EM-53 Lessons Learned Bulletin

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Effective Use of Management Reserve

Contact: Johnnie Newson, EM-53, 202-586-8849, johnnie.newson@em.doe.gov

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Statement:

Management Reserve (MR) has been an integral part of Earned Value Management Systems (EVMS) since inception in 1966. However, MR is still frequently misunderstood and applied incorrectly in executing EM projects. The National Defense Industrial Association (NDIA) Program Management Systems Division (PMSD) American National Standards Institute/Electronic Industries Alliance (ANSI/EIA)-748 Intent Guide (Reference 1) defines MR as "the amount of the total budget withheld for management control purposes, rather than designated for the accomplishment of a specific task or set of tasks. It is held and applied through a disciplined process to any additional work that is to be accomplished within the authorized work scope of the contract or applied to accommodate rate changes for future work. It may not be used to offset or minimize existing cost variances." Improper use of MR can seriously undermine the effectiveness of EVMS as a management tool.

Discussion:

Management Reserve is used to address specific changes within the scope of the contract that are not planned in the baseline. These changes are generally brought about through the realization of risks owned by the contractor. As these risks are owned by the contractor, the contractor has authority and control over discretionary use of the MR budget. However, the application of MR must be formally allocated through the change control process. Through this process, the MR budget is transferred to work packages within the Performance Measurement Baseline (PMB).

Requirements of MR in accordance with NDIA PMSD ANSI/EIA-748 Intent Guide (Reference 1) are as follows:

- MR is not a part of the performance measurement baseline (PMB) because it is not yet tied to specific work, but it exists as a part of the Contract Budget Base (CBB)
- The management reserve budget should be commensurate with the level of risks identified by the project and/or withheld for management control purposes. The budgeted value of these risks may be determined through the use of a Monte Carlo analysis or other quantitative risk analysis methods.
- Use must be recorded in the program control log (i.e. Contract Budget Base Log, MR Log, Program Log) for MR showing month end values; monthly sources and applications to control accounts; and current value
- Use must also be recorded in the Change Control Log documenting management reserve justification, dollar amount and receiving WBS. This Log must also reflect the impact of the MR transfer identifying performance measurement baseline dollar amount and contract budget base total.

Proper utilization and tracking of MR contributes to accurately reconciling the project target costs to the authorized amount and ensuring the authorized amount is not exceeded.

Acceptable uses of MR include:

- Newly identified work within the scope of the contract specifically referring to the realization of risks. This may be work that is required but was not originally identified; rework which includes redesigns, remakes, and retesting of systems.
- Make/buy decision adjustments based on market factors. This decision could result in debit or credit to the MR budget.
- Unexpected future growth within authorized work scope, for example, negotiated subcontract cost greater than planned in baseline.
- Adjustments to the planned costs of work not completed due to rate changes in labor or materials. This could also result in an MR debit or credit.

Unacceptable uses of MR include:

- Transferring budget to completed tasks to erase cost variances. This is using MR as funding, not budget, and is not compliant.
- Similarly, MR may not be harvested from completed tasks with cost underruns. As the scope was completed, there is no budget remaining to harvest from that activity.
- MR may not be issued or authorized without associated scope. This includes providing budget for scope which is not authorized in the contract or re-work required for scope which has already been completed.

Analysis:

1. MR is within the contractor's budget, and thus may be used as documented in the contractor's EVMS procedures.
2. DOE Contingency cannot be used to replenish MR. It is the contractor's responsibility to manage MR wisely for the risks over the life of the project.
3. During EVMS reviews, DOE typically evaluate the systems in place for some of the following:
   - At the Work Package level, application of MR applies to future tasks only, new work packages and/or activities are preferred.
   - When applied to Planning Packages/Summary Level planning packages, evaluation of the change documentation to confirm the justification, i.e. change in assumption, scope, or basis of estimate.
   - Applied to handle impacts resulting from changes in direct or indirect rates.
4. Illegitimate uses to mask overruns, eliminate variances, manipulate data, provide budget for AUW, and show acceptable indices will not be tolerated and will result in findings of noncompliance.

Actions:

Site Offices (Including FPD, and Project Controls) should:

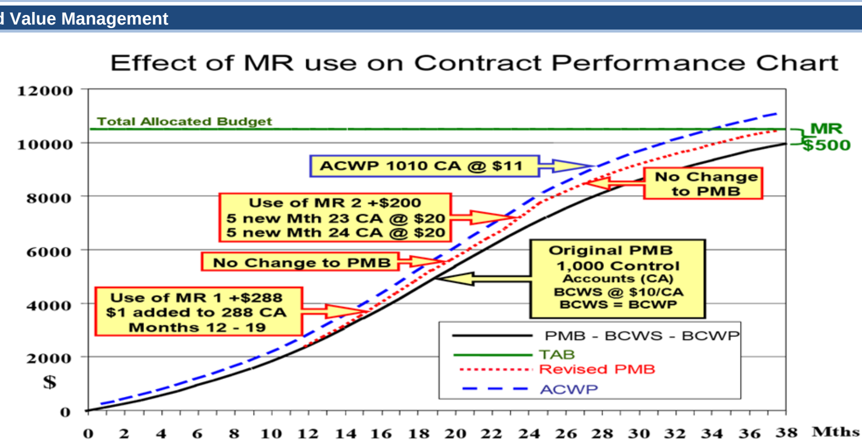
1. Site Offices (Including FPD, and Project Controls) should review the MR accounts monthly to ensure that contractor EVM systems are allocating MR properly and reporting accurate and reliable data in compliance with the NDIA PMSD ANSI/EIA-748 Earned Value Management System Standard as required by the Deputy Secretary's June 19, 2012 memorandum on data quality. Immediately analyze noted incidences of system non-compliance with the ANSI/EIA-748 EVMS Standard with corrective actions developed and implemented to resolve issues.
2. Confirm all contractor MR transactions are justified with a detail explanation within the Baseline Change Requests (including original and post-baseline change values for MR, the performance measurement baseline, and the contract budget base total)
3. Ensure contractors are maintaining proper traceability while managing MR changes in the performance baseline, incorporate a reconciliation process that will confirm the Baseline Change Control log traces to the baseline change form to the schedule and cost baseline as well as the Contract Performance Report Format 1, Contract Performance Report Format 3, and the Contract Budget Base Log (CBBL) (including other program logs if applicable).
4. Ensure EVMS surveillances are conducted in accordance with DOE Order 413.3B, at periods not less than annually.

Critical Decision(s): CD-2, CD-3

Facility Type(s): All

Work Function(s): Project Management / Project Controls

Technical Discipline(s): Earned Value Management



Reference 2

The above chart shows the changes made to the PMB when MR is applied in a scenario. The scenario adjusts the PMB for MR use in four distinct segments. The revised PMB is represented by the red dotted line. The first is by using 288 dollars from MR to increase the budgets of 288 control accounts between month 12 and month 19 by one dollar each to cover cost variances experienced during execution. No new work scope is added for this additional budget. This is an inappropriate use of MR. In the second segment no MR is spent. In the third segment, five new control accounts to account for realized risks are added in month 23 and five in month 24 each are budgeted at 20 dollars for a total PMB increase of 200 dollars. This is an appropriate use of MR. Nothing is added to the final segment leaving twelve dollars in MR at the end of the contract.

REFERENCES:

1. National Defense Industrial Association (NDIA) Program Management Systems Committee (PMSC) Earned Value Management Systems Intent Guide. August 2012. (https://acc.dau.mil/CommunityBrowser.aspx?id=19533&lang=en-US)
2. Defense Acquisition University (DAU). Fundamentals of EVM - PMB Maintenance (https://acc.dau.mil/docs/evm/module5/frame.htm)

Questions About the EM Lessons Learned Program? Contact Johnnie Newson at johnnie.newson@em.doe.gov.