

## ***The Quarterly Scorecard and Corrective Actions Reports for Constructed Asset Investments***

### **INTRODUCTION**

The *Quarterly Scorecard* (Figure 1) and *Corrective Actions Report* (Figure 4) enable DOI to review, analyze, and report for DOI metrics on the progress of projects that require the construction, purchase, lease, or donation of constructed assets. (Constructed assets include buildings, structures and linear assets.) These tools also enable DOI to document and execute corrective action when cost, schedule, risk, and benefit expectations are not being met – a critical investment management process. This requirement covers all major investments in which an Exhibit 300 is required. The thresholds for determining major investments are as follows:

- Total design and construction costs greater than \$10 million
- Directly supports the President's Management Agenda Items of "high executive visibility"
- Multiple-bureau and/or agency projects
- Other significant projects requested by OMB

All major investments currently in design and construction are to report quarterly. Project managers need to work within the project plan, in coordination with the project sponsors, stakeholders and program managers, to explain variances, viable remedial alternatives, remedial steps, schedules, and current status. This information should be reviewed with bureau-level budget personnel and the facility/engineering organizations in the field and Headquarters.

To propose a funding change, project managers need to work with their respective bureau budget officer and the departmental budget analyst. These new baseline proposals will be submitted by DOI's Office of Acquisition and Property Management and Office of Budget and approved through the Department investment review boards (IRB); the Asset Management Team (AMT) and the Management Initiatives Team (MIT). Updated quarterly reporting information and the Exhibit 300 to include any proposed re-baselining agreed upon by the Departmental IRBs and, as necessary, the Office of Management Budget (OMB).

On a quarterly basis, Project Managers are required to complete the *Quarterly Scorecard* that provides project status on cost, schedule, benefits, and risks by assigning green, yellow, or red "stoplight" scores. Upon request, high profile projects may be required to submit a *Quarterly Scorecard* on a monthly basis. Regardless of the quarterly reporting process, investment performance data, based upon earned value (EV) and/or operational analysis, must be captured and maintained monthly to enable appropriate trending and annual reporting.

If there are "yellow," "red," or "blue" variances, or the Category's status has changed since the previous quarter, a *Corrective Actions Report(s)* must accompany the *Quarterly Scorecard*. The DOI Deputy Associate Director for Facility and Property Management will submit these reports on all major DOI projects to the IRBs (AMT and MIT) and, as appropriate, to OMB.

Each quarter, the reports are due as soon as possible but no later than 21 days after the end of the quarter.



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*Figure 1: Quarterly Report Template*

The following describes the 6 categories within the *Quarterly Scorecard* that the Project Manager must complete:

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<b>Input Administrative Data</b>	<p><b>Project Name</b> – <i>input name</i></p> <p><b>Unique Project ID</b> – <i>input Unique Project Identifier used in Exhibit 300</i></p> <p><b>Project Manager</b> – <i>input name</i></p> <p><b>Project Status</b> – <i>input Design or Construction/Acquisition</i></p> <p><b>Lead Bureau</b> – <i>input name</i></p> <p><b>Date and Quarter</b> – <i>input date and Fiscal Year Quarter</i></p> <p><b>Telephone Number</b> – <i>input 10 digit telephone number</i></p> <p><b>eCPIC rev #</b> – <i>input the eCPIC revision number created for this reporting period</i></p>
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<b>Reporting Earned Value Data</b>	<p>The project's EV data must be updated at least monthly. Once updated, a quarterly report spread sheet revision must be created to preserve this "snapshot" data point. The updated EV data can be the source for the <i>Quarterly Report's</i> information. Since the due date might prohibit actual costs, cost estimates may be used. (ANSI 748 permits use of estimated Actual Cost Work Performed (ACWP) Actual cost estimation can be addressed as follows:</p>
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For DOI direct expenses (primarily labor), cost data can be extrapolated from the accounting system or time cards.

For contractor charges, obtain the estimated "cost actuals" (ACWP) (including open commitments) data directly from contractors. If not available, estimate ACWP (for a given time period) using the time-phased Estimate At Completion (EAC) data for your latest Exhibit 300.

**IMPORTANT:** If estimated "actuals" are used in a given reporting period, estimates must be reconciled to the actual cost incurred. This will have to be done by the next reporting period and, consequently, the measured categories' values must also be revised.

These Variances and Index can be calculated by entering source data in the EV Summary tab. The EV Summary tab will automatically populate the Quarterly Reporting Template. A sample of the EV Summary tab is provided in **Figure 2** below.

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Metric	SS				D / M / E				Combined			
	FY04 Q4	FY05 Q1	FY05 Q2	FY05 Q3	FY04 Q4	FY05 Q1	FY05 Q2	FY05 Q3	FY04 Q4	FY05 Q1	FY05 Q2	FY05 Q3
<b>Cost</b>												
<b>BCWP</b>	2,192,400	2,192,400	-	-	-	-	-	-	2,192,400	2,192,400	-	-
<b>ACWP</b>	2,300,000	2,000,000	-	-	-	-	-	-	2,300,000	2,000,000	-	-
CV	-107,600	192,400	0	0	0	0	0	0	-107,600	192,400	0	0
CPI	0.95	1.10							0.95	1.10		
CV%	-5%	9%							-5%	9%		
<b>Schedule</b>												
<b>BCWS</b>	2,509,200	2,000,000	-	-	-	-	-	-	2,509,200	2,000,000	-	-
SV	-316,800	192,400	0	0	0	0	0	0	-316,800	192,400	0	0
SPI	0.87	1.10							0.87	1.10		
SV%	-13%	10%							-13%	10%		
<b>To Complete</b>												
<b>BAC</b>	3,838,100	2,100,000							3,838,100	2,100,000	-	-
EAC1	4,026,469	1,915,709							4,026,469	1,915,709		
EAC1	4,275,942	1,923,106							4,275,942	1,923,106		
VAC1	-188,369	184,291							-188,369	184,291		
VAC2	-437,842	176,894							-437,842	176,894		
VAC1 %	-5%	9%							-5%	9%		
VAC2 %	-11%	8%							-11%	8%		
TCPI	0.83	1.20							0.83	1.20		
CPI/TCPI	13%	-10%							13%	-10%		

**Figure 2: EV Summary Tab**

Alternatively, the quarterly Cost Variance, Schedule Variance, Variances at Completion, and "To Complete" Performance Index data may be entered directly into the Quarterly Reporting Template tab. Planning, Design and Construction data should be entered in the D/M/E column.

Metric		Definition	Formula
ACWP	Actual Cost for Work Performed	The sum of costs actually incurred and recorded in accomplishing the work performed through the data date.	
BAC	Budget At Completion	The sum of all planned budgets established for the investment . The OMB approved baseline.	
BCWP	Budgeted Cost for Work Performed	The sum of the budgets for completed work packages and completed portions of open work packages, plus the applicable portion, usually a percentage, of the budgets for level of effort and apportioned effort as of the data date. Also called the "earned value."	
BCWS	Budgeted Cost for Work Scheduled	The sum of all WBS element budgets that were planned or scheduled for completion as of the data date. Known also as "Planned Value."	

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Metric		Definition	Formula
CPI	Cost Performance Index	The dollar value of work accomplished for each dollar spent. An efficiency measure.	$BCWP / ACWP$
CV	Cost Variance	Difference between the cost of work accomplished and what the baseline said that work should have cost.	$BCWP - ACWP$
EAC	Estimate At Completion	The projected final cost of work when completed. EAC may be calculated using either of the two formulas in the next column.	1. $[ACWP + (1/CPI)] \times (BAC - BCWP)$ 2. $[ACWP + (1/CPI \times SPI)] \times (BAC - BCWP)$
SPI	Schedule Performance Index	The dollar value of work accomplished for each dollar of work planned. An efficiency measure.	$BCWP / BCWS$
SV	Schedule Variance	The numerical difference between earned value less planned value.	$BCWP - BCWS$
TCEV	To Complete Efficiency Variance	The measure of a project's capability to complete its EAC. It is measured by comparing the CPI and To Complete Performance Index (TCPI) numbers. This measure relates the project's historic efficiency to the needed efficiency to complete the project with the remaining estimated budget.	$((CPI - TCPI) / CPI) \times 100$
VAC	Variance At Completion	The difference between the baseline and actual budget at completion. Given the two different EAC calculations, there are two valid VAC calculations.	$BAC - EAC$

**Figure 3. Earned Value Summary**

**Cost Category**

This is the project's cumulative Cost Variance percentage (CV%), rounded to the nearest one percent. The CV% provides a snapshot of the project's Cost Variance history. If entering directly into the Quarterly Reporting Template tab, enter the CV% into the SS Value cell and/or DME Value cell, and enter the total CV% into the Combined Value cell adjacent to the current Quarter. If using the Excel spreadsheet to calculate values, update the EV Summary tab (bolded cells with a border only) and the CV% cells will be calculated automatically.

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Category	Metric	Qtr	SS Value	D / M / E Value	Combined Value	Quarterly Trend	Quarterly Score
Cost	Cost Variance CV%	FY04 Q4	-5%		-5%		G
		FY05 Q1	9%		9%		
		FY05 Q2					
		FY04 Q3					

Based on the Cost Variance % formula shown in the adjacent figure, the report assigns scores based on the following ranges:

- Blue = CV% is greater than 10%
- Green = CV% is between - 6% and 10%
- Yellow = CV% is between -6% and -9%
- Red = CV% is less than -10%

Cost Variance %
$CV\% = (BCWP-ACWP)/BCWP \times 100\%$

**Schedule Category**

This is the project's cumulative Schedule Variance Percentage (SV%), rounded to the nearest one percent. The SV% provides a snapshot of the project's Schedule Variance history. If entering directly into the Quarterly Reporting Template tab, enter the SV% into the SS Value cell and/or DME Value cell, and enter the total SV% into the Combined Value cell adjacent to the current Quarter. If using the Excel spreadsheet to calculate values, update the EV Summary tab (bolded cells with a border only) and the SV% will be calculated automatically.

Category	Metric	Qtr	SS Value	D / M / E Value	Combined Value	Quarterly Trend	Quarterly Score
Schedule	Schedule Variance SV%	FY04 Q4	-13%		-13%		B
		FY05 Q1	10%		10%		
		FY05 Q2					
		FY04 Q3					

Based on the Schedule Variance % formula shown in the adjacent figure, the report assigns scores based on the following ranges:

- Blue = SV% is greater than 10%
- Green = SV% is between - 6% and 10%
- Yellow = SV% is between -6% and -9%
- Red = SV% is less than -10%

Schedule Variance %
$SV\% = (BCWP-BCWS)/BCWS \times 100\%$

**Estimate at Completion Category**

The OMB Exhibit 300 allows for Estimate at Completion (EAC) to be calculated using two different formulas. One EAC measure is based purely on the Cost Performance Index, the other is based on a combination of the Cost and Schedule Performance Indices. Both measures provide predictions about how the project will perform. If entering directly into the Quarterly Reporting Template tab, enter the VAC% into the SS Value cell and/or DME Value cell. If using the Excel spreadsheet to calculate values,

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update the EV Summary tab (bolded cells with a border only) and both VAC% numbers will be calculated automatically.

Category	Metric	Qtr	SS Value	D / M / E Value	Combined Value	Quarterly Trend	Quarterly Score
Estimate At Completion	Variance at Completion <sub>1</sub> VAC <sub>1</sub> %	FY04 Q4	-5%		-5%		G
		FY05 Q1	9%		9%		
		FY05 Q2					
		FY04 Q3					
	Variance at Completion <sub>2</sub> VAC <sub>2</sub> %	FY04 Q4	-11%		-11%		G
		FY05 Q1	8%		8%		
		FY05 Q2					
		FY04 Q3					

Based on the VAC % formula shown in the adjacent figures, the report assigns scores based on the following ranges:

- Blue = VAC% is greater than 10%
- Green = VAC% is between -6% and 10%
- Yellow = VAC% is between -6% and -9%
- Red = VAC% is less than -10%

Variance at Completion 1 %
$VAC\ 1\ \% = (BCWP - EAC1) / BAC \times 100\%$
$VAC\ 2\ \% = (BCWP - EAC2) / BAC \times 100\%$

**Total Earned Value Score**

The Total Earned Value Score reflects the lowest score among the Cost, Schedule, and Estimate at Completion categories. For example, if 3 of 4 metrics are Green and the 4th category is Red, a Red score is reported. The overall project color signifies the following:

- Green = Project is on target.
- Yellow = Project is within scope in all of the measured criteria, BUT the Project Manager is expressing concern about the potential for a deviation from plan.
- Red = Project is out of scope in one or more of the measured criteria AND the Project Manager does not have the ability within the limits of their authority and resources to bring the criteria back to within the threshold limits. The Project Manager is asking for, or needs, immediate assistance. The status of this Project will be reported to OMB in the DOI quarterly reporting process.

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**Reporting  
Collaboration  
Information**

**Collaboration Category**

This category reflects the commitment demonstrated by the investment’s partners (i.e., industry, other agencies, State, local, or Tribal governments). A fully collaborative project requires each partner’s full participation as the Department and Federal Government transitions to single enterprise-wide or Federal-wide systems. For interagency or collaborative projects for which DOI is the managing partner, please describe the status of each participating partner’s funding participation, whether the project is meeting its milestones for migration or integration, and partner’s participation in decision-making. For interagency or collaborative projects for which DOI is a participating partner, please describe the status of DOI Office of the Secretary and Bureau funding participation, whether the project is meeting DOI milestones for migration or integration, and DOI’s participation in decision-making. If the investment is not a collaborative project, answer “Y” and state, “This is not a collaborative investment.”

The Quarterly Report Template automatically assigns an overall score. If any response is “N,” the overall score is Red. If all responses are “Y,” the overall score is Green.

	Question	Y or N	If no, what corrective action is being taken?	G
Collaboration (Interagency or Collaborative Projects)	Are partners providing required funding as planned? (Yes / No)	Y		
	Are System Integration / Migration / Retirement Milestones being achieved as Planned? (Yes / No)	Y		
	Are partners actively participating in decision-making activities? (Yes / No)	Y		

Reporting Risk Information	Risk Category
	This category is a snapshot of the project’s risk management assessment. Project managers must maintain updated risk management plans from which this data should be extracted. For all high probability – high impact risks, please describe 1) the risk, 2) the consequence, and 3) the mitigation plan or desired managerial action. If necessary, add rows to the Template to reflect all high probability – high impact risk categories.



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Risk	For all probability – high impact risks, please 1) Describe the risk; 2) the consequence and 3) the mitigation plan for desired managerial action		R
Description Capability of facility to manage the investment	Consequence Loss of staffing jeopardizes on-time completion and cost to complete project	Mitigation Plan Re-assign staff to complete the project	

**Comments and Signatures**

The Project Manager should provide any explanatory comments in the Comment block.

While the reports will be forwarded electronically to the Department’s Associate Director for Facility and Property Management through the project’s respective Sponsor and CFO, project managers are expected to obtain their signatures for the files.

**Quarterly Reports Verification and Validation**

These scores are intended to reflect verifiable project information. A Project Manager is expected to base *Quarterly Scorecard* scores on verifiable reports, data, or information, and retain the supporting documentation. To enhance reporting integrity, the IRB will designate teams to validate Project Manager scores by reviewing supporting documentation. Supporting documentation should include:

- Exhibit 300 reports and/or Contractor Cost Performance Reports,
- Current risk management plans, and
- Signed and dated Quarterly Reports.

**CORRECTIVE ACTIONS REPORT**

Project Managers must complete a *Corrective Actions Report* for each issue Category for any project that reports:

- A “yellow” and/or “red” light in any *Quarterly Scorecard* category,
- An “improving” and/or “deteriorating” trend in any *Quarterly Scorecard* category, or
- Corrective actions in the previous *Quarterly Scorecard*.

**Figure 4** is the template for the *Corrective Action Report*. The *Corrective Action Report(s)* must accompany the *Quarterly Scorecard*. It is also an attachment to this document.

**Corrective Actions Report**  
(If any Quarterly Scorecard category scores a red, complete one report for each issue identified)

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<b>Project Name:</b>		<b>Date:</b>
<b>Project Manager:</b>		<b>Quarter:</b>
<b>Category:</b> <i>Quarterly Scorecard Category</i>		
<b>Issue:</b> <i>Brief descriptor</i>		
<b>Cause:</b> <i>Description</i>		
<b>Impact:</b> <i>Describe how issue impacts Quarterly Scorecard category(s) and specify impact on cost (\$) and/or schedule (i.e., days, weeks, months)</i>		
<b>Corrective Actions Response:</b> <i>Provide step-by-step corrective actions; effect on staffing, cost and/or schedule. Discuss external risks that cannot be addressed within project.</i>		
<b>"Get Well" Date:</b>		
<b>Comments (Project Sponsor Only):</b>		
<b>Project Manager</b> Signature & Date		<b>Project Sponsor</b> Signature & Date

**Figure 4: Corrective Actions Report Template**

**The Quarterly Scorecard and Corrective Actions Reports  
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<b>Category</b>	<i>Identify the Category from the Quarterly Scorecard that you are addressing. Only one Corrective Action Report should be completed for each Category.</i>
<b>Issue</b>	<i>Identify or name the issue. This name will be used to track or monitor the project's Corrective Action in subsequent quarterly reporting periods.</i>
<b>Cause</b>	<i>Describe the cause of the problem or issue in detail.</i>
<b>Impact</b>	<i>Describe how the issue relates to one or more Quarterly Scorecard category(s) (i.e., Cost, Schedule, Estimate to Completion, Performance, or Risk) and impacts the cost (i.e., estimated dollar impact) or schedule (i.e., days, weeks, months).</i>
<b>Corrective Actions</b>	<i>Describe your planned corrective actions, including step-by-step corrective actions. Explain the consequences to staffing (government or contractor), cost estimates or schedule (i.e., days, weeks, months) using a time-phased budget. Discuss external issues that cannot be addressed within the project.</i>
<b>"Get Well" Date</b>	<i>Indicate when the corrective action(s) will be completed.</i>
<b>Project Manager</b>	<i>Upon completion of the Corrective Actions Report, sign and date the Report. Submit the Quarterly Scorecard and Corrective Actions Report(s) to the Project Sponsor.</i>
<b>Project Sponsor Comments</b>	<i>Review the Corrective Actions Report(s) and provide any comments. The Corrective Actions Report(s) and the Quarterly Scorecard must be submitted through the respective Bureau CFO (or CPIC designee) to the Department CFO.</i>