Understanding Requirements for Subcontract EV flow down and Management

Introduction

The purpose of an Earned Value Management System (EVMS) is to accurately portray the project plan, changes, status, costs, & forecast of the costs to complete the project, including all subcontracted work. The prime contractor is responsible for making sure that all data submitted to the customer is accurate, including the subcontractor data.

Customer reports are established in the Contract Data Requirements List (CDRL). In contracts that started after July 2012, the CDRL require the Integrated Program Management Report (IPMR). Prior to that time, the CDRL called out the Contract Performance Report (CPR). The IPMR makes some small changes to the CPR and adds the Integrated Master Schedule (IMS) as format 6 and an annual historical and forecast report as format 7. For the purpose of this article, the monthly report will be referred to as CPR/IPMR.

The role of a CAM is to accurately portray the same information for a Control Account to the PM so he/she can provide that information to the customer.

As a Subcontract CAM, you are the subcontractor's customer so you should expect the same type of information from the subcontractor that you are required to provide to your PM/Customer. When planning the subcontract work, don't forget to plan for the EVM oversight work (IBR, surveillance, report analysis, meetings, etc.) that will be required.

For the purpose of this paper, interdivisional work is treated the same as an outside company subcontract.

1. Roles & Responsibilities

There are several roles required to manage a subcontract. They may all be handled by one person or handled by multiple people depending on the size of the company and the project. All roles may support Integrated Baseline Reviews (IBR's), and Joint Surveillance Reviews as required.

1.1. Subcontract CAM

The subcontract Control Account Manager (SC-CAM) is responsible for the planning and management of the Subcontract work. The subcontract CAM (SC-CAM) is not normally the subcontract manager (SC Mgr) but must support the SC Mgr to make sure that the requirements that are submitted to the subcontractor as part of the Request for Proposal (RFP) are correct and complete.

If you are the SC-CAM, you are expected to understand the "what and why" of every aspect of the subcontracted work, so that you can forecast the impact on your program.

This means that the subcontract plans must become part of your Control Account Plan (CAP) cost and schedule. The subcontractor's status and forecasts are your status and forecasts.

To do that, you need to have provided the subcontractor with budget and schedule targets and reporting requirements (SSDRL) that will enable you to stay informed as to status of the subcontracted work.

If the subcontractor fails to provide you with the information you need, you must understand your options, such as, rejecting the report, asking for it to be resubmitted or writing an overview for the Program CPR/IPMR that explains why you do not agree with the SC.

1.1.1. Subcontract CAM Responsibilities

- Ensures successful execution of EV management at the company level, and manages subcontractor use of EV at the Control Account level within contractual parameters.
- Works with the subcontractor planners as required to ensure the integrity of the schedule.
- Leads monthly Variance Reviews .
- Reviews and approves the subcontractor LRE/EAC and Variance Analysis for validity using monthly EVM metrics
- Monitors subcontractor corrective actions and drives issues to closure
- Review reports required by the Subcontract Data Requirement Lists (SDRLs) and approves/rejects them as necessary.
- Understands subcontractor authorized contractual scope and engages support organizations when contract modifications are perceived as potential scope changes.
- Analyzes and utilizes EVM metrics/reports and implements proactive corrective actions as related to the subcontractor submitted CPR/IPMR.
- Understands schedule flow and impacts of progress assessments to the critical path or near critical path activities.
- Determines and provides assessments of the financial impacts of subcontractor program risks and opportunities for the company.
- Supports IBRs, and Joint Surveillance Reviews as required.

1.2. Subcontract Manager (SCM)

The SCM is a Supply Chain resource that manages the contractual elements within the Subcontract. He/she is the only individual with the authority to provide contractual direction to the subcontractor.

1.3. Subcontract Finance

These are the financial resources that are supporting the Integrated Supply Chain through review and reconciliation of Change Orders and various letters providing

subcontract direction; reconciling all shared databases including Invoices, Award Fee Plan, Change Order Log, Funding and Value Analysis, etc.

Subcontract Finance gathers all data from the subcontractor and incorporates it into your internal company reporting formats. In coordination with the SC-CAM, SC Finance modifies SC CPR/IPMR data in the company database when the SC CPR/IPMR is rejected

2. Subcontract Award and Program Execution Considerations

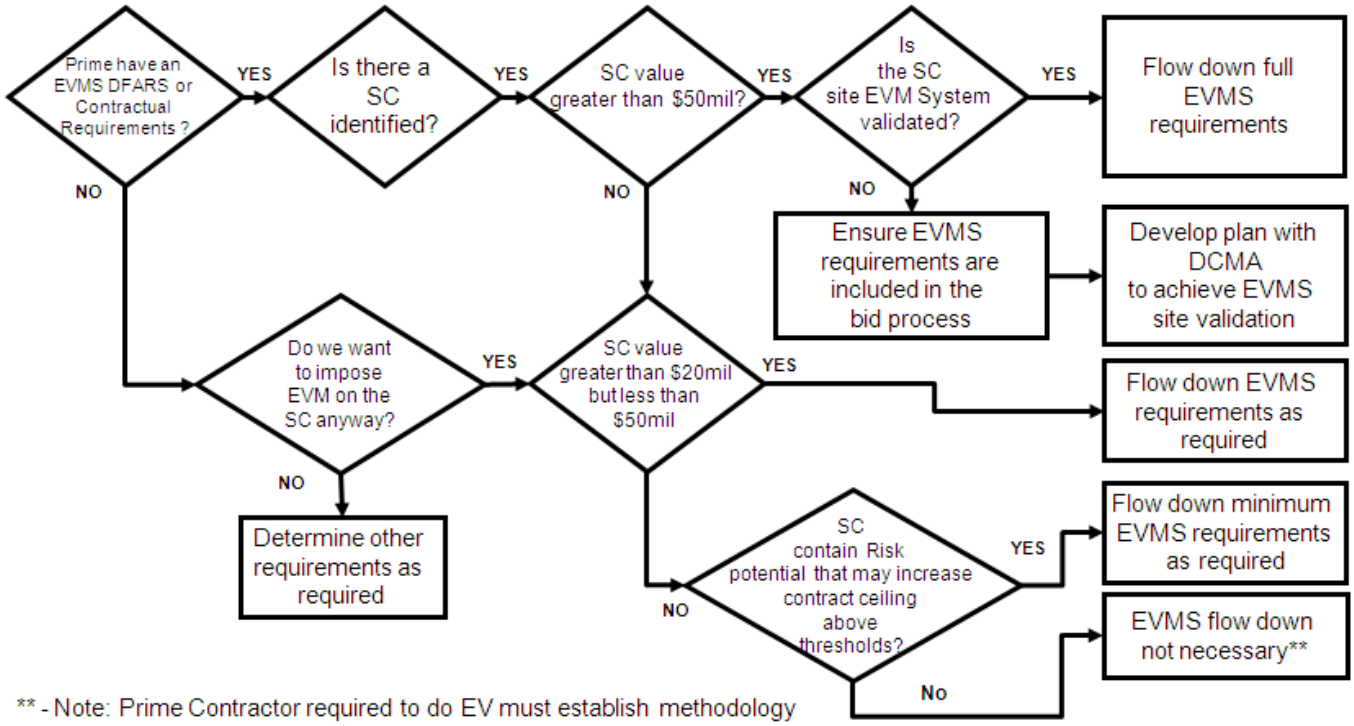
2.1. Understand the Flow-Down Requirements to Subcontractors

2.1.1. Basic Requirements

- An Earned Value Management System (EVMS) in compliance with ANSI/EIA-748 is required on all cost or incentive contracts equal to or greater than $20M.
- A formally validated and accepted EVMS is required for cost or incentive contracts equal to or greater than $50M.
- EVM is discouraged for Firm-Fixed Price (FFP) contracts (but may still be justified by risk, visibility, or criticality)
- EVM may be imposed on contracts less than $20M as a risk-based decision of the program manager based on a cost/benefit analysis.
- An IBR is required for all subcontracts >$20m

Note: The SOW shall not contain guidance or direction that conflicts with, removes, or adds work scope to the contractor's validated EVMS (you can request additional information as long as it does not require a change to the validated system)

Subcontractor EVMS Flowdown Process Flowchart



** - Note: Prime Contractor required to do EV must establish methodology for compliant EV for entire program, including subcontract effort.

2.1.2. Data Requirements

- Prior to July 2012 the Contract Performance Report (CPR) (Data Item Description (DID) number DI-MGMT-81466A) and an Integrated Master Schedule (IMS) (DID number DI-MGMT-81650) were required whenever EVM is required (contracts equal to or greater than $20M). As of July 2012 an Integrated Project Management Report (IPMR DID number DI-MGMT-81861 (20 Jun 2012)) is required for EVMS reporting. The IPMR includes the IMS (format 6) and an annual baseline report (format 7).
- The Subcontract Data Requirements List for contracts $50M or greater requires all five CPR (DI-MGMT-81466) formats or all seven IPMR (IPMR, DI-MGMT-81861) formats depending on the effective date of the prime contract.
- The CPR/IPMR SDRL for contracts less than $50M may tailor down the DID to accommodate program needs.
- A product-oriented Contract Work Breakdown Structure (CWBS) in accordance with the DoD WBS Standard (MIL-STD-881C) and the CWBS DID (DID number DI-MGMT-81334B) is mandatory when EVM is implemented on contracts issued since Oct 2011.
- The prime contract CDRL defines the monthly report and the subcontractor should use the same report. If the prime is using a CPR then even a subcontract issued after July 2012 should use the CPR.

2.2. Pre-Award Phase

1. If you tie reporting to fee incentives or awards you are more likely to get the CPR/IPMR on time & complete. (do not incentivize BCWP as it will lead to poor data)
2. In addition to flowing down the Statement of Work (SOW) and the monthly reporting requirements in the form of Subcontracts Data Requirements List (SDRL), you must also flow-down:
    - The appropriate EVMS clause:
        - (1) Non DoD; FAR 52.234-2, 52.234-3, 52.234-4;
        - (2) Department of Defense (DoD): DFARS clause 252.242-7001, and DFARS clause 252.242-7002.
    - Program specific processes, work instructions or expectations necessary to ensure EV disciplines can be integrated and performed efficiently in support of customer requirements.

Note: Subcontractors that have Government validated EVM Systems and proven EV tools must be allowed, unless otherwise agreed to contractually (PO), to use their own processes and tools to meet the prime contract requirements.

3. The Subcontract CPR/IPMR variance thresholds need to be the same or preferably tighter than the prime contract thresholds
    - This is for CV, SV, and VAC for current period and cumulative to date
    - Threshold for significant changes (Format 3) should also match the prime contract thresholds
4. Make sure there is a subcontract requirement for “bottoms up” or “comprehensive” EAC in time for your needs.
    - Consider having it submitted one month before the prime contract “bottoms up EAC” is performed
    - This requirement will vary with the SC type and size
5. Should you tailor the CPR/IPMR?
    - Maybe Formats 1, 3 & 5 are all you need (for contracts <$50m)
    - Do you want the data first (Formats 1-4&6) and the variance analysis (Format 5) later so you have time to analyze the data before the full report is available?
    - Do you want to define that the subcontractor Performance Measurement Baseline (PMB) Log is submitted to you each month?
6. Document / Initiate Subcontract schedules and program logs including the following:
    - Draft the initial cost reporting plan to cover the period between contract award & subcontractor IBR (major subcontractors need separate control accounts)
    - Define the schedule for subcontractor CPR/IPMR submittal & integrated master schedule (IMS) updates

- Define the program directions and procedures for issuing authorized un-priced work (AUW) to a subcontractor
- Define the program process to incorporate subcontractor AUW into the program CPR/IPMR
- Define the program process to incorporate subcontractor UB into the program CPR/IPMR
- Define the program plan for EV management of rework / replacement at the subcontractor
- Finalize & release the program level subcontract management plan after contract award

7. Establish how the subcontracted work elements will integrate in the CWBS.

2.3. Subcontract Award phase

There are several items that may have changed between RFP and award. Review, change and communicate all these items to the subcontractor.

1. Define the roadmap to Integrated Baseline Review to cover both the programs and Subcontractors steps and expectations
2. Define interfacing milestones & reconcile between subcontractor SOW, subcontractor IMS & program IMS
3. Incorporate subcontractor critical path and interfacing milestones from respective IMS into program IMS and **determine the schedule integration method**
4. Chair / conduct subcontractor IBR ~ participate in lower tier subcontractor IBRs as required
5. Request the subcontractor to submit a revised time-phased budget
6. Revise the programs IMS and EAC for the actual negotiated values

2.4. Program Execution Phase

When the project starts it will be necessary to review and distribute the subcontractor EV cost and schedule data to the SC MGR, SC Finance and scheduling. All changes identified in the award phase, now have to be executed.

1. Update & evaluate revision of subcontractors IMS & reconcile key milestones with program's IMS**.**
2. Review & analyze subcontractors CPR/IPMR.
3. Review all subcontractor change request activity for completeness & impact on program performance measurement baseline (PMB).
4. Provide feedback to subcontractor on any insufficient / inadequate data elements in subcontractor CPR/IPMR or change requests.
5. Evaluate the need for additional budget from management reserve (MR) per program guidance.
6. Prepare & process change requests to program PMB as required**.**
7. Update EAC for subcontractor control account per program EAC process.

8. Factor & incorporate subcontractors CPR/IPMR data into program CPR/IPMR.
9. Perform surveillance review(s) as required per EV system description & program guidance.
10. Upon completion of subcontractor control account(s), notify program manager and request close-out of control account(s).

3. Subcontractor Analysis and Oversight

3.1. SC-CAM review of the First Subcontractor CPR/IPMR

The contract is issued, the CAP for each subcontractor is planned, the work has started and you receive the subcontractors first CPR/IPMR. This is an opportunity to establish the working relationship with the subcontractor. Now is the time to set the standards for this relationship clearly and definitively.

Every month make sure reporting was done according to the SDRL:

- Delivered on time?
- Completely filled out?
- All the fields match or correlate?
- All changes are accounted for?
- The baseline matches guidance?
- The EAC is reasonable?
- Variance analysis is complete with root cause analysis?

The following is a flowchart that summarizes the CPR/IPMR data review process. The flowchart does not address the IPMR format 6 or 7. Format 6 is the IMS which needs to be reviewed by the scheduler based on the manner for schedule integration defined with the subcontractor. Format 7 is an annual baseline report that will follow the same logic but is only once a year.

Notice that in every case where something is incorrect, the first step is to **call the subcontractor.**

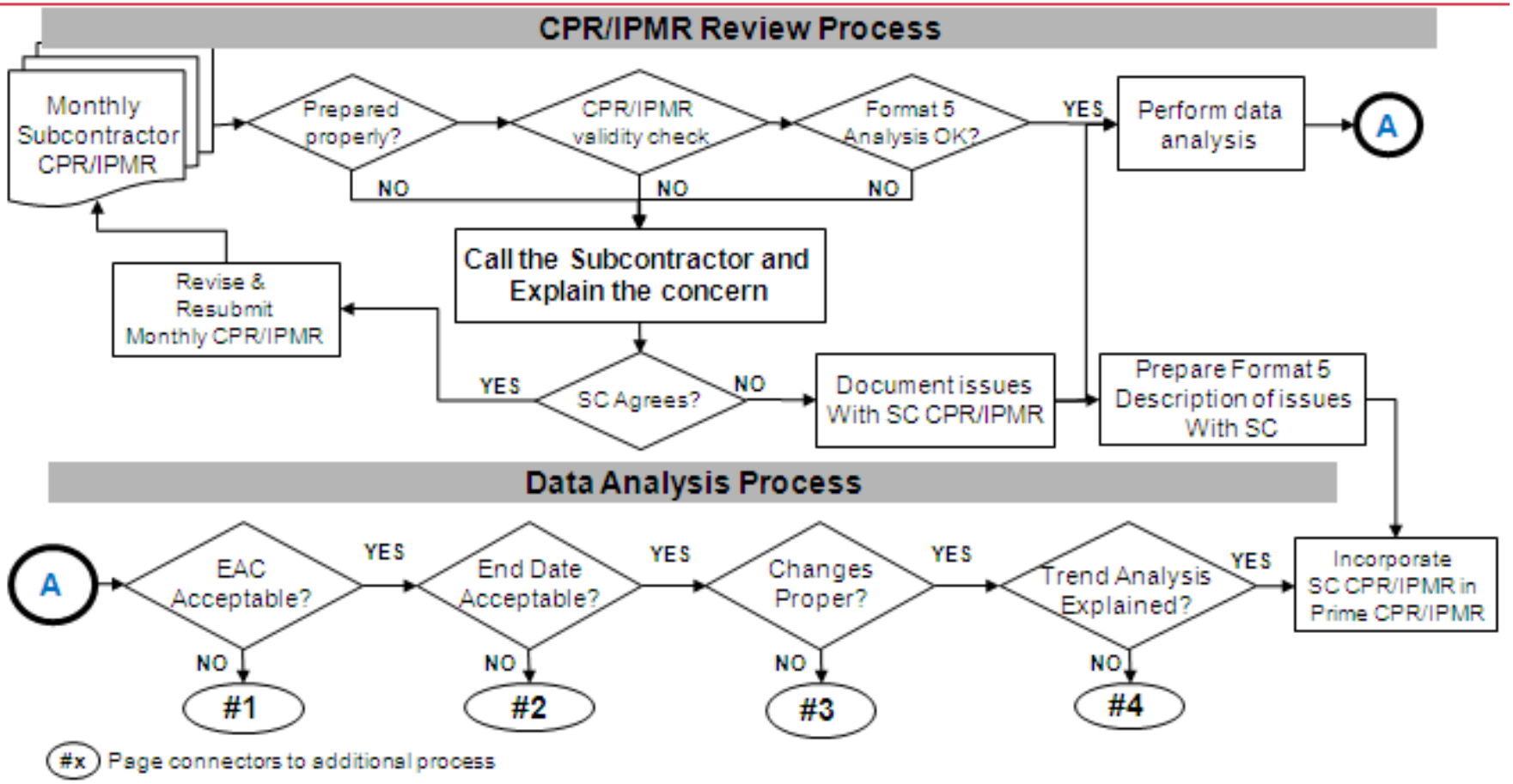
Many times the issue is easily explained and fixed but a phone call (followed up/documented by an email) is the quickest and most accurate way to determine that.

3.2.What if the CPR/IPMR is not complete or has Erroneous Data?

After following the previous flow and determining that the report came in on time and was completed properly, it is necessary to do a **data review**.

The next flowchart takes you through a series of questions and then leads you to a next tier flowchart that discusses the resulting actions.

Issue Resolution Process



To determine if the CPR/IPMR is prepared properly and has valid data, use this review checklist:

- Includes the required formats (1 thru 6) per the SDRL
- Header information is filled out and signed on Format 1 and filled out on remaining Formats

- Contract BAC, dates, and changes match authorization
- Contract dates match authorization
- Baseline matches authorization
- BCWP & ACWP reasonable compared to the baseline and progress meetings

Format 1:

- Contract cost (5.b + 5.c) and Management Estimated Cost At Completion CBB (6.c col2) and BAC (8.g col14) must match
- Most Likely EAC (6.c col1) must reconcile to current LRE (8.e col15). This means explaining why they are not the same.
- Check that this relationship is valid CTC + AUW = CBB = PMB + MR

Format 2:

- Current and cumulative BCWS,BCWP,ACWP, BAC,EAC totals must match Format 1

Format 3:

- Block 5.j should match the end of the PMB
- (Block 6.a col2) + (Block 6.a col3) + (Block 6.d col3) = Block 6.c col1

Format 4:

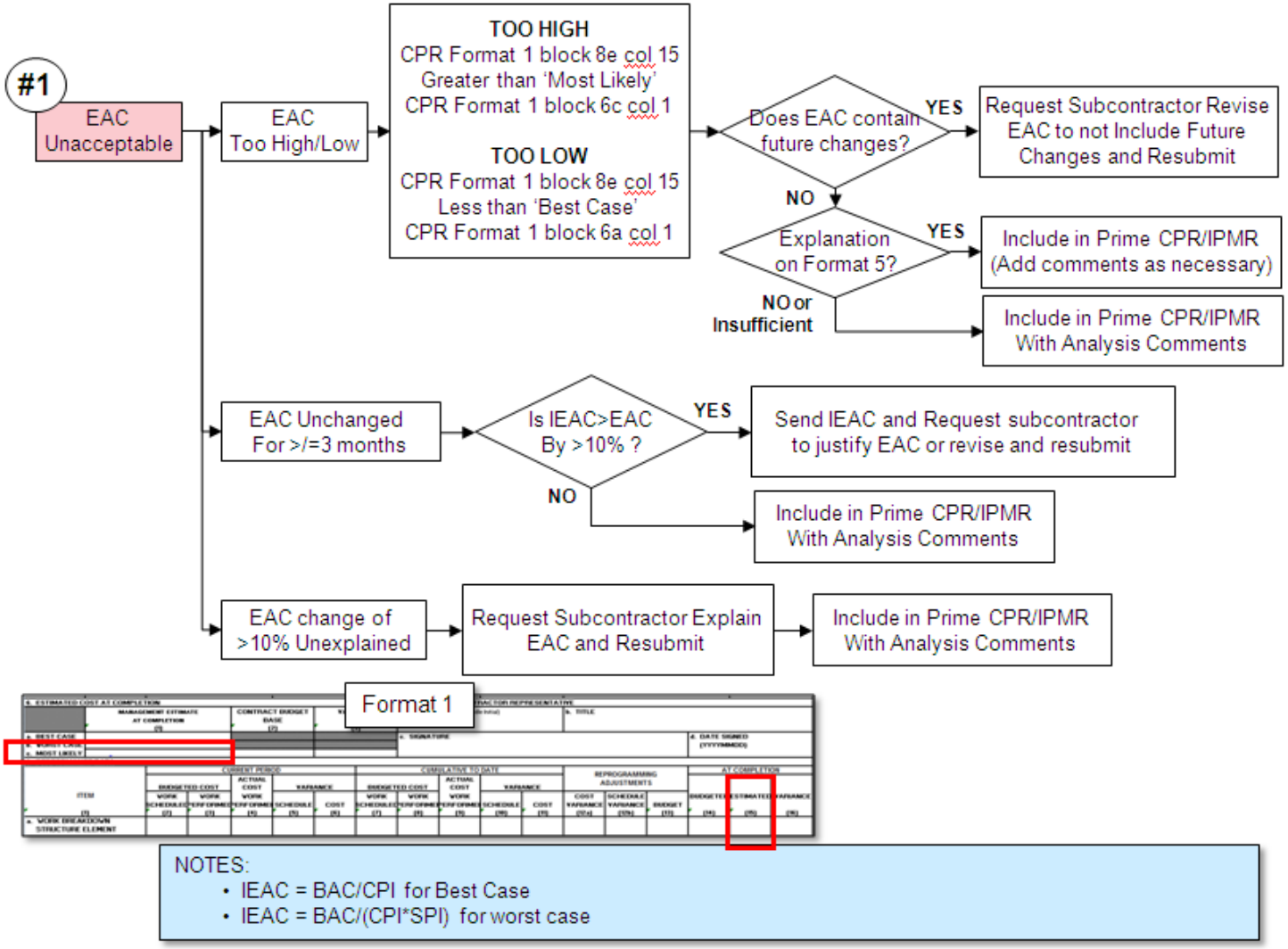
- Periods in Block 5 col4 thru col14 should match the periods in Format 3
- Normally provided as equivalent people in whole numbers

Format 5:

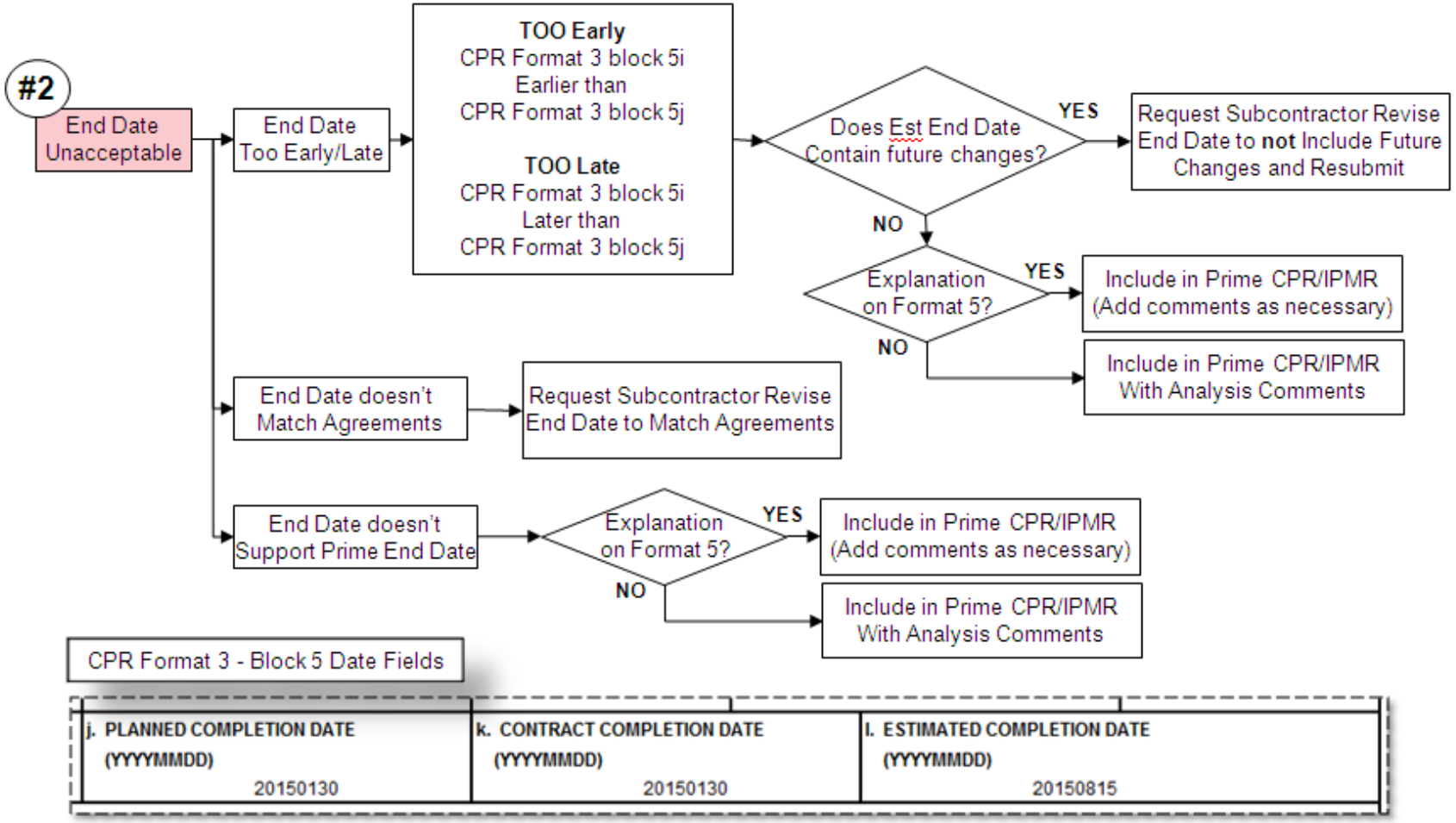
- All variances address the root cause

- There is a comprehensive program overview
- All changes are explained, including MR, UB, and AUW

#1 Subcontractor EAC Unacceptable - Decision Tree



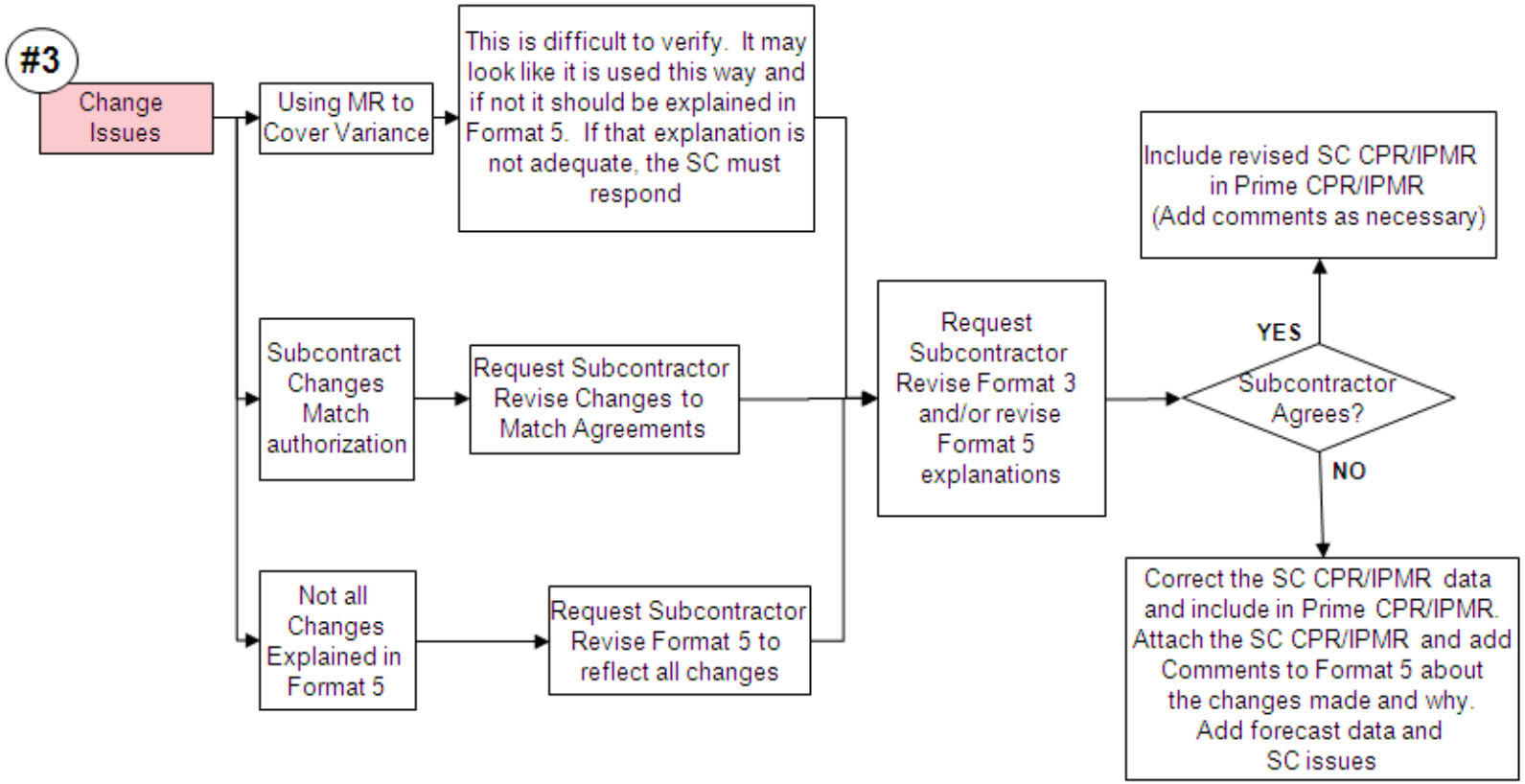
#2 Subcontractor End Date Unacceptable - Decision Tree



CPR Format 3 - Block 5 Date Fields

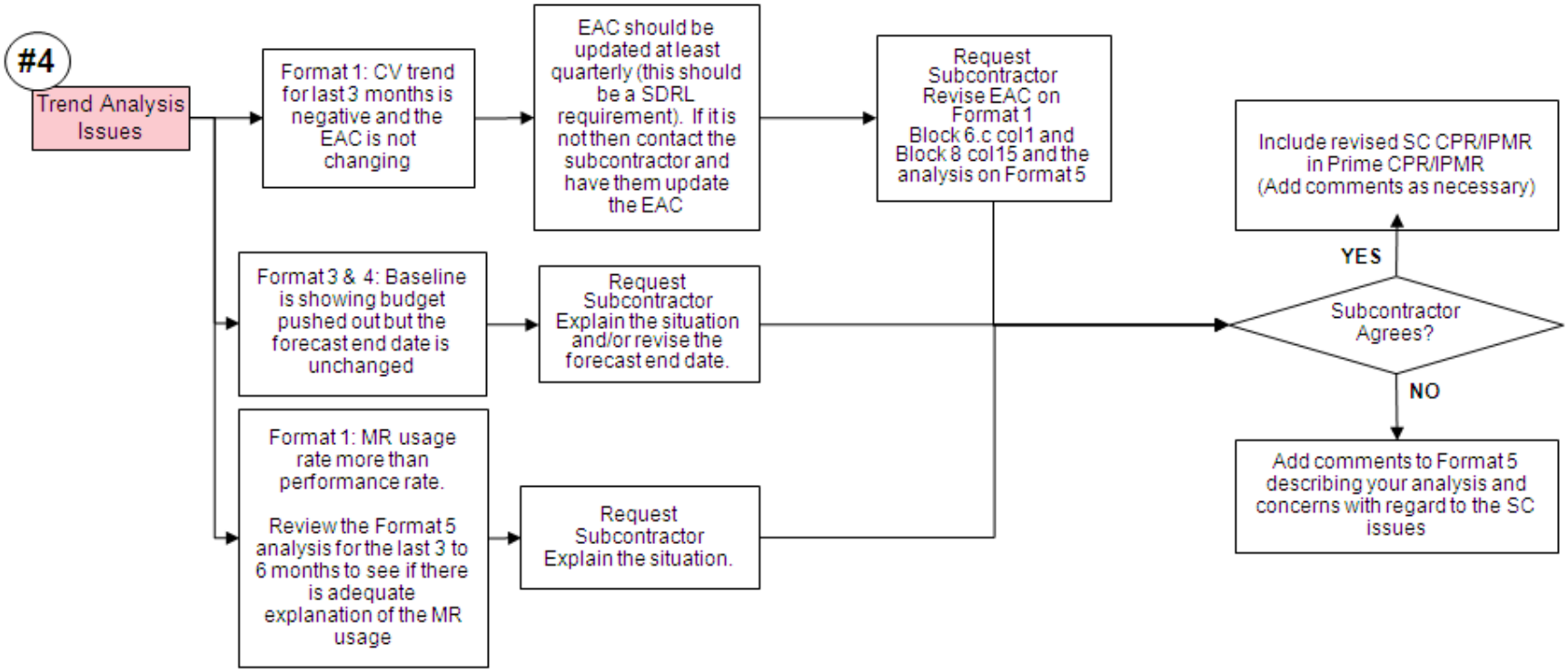
j. PLANNED COMPLETION DATE (YYYYMMDD)	k. CONTRACT COMPLETION DATE (YYYYMMDD)	l. ESTIMATED COMPLETION DATE (YYYYMMDD)
20150130	20150130	20150815

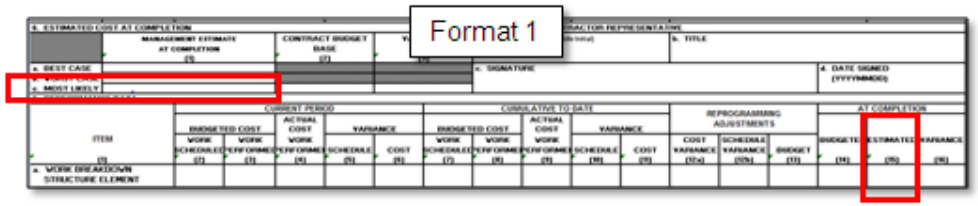
#3 Subcontractor Changes Issues - Decision Tree



This has a timing issue. If you think that something is questionable, but not critical, it may be best to include it this month with an explanation of your concerns and ask the SC to revise for next month.

#4 Subcontractor Trend Analysis Issues - Decision Tree





3.3.Options for dealing with Subcontract Non-Conformance

In every case the first step is to contact the subcontractor. Make sure that there is no misunderstanding. Make sure the subcontractor understands the issue and the significance and then ask for their help.

If the subcontractor is willing to correct the issue but there is insufficient time before you have to report you can;

- Change the data in your customer report and add an explanation of what was changed and why (in format 5)
- Use the data as is in your customer report explaining the issue and state that it will be changed in next month's report (in format 5)

If the subcontractor does not agree with you that there is an issue, formally inform the subcontractor of your intentions to;

- Change the data and add an explanation of what was changed and why
- Use the data as is and explain your position

Non-conformance is less likely to be an issue if there are fee incentives or payment withholds in the subcontract for accuracy and timeliness issues.

If there are non-conformance issues with the subcontractor, your options are;

- Discuss with your customer
- Reject the CPR/IPMR
- Issue a SCAR (Subcontract Corrective Action Request)
- Issue a formal letter of concern or adequate assurance
- Ask for a review by DCMA

4. Conclusion

Managing subcontractors is complex. The objective of subcontractor management is to make sure that the subcontractor delivers the product or service you need for your program on time and within budget. EVMS supports that objective very well but requires a standardized process that both you and the subcontractor understand and follow.

The key to making this work is communication. Communication must be clear and constant. Make sure your requirements are clearly communicated in the RFP. Then reinforce those requirements with constant communication regarding the satisfaction level you have with the subcontractor.