

# Memorandum

Integrated Systems  
Air Combat Systems

## EVMS Finding

No. 07-15

Finding Status: Preliminary Date Written: 8/03/07

Contract: F-35

Control Account Plans/Work Packages: Multiple

Multiple WBS 1238 work packages for BTPs

Control Account Managers and Business Management Manager:

R. Settle, Mgr. F-35 Cost Management

J. Davies, IPT Leader

C. Gonzalez, CAM

Command Media:

- ISWR EVMS System Description Reference (Manual F208): 3.5.4.a, 3.10.a, 3.10.1.a and b, 3.10.4.d,
- LM JSF Process 6.0: 6.1.1.d
- LM JSF Process 7.0: 7.1.2.2, 7.1.2.3

### Findings: Unauthorized and retroactive changes to the PMB

1. Retroactive changes were made to budgeted costs for completed work without prior approval of EVMS Management (F208, 3.10.1.b, 3.10.4.d and LM JSF Process 6.1.1.d) or specific and appropriate customer direction (F208, 3.10.1.c).
2. There was an unauthorized revision to the Performance Measurement Baseline (PMB) when budget for "BTP failed enablers" was added without adding statement of work. Consequently, there is no assurance that schedule and cost variance data accurately reflect the condition of the program (F208, 3.10.a).
3. Management Reserve (MR) was improperly used to offset accumulated cost overruns (F208, 3.5.4.a) for the mere purpose of improving performance metrics instead of being held for current and future needs (LM JSF Process 7.0, 7.1.2).

### **Background of "BTP failed enablers"**

The "BTP failed enablers" concept was conceived during EAC 4. The EAC 4 approved values were initially developed by starting with the most likely EAC that had been submitted by the Control Account Managers (CAM). Next, the CAM's number was reduced by a value for "EAC 4 enablers." IPT Management assumed that there would be cost reduction initiatives and process improvements that would reduce future BTP costs. These potential initiatives and process improvements were called "Return to Green" (RTG) plans. The hope was that successful RTG plans would "enable" cost reductions.

However, previous EVMS findings disclosed that the CAMs did not have detailed plans, schedules, and metrics for specific cost reduction initiatives that were needed to achieve the EAC. For example, EVMS Finding No. 06-43, stated that the CAM had no documentation of any RTG plans to support the ETC such as realistic projections of cost and schedule performance and expected completion dates for planned improvements to cost efficiency. Despite the lack of detailed, scheduled plans, the EAC 4 approved values were, by definition, the most likely cost of the authorized work and many of the approved pressures were also approved as budget and incorporated into the PMB.

In summary, EVMS Management found no discrete RTG plans to implement the EAC 4 enablers and, therefore, no measurement of progress towards implementing the plans. Instead, the program

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monitored high level CPI and Hours/BTP metrics as indicators of possible RTG progress. Eventually, cost performance did not improve as planned.

## Prior History of Providing Additional Budget for BTPs without SOW

While EAC 4 was being reviewed, Program Management concluded that there was a risk that the RTG plans would not be successful. Subsequently,). Also, there was **additional** budget was issued from MR called "Risk Mitigation" budget. NGC's share of Risk Mitigation budget was \$11M. As disclosed in Finding No. 06-42, attached following new findings, there was no documented basis for including the "Risk Mitigation" budget in the time-phased Performance-Measurement Baseline (PMB). Also, there was no documentation of any SOW that was added with that budget.

## Cost Growth and Inappropriate Use of MR

Most Return to Green Plan BTP Enabler cost performance objectives were not achieved. During EAC 5, the Program Office recognized the past cost growth by approving pressures. However, the approval authorized additional budget concurrently with EAC growth. One budget change request (BCR), AV002407, was approved for "BTP failed enablers." However, as with the "Risk Mitigation" budget, there is no documentation of SOW growth at the work package level. The Program Office has a list of specific BTP failed enablers and associated values at the total program level. The CAM has no documented evidence of SOW growth at the work package level that is related to the individual failed enablers.

MR is to be used only for future work. It may not be used to offset accumulated cost overruns (F208, 3.5.4.a) for the mere purpose of improving performance metrics instead of being held for current and future needs (LM JSF Process 7.0, 7.1.2). Furthermore, the CAM had previously received additional budget when "Risk Mitigation" was budgeted. So the budget for failed BTP enablers is the second increment of budget for the same SOW.

The cost overruns due to "BTP failed enablers" are evidence of failing to achieve the cost performance objectives in the PMB and deserve EAC recognition. The BCR contained no documentation of past (prior to June 2007) or future SOW growth to justify additional budget from MR and its application at the work package levels, either retroactively or prospectively. Furthermore, the additional budget was added only to the July 2007 current period BCWS and not applied to subsequent periods of performance, as discussed below.

## Retroactive Adjustment to BCWP and Past Cost Performance

When the budget for BTP failed enablers was added to the Budget at Completion (BAC) of the affected work packages, it was all added to the July 2007 current period BCWS, as described in related Finding 07-17.

The baseline revision also created a de facto, retroactive increase to cumulative BCWP. However, the CAM did not request or obtain prior approval of EVMS Management to make retroactive changes to budgeted costs for completed work (F208, 3.10.4).

The retroactive increase in BCWP created a favorable, current period cost variance and a significant improvement to the cumulative cost variance and CPI. The total increase to BAC for BTP failed enablers per BCR AV002407 was \$ 5.7 M . A significant percentage of this amount was applied to BCWP in June. For the sample below, the cumulative CPI increased from .60 in May to .81 in June because of the retroactive change to BCWP. The current period favorable cost variance for the sample is \$850 K. Most of the cost variance was caused by the earned value method used. The percent complete is multiplied by the BAC. The BAC for the sample below increased by \$1,160 K, or 38 %. Similarly, the cumulative BCWP increased by 41%. Of that increase, only 2 % or 3 % was due to an increase in BTPs completed or partially completed. The balance was a retroactive increase to BCWP.

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The sample represents only 20 percent of the total WBS 1230 budget for failed BTP enablers. A corrective action plan must address the total program.

	DESCRIPTION	BAC	BAC	Delta	May %	June %	May	June	June	June	May	June
WBS 1238		May	Jun	BAC	Compl.	Compl.	cum.	cum.	cur.	cur.	cum.	cum.
							BCWP	BCWP	BCWP	CV	CPI	CPI
<b>1230NGN-A6-38</b>	<b>Optimized CTOL</b>											
LJF12037N-F4A3	A-6 BTPs/Subsys	405	670	266	96.3%	97.2%	390	651	262	237	0.46	0.75
LJF12050N-F3A3	A-6 BTP/SS/Des/	802	1008	206	90.3%	90.5%	724	911	187	169	0.77	0.95
LJF12050N-F4A3	A-6 BTP/SS/Stre	305	576	271	86.4%	86.6%	263	499	236	210	0.33	0.61
LJF12057N-F3A3	A-6/BTP/SS/Des/	1006	1151	146	85.1%	88.0%	855	1013	158	76	0.92	1.00
LJF12057N-F4A3	A-6/BTP/SS/Stre	564	836	273	73.2%	78.3%	413	655	242	159	0.46	0.67
<b>Total</b>		<b>3081</b>	<b>4241</b>	<b>1160</b>	<b>85.9%</b>	<b>87.9%</b>	<b>2645</b>	<b>3730</b>	<b>1084</b>	<b>850</b>	<b>0.60</b>	<b>0.81</b>

Consequently, in the opinion of the EVMS Joint Surveillance Team, cost performance and CPI are currently overstated. This overstatement would have been avoided if prior approval from EVMS Management had been requested and refused.

The pertinent excerpts from command media are in Attachment A.

## Requested Corrective Action Plan

A corrective action plan is requested from the WBS 1200 IPT Lead and the Program Office that addresses the total program, not just WBS 1238.

From:

RELATOR'S BRIEF IN RESPONSE TO NORTHROP GRUMMAN SYSTEMS CORP.'S  
MOTION FOR SUMMARY JUDGMENT

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Exhibit 60