manager

Using the Monthly Technical Status Reports from the control account managers, the system managers are responsible for preparing a system level Monthly Technical Status

Report. These reports compile the information from the control account managers and the earned value system and provide additional assessments of what is currently going on from a system level perspective. The system managers submit these reports to the Project Office.

Step 7   Update Reports in PMCS Utility

Responsibility: Project Control Team

Once the schedule status, earned value costs, and actual costs are available in the source toolsets, the PMCS Utility is updated with the latest data. The project control team is responsible for ensuring the data in the PMCS Utility are current and available for the next steps in the process by end of week two into the current reporting month.

Once the updated data is available in the PMCS Utility, the analysis process begins. The current performance data is compared to the performance measurement baseline for performance analysis and reporting.
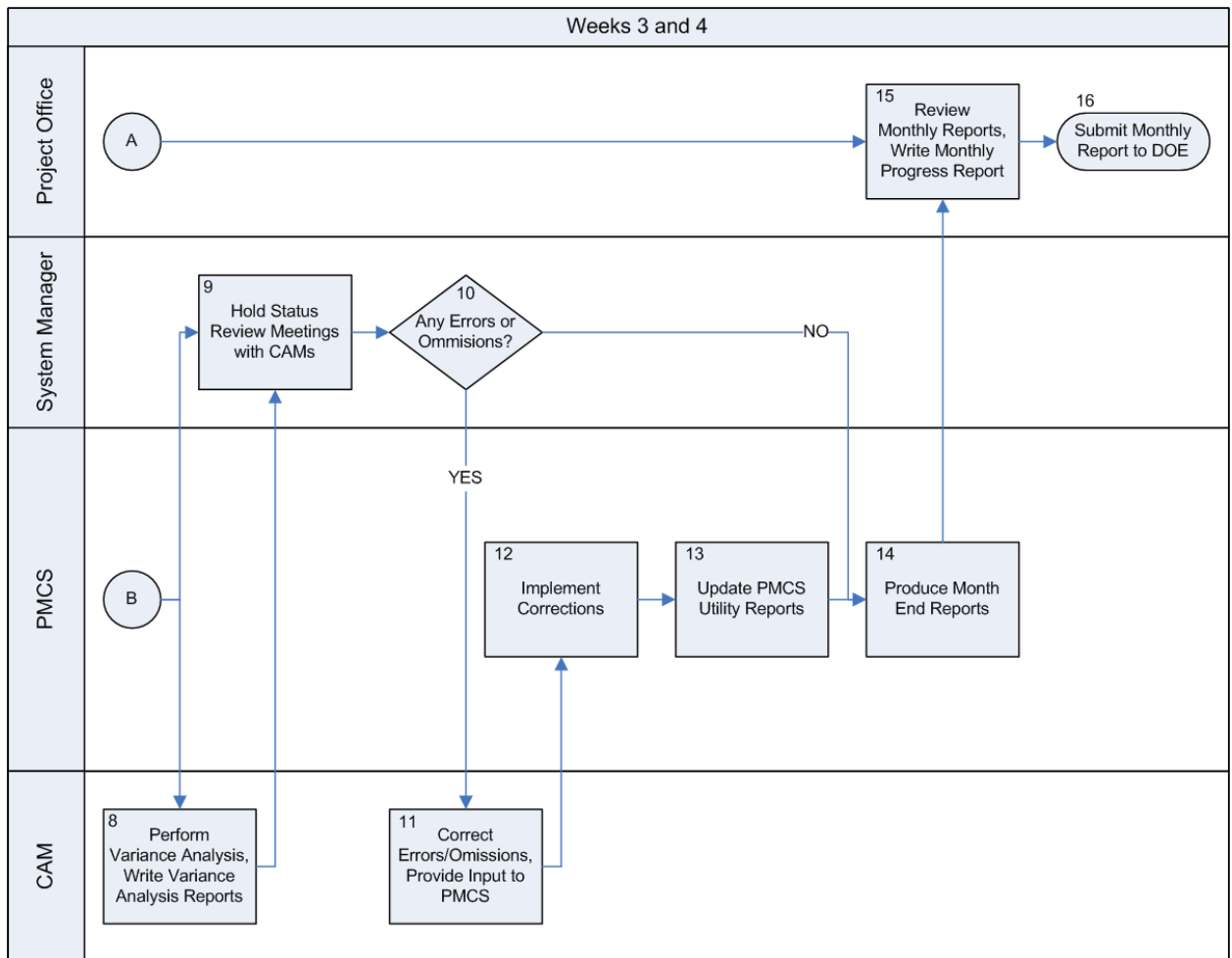
5.2   Perform Analysis and Produce Reports

Figure 2. Perform Analysis and Produce Reports

Step 8   Perform Variance Analysis, Write Variance Analysis Report

Responsibility: Control Account Manager

Using the PMCS Utility, the control account managers review their schedule and project performance reports. They also perform variance analysis at the control account level. They enter their variance analysis narratives directly into the PMCS Utility at WBS Level 3.

Step 9   Hold Status Review Meetings with CAMs

Responsibility: System Manager

Towards the middle or later part of the month (typically the 13th through the 24th of the month), the system managers hold review meetings with the control account managers. The goal is to review the current status, variance analysis details, and corrective action plans with the control account managers so that they have a good understanding of the status of current events and any problem areas they are working.

Step 10   Any Errors or Omissions?

Responsibility: System Manager

As part of the status review meeting, the system managers identify any errors or omissions in the source schedule/cost data, the performance reports, or the variance analysis narratives.

If there are any errors or omissions, the process moves to Step 11 to make the needed corrections.

If the data and reports are okay, the process moves to Step 14.

Step 11   Correct Errors/Omissions, Provide Input to PMCS

Responsibility: Control Account Manager

The control account managers are responsible for identifying any corrections that need to be made to the source schedule and cost data. As needed, they make any adjustments to their online variance analysis narratives in the PMCS Utility.

Step 12   Implement Corrections

Responsibility: Project Control Team

The project control team is responsible for updating any source schedule or cost data used to generate the current reporting period performance data.

Step 13   Update PMCS Utility Reports

Responsibility: Project Control Team

As needed, the PMCS Utility data is updated to reflect any corrections or to address any data omissions that were found as part of the review meetings between the system managers and the control account managers.

Step 14   Produce Month End Reports

Responsibility: Project Control Team

Once everyone has reviewed the source data and the project performance reports, the project control team is responsible for generating a set of electronic performance reports for the Project Office to review. The PMCS Utility is used to produce these reports. These reports include:

- Funding reconciliation;
- Commitment, obligation, budget, and funding comparison (line chart);
- Cost/Schedule Status Report (C/SSR);
- Cost/Schedule Status Report (C/SSR) by lab and then by color of money;
- Schedule, performance, and actual cost line chart at WBS level 1;
- Milestone status report;
- Change Control Board Log.
- Critical path analysis

Note that as part of this process, monthly independent estimate at complete (EAC) calculations are performed on the data and incorporated into the performance reports. The EAC calculation process is described in Section 5.3 below. On an annual basis, a bottoms up estimate is also generated. For this annual process, the LCLS Cost Estimate Procedure is used.

Step 15   Review Monthly Reports, Write Monthly Progress Report

Responsibility: Project Office

Along with the reports provided by the project control team in Step 14, the Project Office reviews and approves the current reporting month issues of the:

- Integrated Project Schedule;
- Summary Schedule Report;
- Critical Path Analysis;
- Monthly Variance Analysis.

The Project Office then compiles the schedule, cost, and performance reports as well as the technical reports and prepares a monthly summary report for the DOE.

Step 16   Submit Monthly Report to DOE

Responsibility: Project Office

On the last day of the month, the Project Office submits their complete monthly performance report to the DOE.
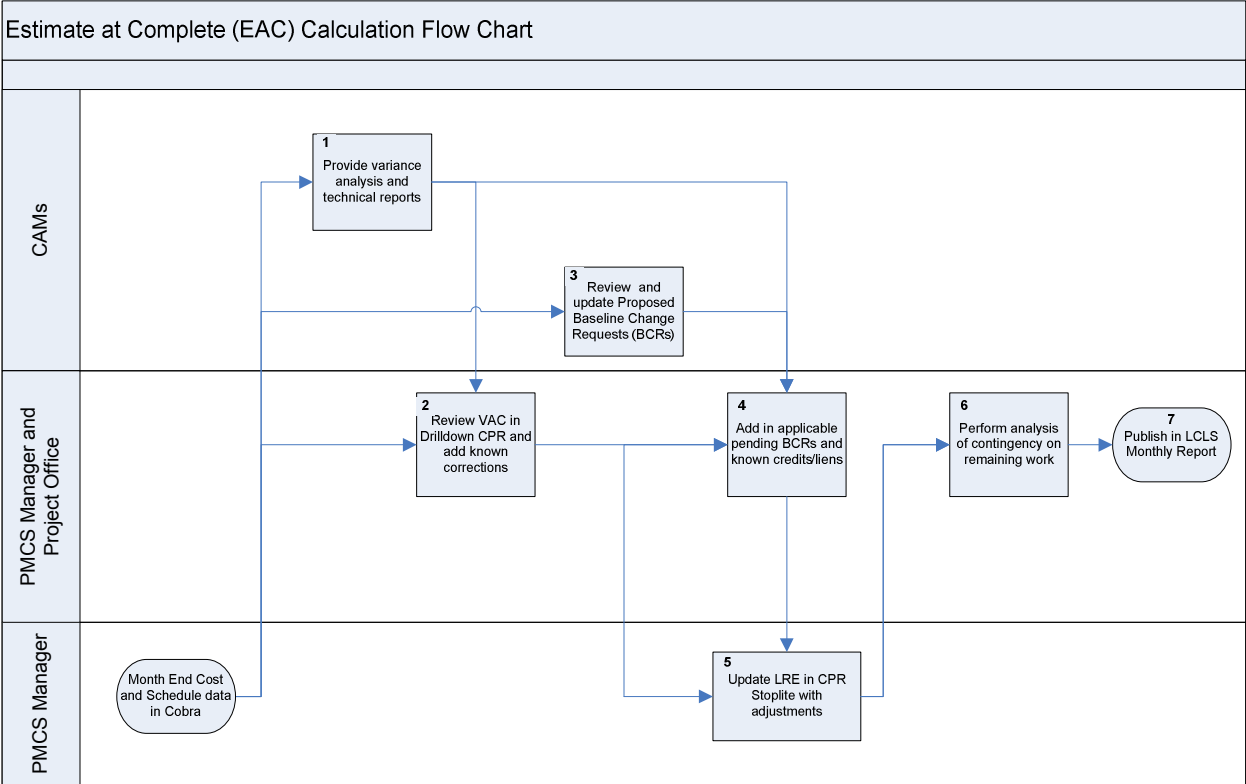
5.3 Estimate at Complete (EAC) Calculations

Figure 3. Estimate at Complete (EAC) Calculations

Step 1   Provide variance analysis and technical reports

Responsibility: Control Account Managers

Once the month end data is updated the Control Account Managers are required to provide a Variance Analysis report and a Technical Report as outlined in the Monthly Process Procedure.

Step 2   Review VAC in Drilldown CPR and add known corrections

Responsibility: PMCS Manager, Project Office

The PMCS Manager and the Project Office review the CPR Drilldown which contains the Variance Analysis reports provided by the Control Account Managers. They then calculate the applicable corrections to the Variance at Complete. These corrections could include such things as lagging actuals, mischarges, or understated/overstated BCWP. These corrections are documented in the EAC Analysis spreadsheet.

Step 3   Review and update Proposed Baseline Change Requests (BCRs)

Responsibility: Control Account Managers

The Control Account Managers review the list of Pending BCRs in the CCB Log and update the list and the estimated costs as needed.

Step 4   Add in applicable pending BCRs and known credits/liens

Responsibility: PMCS Manager, Project Office

Document the pending BCRs and any other known credits or liens in the EAC Analysis spreadsheet.

Step 5   Update LRE in CPR Stoplite with all adjustments

Responsibility: PMCS Manager

The Latest Revised Estimate (LRE) in the CPR Stoplite uses a formula to calculate the initial LRE. This formula is:

BAC – BCWP + ACWP

Add all corrections and adjustments calculated in Steps 2 and 4 to the LRE.

Step 6   Perform analysis of contingency on remaining work

Responsibility: PMCS Manager, Project Office

Part of the EAC calculation is to provide an analysis of the contingency on remaining work. The remaining work is calculated in the Detailed Cost Estimate. Then the remaining work already awarded is calculated. A contingency factor is applied to this work based on contingency usage todate and the remaining contingency is applied to the balance of the remaining work. Then a percent contingency is calculated for the remaining unawarded work   All of these calculations are done in the EAC Analysis spreadsheet and the CSSR Stoplite.

Step 7   Publish in LCLS Monthly Report

Responsibility: PMCS Manager, Project Office

The results from Step 6 are entered into the LCLS Monthly Report.