

## Measurement Information Specification

Effort  
Organization 6  
Version 1.0

<b>Information Need Description</b>	
<b>Information Need</b>	Is effort being expended according to plan for both government and contractor personnel?
<b>Information Category</b>	Resources and Cost

<b>Measurable Concept</b>	
<b>Measurable Concept</b>	Personnel

<b>Entities and Attributes</b>	
<b>Relevant Entities</b>	Effort
<b>Attributes</b>	Hours

<b>Base Measure Specification</b>	
<b>Base Measures</b>	<ol style="list-style-type: none"> <li>1. Planned number of staff hours (government)</li> <li>2. Actual number of staff hours (government)</li> <li>3. Planned number of staff hours (contractor)</li> <li>4. Actual number of staff hours (contractor)</li> </ol>
<b>Measurement Methods</b>	<ol style="list-style-type: none"> <li>1. Based on engineering judgment and documented in project plan.</li> <li>2. Total of all government staff hours including development effort, all services (e.g. CM, QA), and management. One staff month is equivalent to 160 staff hours.</li> <li>3. Based on engineering judgment and documented in task statement (purchase order).</li> <li>4. Total of all contractor staff hours including development effort, all services (e.g. CM, QA), and management.</li> </ol>
<b>Type of Method</b>	<ol style="list-style-type: none"> <li>1. Subjective</li> <li>2. Objective</li> <li>3. Subjective</li> <li>4. Objective</li> </ol>
<b>Scale</b>	Integers from zero to infinite
<b>Type of Scale</b>	Ratio
<b>Unit of Measurement</b>	Hours

<b>Derived Measure Specification</b>	
<b>Derived Measure</b>	<ol style="list-style-type: none"> <li>1. Effort Variance (government)</li> <li>2. Effort Variance (contractor)</li> </ol>
<b>Measurement Function</b>	<ol style="list-style-type: none"> <li>1. ((actual number of staff hours (govt.) - planned number of staff hours (govt.)) / planned number of staff hours (govt.))</li> <li>2. ((actual number of staff hours (contractor) - planned number of staff hours (contractor)) / planned number of staff hours (contractor))</li> </ol>

<b>Indicator Specification</b>	
<b>Indicator Description and Sample</b>	<p>1. Government Effort</p> <p>2. Contractor Effort</p> <p style="text-align: center;"><b>See end of file for full-size versions.</b></p>
<b>Analysis Model</b>	<p>This measure usually correlates directly with software cost, but it may also be used to address other common software issues including Schedule and Progress and Development Performance.</p> <ol style="list-style-type: none"> <li>For government hours, the graph uses a line chart to plot the cumulative planned number of staff hours versus the actual number of staff hours. The actual number of staff hours should stay within the decision criteria.</li> <li>For contractor hours the graph plots the cumulative planned number of staff hours versus the actual number of staff hours. The actual number of staff hours should stay within the decision criteria.</li> </ol>
<b>Decision Criteria</b>	More than 20% variance between plan and actual - adverse trend over 3 months.
<b>Indicator Interpretation</b>	<ol style="list-style-type: none"> <li>The government effort data is shown in this chart. The projects that submitted government effort provided both planned and actual data.</li> <li>The contractor effort data is shown in this chart. The four projects that submitted contractor effort provided both planned and actual data.</li> </ol>

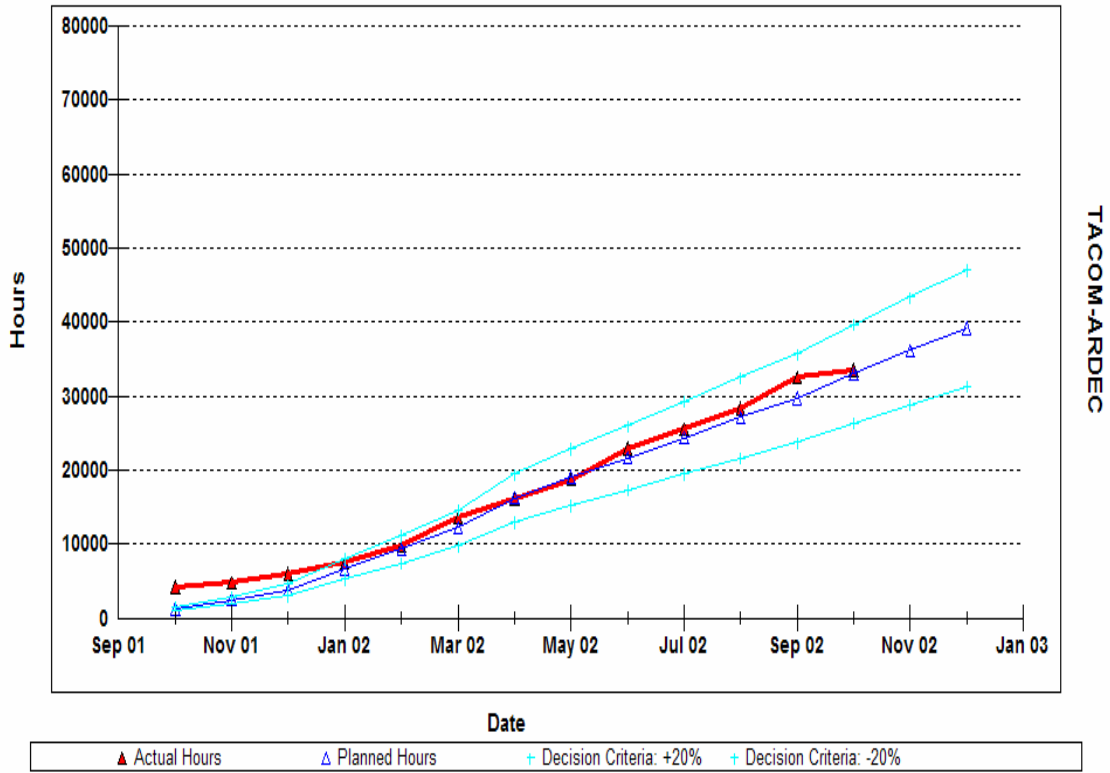
<b>Data Collection Procedure (For Each Base Measure)</b>	
<b>Frequency of Data Collection</b>	<ol style="list-style-type: none"> <li>Per update to tasking</li> <li>Monthly, based on bi-weekly timecard submissions</li> <li>Per update to purchase order</li> <li>Monthly</li> </ol>
<b>Responsible Individual</b>	<ul style="list-style-type: none"> <li>Project Measurement Analyst collects data and reports it to org measurement.</li> <li>Org. Measurement Analyst is responsible for organization analysis.</li> </ul>
<b>Phase or Activity in which Collected</b>	All
<b>Tools Used in Data Collection</b>	<ol style="list-style-type: none"> <li>Approved project plan</li> <li>Government labor system</li> <li>Signed Purchase Order</li> <li>Contractor's cost accounting system reported in contractor progress report</li> </ol>
<b>Verification and Validation</b>	Check for reasonableness (e.g. data is in range, there are no negative numbers, etc.)
<b>Repository for Collected Data</b>	<ul style="list-style-type: none"> <li>Measurement template (Org-Measure-Contractor Cost and Effort Template(V 5-17-02).xls and Org-Measurement-Gov-Cost-Effort Ver2 Jun03.xls)(project-level)</li> <li>PAL</li> <li>PSM Insight</li> </ul>

<b>Data Analysis Procedure (For Each Indicator)</b>	
<b>Frequency of Data Reporting</b>	Monthly
<b>Responsible Individual</b>	Project Measurement Analyst (project level) and Org. Measurement Analyst (org. level)

<b>Phase or Activity in which Analyzed</b>	All
<b>Source of Data for Analysis</b>	Measurement templates and PSM Insight
<b>Tools Used in Analysis</b>	Measurement templates and PSM Insight
<b>Review, Report, or User</b>	Project Leaders BAMs Senior Management

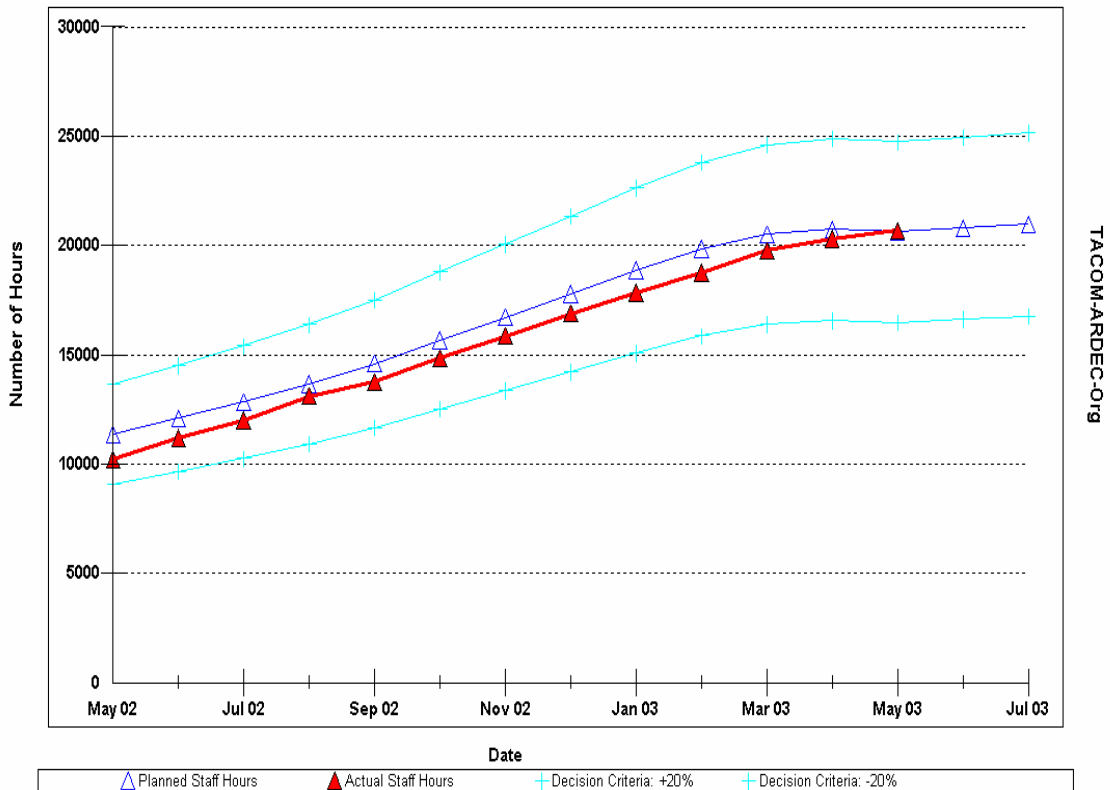
<b>Additional Information</b>	
<b>Additional Analysis Guidance</b>	<ul style="list-style-type: none"> <li>• If contractor labor hours are not explicitly provided, data may be approximated from cost data.</li> <li>• This measure may be categorized by activity as well as by product.</li> </ul>
<b>Implementation Considerations</b>	<ul style="list-style-type: none"> <li>• The rate of changes in effort data should be monitored, since large numbers of people usually cannot be effectively added within a short period.</li> <li>• Large overruns during integration and test may indicate quality problems with the code and significant defects that may delay completion.</li> </ul>

### Plan vs. Actual Gov Effort - Org Level



TACOM-ARDEC

### Plan vs. Actual Contractor Effort - Org Level



TACOM-ARDEC-ORG