

## **CIOP CHAPTER 1351.22.1**

### **EARNED VALUE MANAGEMENT (EVM)**

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#### **Section 22.1 Purpose**

22.1.1 This directive establishes the policy for Earned Value Management (EVM) within the U.S. Department of Transportation (DOT).

22.1.2 This directive establishes EVM as an Information Technology (IT) Investment Management requirement and incorporates EVM as a fundamental element of DOT Capital Planning and Investment Control (CPIC) and investment portfolio management oversight.

#### **Section 22.2 Background**

22.2.1 As required by the Office of Management and Budget (OMB) Circular No. A-11, Part 7, Section 300, DOT will use EVM to monitor its investments' cost, schedule, and performance goals. The DOT Office of the Chief Information Officer (OCIO) is responsible for ensuring that all investments use an appropriate level of EVM.

22.2.2 EVM is a management control technique allowing visibility into technical, cost and schedule planning, performance, and progress for IT investments. Earned Value Management System (EVMS) is the integrated set of processes, applications and practice that follow the guidelines in American National Standard ANSI/EIA-748, "Earned Value Management Systems." The ANSI/EIA-748 guidelines describe the attributes of an effectively integrated cost, schedule, and technical performance management system.

22.2.3 EVM provides DOT executives, investment managers, and contractors with reliable data from which to make responsible management decisions. EVM minimizes risk by effectively integrating the investment scope of work with cost, schedule, and performance elements for optimum project planning and control. EVM provides a quantitative measurement of project progress as measured against a performance baseline established from a project's work breakdown structure and project plan.

22.2.4 EVM data is a critical component of the control phase of the CPIC process because it provides investment managers with the cost, schedule, and performance data necessary to ensure that DOT investments are delivered on time and perform within budget and scope. The addition of the variance and trend analysis aspects of EVM permits an evaluation that monitors deviation from the baseline plan, which can facilitate the early identification of risks and cost saving opportunities.

22.2.5 EVM is being implemented to support compliance with the following statutes and regulations regarding the management of IT investments:

- The Government Performance and Results Act of 1993 requires mission definition, goal setting, performance measurement, and accomplishment reporting.
- The Federal Acquisition Streamlining Act (FASA) of 1994 requires agencies to achieve, on average, 90 percent of the cost and schedule goals established for major and non-major acquisition programs without reducing the performance or capabilities of the items being acquired.
- The Federal Acquisition Reform Act of 1995 and the Information Technology Management Reform Act of 1996 (the Clinger-Cohen Act) require performance-based and results oriented decision-making processes for analyzing, tracking, and evaluating the risks and results of all investments.
- The OMB Circular No. A-11, Part 7, Planning, Budgeting, Acquisition and Management of Capital Assets requires the use of the American National Standards Institute/Electronic Industries Association EVMS Standard 748 (ANSI/EIA Standard 748) for development efforts for IT investments.

## **Section 22.3 Scope and Applicability**

22.3.1 This directive applies to all DOT IT investments that are required to complete an OMB Circular No. A-11, Exhibit 300 business case.

## **Section 22.4 Policy**

22.4.1 DOT investments within the scope of this order (Section 22.3) shall use an appropriate level of EVM for development/modernization/enhancement (DME) efforts for all resources (government and contractor), regardless of funding and contract types. Each operating administration (OA) Investment Review Board (IRB) shall assess each

investment as to the appropriate corresponding EVM tier and submit recommendations to the DOT IRB Executive Committee (ExComm) Staff. Recommendations shall address the rationale for the EVM tier determination and the proposed performance measurement baseline (PMB). The DOT IRB ExComm Staff shall review the investment and OA IRB recommendations and determine the final EVM tier for each investment.

22.4.2 The investment's size, complexity, priority, and level of risk shall be considered when determining and tailoring requirements for an investment's EVM practices. The ANSI/EIA-748 Guidelines shall be used as the DOT standard for EVM effort throughout the Department. Determination of an investment's EVM requirements shall be based on the following thresholds:

- Tier I- IT investments with total DME costs equal to or greater than \$20 million (then-year dollars) must implement an EVMS that fully complies with all ANSI/EIA Standard 748 Guidelines.
- Tier II- IT investments with total DME costs equal to or greater than \$10 million but less than \$20 million (then-year dollars) may implement, at a minimum, an EVMS that complies with a subset of ANSI/EIA Standard 748 Guidelines as detailed in the DOT EVM Implementation Guide.
- Tier III- IT investments with total DME costs less than \$10 million (then-year dollars) are not required to implement an EVMS. This does not exclude investments in this tier from performing prudent program management practices.
- Consolidated investments, or a collection of separate projects that pool resources and capabilities together to facilitate the effective management of all the work necessary to meet strategic objectives, shall apply the Tier I, II, or III EVM requirements to each subordinate project, not at the consolidated investment level.

22.4.3 EVM requirements at the investment level shall also be required for all contractor and government entities accomplishing the work in accordance with policy statement 22.4.2.

22.4.4 The IT investment program/project manager, in conjunction with the OA IRB, shall establish an EVMS at the appropriate tier to plan, monitor, analyze, report, manage, and control the investment's performance.

22.4.5 The DOT standard for Work Breakdown Structures (WBS) requires segregation of Planning, Solution Implementation, and In-Service phases as detailed in the DOT EVM Implementation Guide. Each investment will expand the WBS to identify products, deliverables, and milestones that measure technical progress.

22.4.5.1 The DOT Standard WBS shall be extended to provide a product oriented WBS.

22.4.5.2 IT investment program/project managers shall associate appropriate cost (\$) and duration (yrs) values to each of the DOT Standard WBS elements in order to support portfolio-level analysis and relevant IRB decision-making.

22.4.6 An investment PMB shall be developed and established from an OA IRB approved investment baseline, which shall include all budgets (government and contractor) associated with DME activities. The PMB shall be used as the baseline against which project performance shall be measured using the appropriate EVM techniques.

22.4.7 An investment Integrated Baseline Review (IBR) shall be conducted within 180 days after the PMB has been established and contract(s) awarded. An IBR shall also be conducted when the investment has been rebaselined.

22.4.8 IT investment EVM data shall be submitted on a monthly basis using the DOT Capital Planning Tool, or any other agreed upon method with the Associate Chief Information Officer (ACIO) for IT Policy Oversight. The investment level EVM data shall be derived from the project level EVM data to ensure data consistency and generate an audit trail for how investment level EVM data was derived.

22.4.9 An IT investment variance analysis shall be generated, implemented, and forwarded to the ACIO for IT Policy Oversight when cumulative cost and schedule variances exceed +/-10 percent.

22.4.10 OA IT investment EVMS compliance and surveillance reviews shall be conducted to ensure the EVMS complies with OMB, ANSI, and DOT standards and contractual requirements and effectively manages the investment's cost, schedule, and technical performance.

22.4.11 The DOT EVM Implementation Guide shall be used to detail EVM tier requirements, as well as to establish operational processes for the practices mentioned throughout this policy.

22.4.12 A DOT EVM training program shall be established to identify available EVM courses and provide each target audience, including executive-level audiences, with a set of required, suggested, and optional EVM course offerings. OAs may include complementary EVM training under DOT EVM training guidelines to address unique OA requirements or issues.

## **Section 22.5 Roles and Responsibilities**

22.5.1 The Office of Primary Responsibility for this chapter is the ACIO for IT Policy Oversight. The Office of the ACIO for IT Policy Oversight is responsible for this directive as explained in DOT Order 1351.1, IT Directives Management.

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22.5.2 The **ACIO for IT Policy Oversight**, or his or her designee, shall be responsible for oversight of the development, implementation, and management of the EVM directives and related processes and guidance. The ACIO for IT Policy Oversight shall:

22.5.2.1 Ensure that DOT EVM policies meet OMB requirements.

22.5.2.2 Ensure that EVM is fully integrated into the CPIC process.

22.5.2.3 Ensure that the DOT EVM data is compiled, analyzed, and submitted to OMB on a quarterly basis.

22.5.2.4 Ensure that program EVMS assessments for new major capital investments comply with ANSI/EIA Standard 748 and DOT policy and guidelines based on the investment's size, complexity, priority, and level of risk (see policy statement 22.4.2 and the DOT EVM Implementation Guide).

22.5.2.5 Promote EVM training services throughout the DOT.

22.5.2.6 Compile, analyze, and submit EVM data to OMB on a quarterly basis.

22.5.3 The **DOT IRB Executive Committee (ExComm) Staff** shall:

22.5.3.1 Monitor OA IRB and investment performance.

22.5.3.2 Contact the OA IRB for a written explanation and/or detailed corrective action plan if investment deficiencies or issues are found.

22.5.3.3 Approve all investment EVM tier determinations.

22.5.3.4 Review and approve all investment PMB change requests, with OA IRB recommendations, before being sent to OMB for final approval.

22.5.4 The **DOT Senior Procurement Executive (SPE)** shall define requirements for inclusion of EVM in the Transportation Acquisition Regulation (TAR) and the Transportation Acquisition Manual (TAM).

22.5.5 The **OA Chief Information Officer (OA CIO)** shall ensure full compliance with the EVM policy for all OA IT investments within the policy's scope.

22.5.6 The **OA Chief Financial Officer** shall provide timely and accurate financial information using DOT's financial system to the DOT IRB ExComm Staff and ACIO for IT Policy Oversight.

22.5.7 The **OA Chief Acquisition Officer/Head of Contracting Activity** shall ensure EVM is included in contracts per the Federal Acquisition Regulation (FAR) Subpart 34.2,

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or for FAA IT investments the Acquisition Management System (AMS) Section 4.16, and any supplemental agency guidance or EVM clauses outlined in the TAR and TAM.

22.5.8 Each **OA IRB**, or equivalent, shall:

22.5.8.1 Notify the DOT IRB ExComm Staff when an increase in an investment's DME costs or changes in acquisition strategy results in possible reclassification of an investment's tier level.

22.5.8.2 Review OA investment EVM performance data, and variance explanations for investments exceeding the cumulative +/-10 percent cost and schedule variance thresholds.

22.5.8.3 Review and provide recommendations regarding rebaseline changes and submit them to the ACIO IT Policy Oversight Office for review and approval by the DOT IRB ExComm Staff, prior to final approval by OMB.

22.5.8.4 Ensure that an EVM training program is available to employees within their organization.

22.5.9 The **OA EVM coordinators/leads** shall:

22.5.9.1 Work with the OA Program/Project Managers, the OA CIO and the members of the ACIO for IT Policy Oversight to ensure that EVM processes are developed, implemented and executed for IT investments within their organization.

22.5.9.2 Support the OA IRB, or equivalent, in the review and analysis of investment EVM performance data.

22.5.9.3 Ensure that the EVM data and reports are provided to the ACIO for IT Policy Oversight on a monthly basis as specified in sections 22.4.9 and 22.4.10 of this policy.

22.5.10 The **OA Program/Project Managers** shall:

22.5.11 Develop a PMB for their respective investment(s) based on the policy found in statement 22.4.6.

22.5.12 Conduct IBRs for their respective investment(s) based on the policy found in statement 22.4.7.

22.5.13 Submit EVM data to the DOT capital planning tool on a monthly basis. The EVM data will reflect investment performance up to 2 months prior to the update month.

22.5.14 Serve as DOT's point of contact (POC) to the contractor's project management team and ensure the contractor incorporates the determined level of EVM into its management practices.

## **Section 22.6 Dates**

22.6.1 This directive is effective the date it is signed.

22.6.2 On a monthly basis, IT Investment program/project managers, in conjunction with the OA EVM Point of Contact, shall submit EVM data to the DOT capital planning tool. The EVM data will reflect investment performance up to 2 months prior to the update month.

22.6.3 On a quarterly basis, the ACIO for IT Policy Oversight shall compile, analyze, and submit EVM data to OMB.

## **Section 22.7 Cancellations**

22.7.1 This directive supersedes and cancels the DOT Earned Value Management Policy dated May 14, 2009.

22.7.2 This directive, with the support of the DOT EVM Implementation Guide, supersedes and cancels the DOT Information Technology Program Rebaselining Policy Memorandum dated December 28, 2007.

## **Section 22.8 Compliance**

22.8.1 All DOT IT investments that require an OMB Circular No. A-11, Exhibit 300 business case justification, as explained in policy statement 22.3.1, must comply with this directive.

## **Section 22.9 Waivers**

22.9.1 Waivers to this directive are to be submitted by the investment's program/project manager or Contracting Officer in writing to the OA CIO, prior to submission to the DOT CIO for approval/disapproval. Granting of waivers does not imply exemption from sound and rigorous management practices or from continuous monitoring of program/project cost, schedule, and technical performance.

## **Section 22.10 Audit Procedures**

22.10.1 The ACIO for IT Policy Oversight shall monitor EVM updates to the DOT capital planning tool and the variance analysis reports and verify the investment's OA IRB, or designee, approved the EVM data for each EVM report.

22.10.2 Investments will be reviewed by the DOT IRB ExComm Staff independently from the OA IRB's analysis and reviews, which shall be forwarded to the ACIO IT Policy Oversight Office as part of the DOT IRB ExComm Staff's assessment of OA IRB performance. The DOT IRB ExComm Staff has the authority to request that the OA IRB provide a written explanation and/or detailed corrective action plan if an IT investment exceeds a +/-10 percent variance, or for process related deficiencies including but not limited to the following:

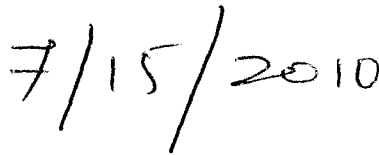
- A required EVMS is not implemented or program performance surveillance results are unavailable upon request.
- OA IRB records do not indicate the OA IRB has reviewed and approved EVM data.
- Monthly EVM data reported in the DOT capital planning tool is incomplete or late for a period of three or more consecutive months.

### Section 22.11 Approval



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Nitin Pradhan  
DOT Chief Information Officer



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Date