

## Creating Variance Analysis Reports (VARs)

**What** These guidelines highlight the advantages of creating a quality VAR.

**Why** Variances are likely on a project, and a VAR has three purposes, none of which are meant to be punitive:

1. A tool to help CAM and the project team through what is happening and how corrective adjustments are being applied.
2. A communication tool to management and stakeholders.
3. An historical record for lessons learned and future planning.

### 1 Overview

When cost and schedule performance in a control account fall outside of expected ranges of performance, the control account manager (CAM) must prepare a variance analysis report (VAR) for the Project Manager. Cost and schedule performance are expressed as CV, SV, CPI, and SPI for both the current reporting month and cumulative over the life of the control account. The expected ranges within which performance is expected to be maintained are found in the FRA procedure [12.PM-006 Monthly Status Reporting](#) or in the Project Management Plan, if the project has negotiated different ranges. A standard VAR form is provided for the CAM, which is pre-loaded with data from Cobra by the Project Controls Specialist. The CAM then fills out the appropriate sections to explain the variance and describe corrective actions to get the work back on track.

### 2 Importance of VAR

Completion of the VAR and approval by higher level managers is important and must be timely to be included in the monthly project reporting cycle and to allow for changes to the ETC/EAC and projections for contingency usage. The VAR will also point out where change requests for future work must be done in a timely way to ensure any required replanning is done as part of corrective actions. The whole process from the CAM receiving the initial form with data to getting manager approval on the VAR should take no more than one to two weeks within the monthly reporting cycle to be useful. VARs become part of the CAM notebook, which on some projects is managed as an electronic document with signoffs.

**Table 1:** CPR 5 is the standard VAR form (also known as Cost Performance Report 5 (CPR5)) with the sections highlighted that are to be filled out by the CAM. To be useful, the VAR should be clear, comprehensive, and provide actions that lead to improvements. Here are some guidelines regarding the contents and expected quality of the information in the CAM sections:

**Table 1: CPR 5**

<p>Explanation of Variance/Description of Problem</p>	<p>This section describes what the problem is for either the current month or cumulative variance, as applicable. It should not restate the obvious (e.g., we are behind schedule). The CAM should use the analysis tools that are available through project reports, work package managers, and project controls staff to analyze the root of the problem and explain that here. The text should answer the ‘why’ of the variance, not just the ‘what’. CV and SV should be addressed separately.</p> <p>Some things to think about:</p> <ul style="list-style-type: none"> <li>• Labor             <ul style="list-style-type: none"> <li>○ Skill mix changing?</li> <li>○ Overtime necessary with higher cost?</li> <li>○ Learning curves impacting performance?</li> <li>○ Different labor rates from plan?</li> <li>○ Labor unavailable when needed?</li> <li>○ Original labor estimate flawed?</li> </ul> </li> <li>• Material             <ul style="list-style-type: none"> <li>○ Unexpected cost increases?</li> <li>○ Deliveries late?</li> </ul> </li> <li>• Subcontract Performance             <ul style="list-style-type: none"> <li>○ Get a variance analysis from the contractor</li> <li>○ Unexpected claims?</li> </ul> </li> <li>• Other             <ul style="list-style-type: none"> <li>○ ESHQ issues?</li> <li>○ Changing requirements?</li> <li>○ Additional scope (CR pending?)</li> <li>○ Change in complexity?</li> <li>○ Schedule changes/delays?</li> <li>○ Make-buy change?</li> <li>○ Accrual or invoicing issues?</li> <li>○ Mistakes in statusing?</li> <li>○ Distortions from the assigned Performance Measurement Technique?</li> </ul> </li> </ul> <p>If this control account had prior variances and is still not performing as expected, use this section to report on results from prior corrective actions. Look at trends if appropriate.</p>
<p>Impact</p>	<p>This section describes the impact of variances on this control account, other control accounts or outside of the project. This would include technical, cost, and schedule impacts. Describe here any impact on the ETC or expected change requests not yet in the approval process or the ETC. This is especially important if there is a significant SV or CV.</p> <p>Describe how variances impact milestones, particularly those on the critical path; also describe if the variances would delay other work in the project. Outline any impacts to expected technical performance of the deliverables, possible ESH or Q impacts.</p>

	If there are no impacts, state this and justify it, don't just say 'none.'
Corrective Action	This will describe what needs to be done to get the variance in this control account performance back within the acceptable range, if possible, or at least correct any negative trends. This should include: what is the action, who is responsible for doing the action, when will it be taken, and the estimated completion date.  If the variance is not recoverable through corrective action, state the reason.
Monthly Summary	A brief summary of the information above that can be used in the project's monthly report or a higher level summary VAR.

Variance Analysis Report									
CA:					Project:				
CAM:					Period Ending:				
Report in \$K									
Period	Budget	Earned	Actuals	SV (\$)	SV (%)	CV (\$)	CV (%)	SPI	CPI
Current:									
Cumulative:									
	BAC	EAC		VAC (\$)	VAC (%)				
At Complete:									
Variance thresholds: Yellow $\pm$ \$50K & $\pm$ 5% Current; $\pm$ \$100K & $\pm$ 5% Cumulative. Red $\pm$ \$100K & $\pm$ 10% Current; $\pm$ \$200K & $\pm$ 10% Cumulative									
<b>Explanation of Variance/Description of Problem:</b>									
Current:									
Cost -									
Schedule -									
Cumulative:									
Cost -									
Schedule -									
<b>Impact:</b>									
Cost:									
Schedule:									
<b>Corrective Action:</b>									
<b>Monthly Summary:</b>									
Prepared by:			CAM			Date:			
Reviewed by:			PCS			Date:			
Approved by:			PM			Date:			

### 3 Document Revision History

Date	Version	Author	Description
07/28/2014	1.0	Richard Marcum	This is the initial release of this document.