

**IT Investment Performance Baseline Management (PBM) Policy
Office of the Chief Information Officer
Small Business Administration**

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1. Introduction

In accordance with the Office of Management and Budget (OMB) Memorandum M-10-27, it is mandated that an IT Investment Performance Baseline Management (PBM) policy be implemented within the Small Business Administration (SBA) as well as development of a IT PBM Policy training plan. IT Investments are measured by project's cost, schedule, and performance goals, which are also known as the performance measurement baseline (PMB). Occasionally, the PMB is modified to reflect significant changes related to an existing project or IT investment. These changes are called a re-baseline and can be performed for valid reasons. However, a re-baseline by its very nature cannot be used to cover cost overruns and schedule delays, which do not demonstrate a high probability of success and benefit cost health that justifies continued funding. In most instances the organization should try to avoid re-baselining and only approve them if certain conditions are met for development and management of a sound project plan.

2. Purpose

OMB requires that agencies establish and validate the PMB with clear cost, schedule, and performance goals for all new, ongoing, developmental, and high risk major¹ IT investments. This process ensures better execution and improved performance, as well as promotes more effective oversight. Each agency must address each of the following core areas:

- Establishing an investment baseline.
- Re-baselining an investment.
- Notifying OMB of new and changed baselines.
- Managing and monitoring Performance Baseline Management System (PBMS).
- Federal IT Dashboard reporting requirements.

3. Scope

The IT Investment Performance Baseline Management Policy applies to:

- All SBA organizational components including, Headquarters, Program Offices, and Field Offices.
- All SBA personnel as well as contractors involved in the acquisition, development, maintenance, management, and operations of SBA IT capital assets.

¹ OMB Circular A-11 Part 7 SECTION 300—PLANNING, BUDGETING, ACQUISITION, AND MANAGEMENT OF CAPITAL ASSETS defines major investment as a system or acquisition requiring special management attention because of its importance to the mission or function of the agency, a component of the agency or another organization; is for financial management and obligates more than \$500,000 annually; has significant program or policy implications; has high executive visibility; has high development, operating, or maintenance costs; is funded through other than direct appropriations; or is defined as major by the agency's capital planning and investment control process. OMB may work with the agency to declare other investments as major investments. You should consult with your OMB representative about what investments to consider as "major," consult your agency budget officer or OMB representative. Systems not considered "major" are "non-major."

4. Roles & Responsibilities

Implementation of a PBMS requires the integration of Capital Planning Investment & Control (CPIC) processes, as well as clearly defined roles and responsibilities as they relate to the management and control of the PMB for all major IT Investments. The SBA roles specific to the IT PBM Policy include the following: Office Chief Information Officer (OCIO), OCIO IT Project Management Office (PMO), Federal IT Project Manager, Federal IT Investment Manager, Investment Sponsor/Owner, and the Governance Board. Specific responsibilities for each role to support the PBM are defined below. In addition, the successful management of the IT PBM process may include complete integration and collaboration with all organizational components within the SBA.

4.1 Office Chief Information Officer (OCIO)

The OCIO advises senior executives about the SBA's use of IT to improve program performance and to manage risk. The OCIO oversees the Agency's information technology capital planning and investment control, enterprise architecture, information systems, electronic government, and information resources management programs in collaboration with all organizational components of the Agency. The CIO co-chairs the SBA Business Technology Information Council (BTIC) IT governance board. The OCIO is responsible for:

- Ensuring that SBA Program Offices adopt CPIC policies and procedures that comply with this PBM Guide, legislation, regulations, and other guidance referenced in the Applicable Laws and Guidance section.

4.2 OCIO IT Project Management Office (PMO)

The OCIO IT PMO is comprised of the IT Portfolio Managers and IT PMO Project Managers. The IT PMO coordinates the OCIO CPIC processes and provides the SBA with IT governance support. The OCIO IT PMO staff ensures that the appropriate rigor for PBM is fully integrated into Agency processes. The IT PMO also ensures that all required PBM processes are implemented for IT Investments and IT projects, and that the PBM information is used effectively.

The OCIO IT PMO is responsible for the following:

- Facilitating the resolution of issues that arise in complying with the IT PBM Policy.
- Overseeing implementation of the Policy for IT PBM and coordinating the resolution of issues that arise in complying with the IT PBM Policy and any supplemental guidance.
- Coordinating the collection of the SBA IT Investment Portfolio information to support PBM reporting requirements.
- Providing guidance to IT Investment managers and IT project managers regarding IT PBM policy, procedures, and IT Investment issues.

4.3 Federal IT Project Manager

The Federal IT Project Manager reports to the IT Investment Manager, and is responsible for managing cost, schedule, and performance of the IT project. Other Federal IT Project Manager responsibilities are as follows:

- Developing and maintaining the IT project PMB in accordance with SBA's Policy for IT PBM, CPIC and SDM. .

- Collecting, analyzing, and reporting IT project cost, schedule, and performance data to the IT Investment Manager.
- Development, management, and control of a risk matrix /risk log to support the ongoing PMB.
- Submitting IT project Corrective Action Plans when a cost or schedule variance exceeds established thresholds, justifications of a cost or schedule zero variance, and Baseline Change Requests in accordance with SBA Policy for IT PBM and procedures to the IT Investment Manager.

4.4 Federal IT Investment Manager/Sponsor

The Federal IT Investment Manager/Sponsor oversees the IT Investment and ensures the Federal IT Project Manager formulates and manages the original baseline and re-baseline changes. Roles & responsibilities include the following:

- Analyzes all IT project cost, schedule, and performance data or any relative baseline changes, as well as the coordination of presentations or briefings to the Governance board (BTIC).
- Assess risk management plans and mitigation approaches to support the ongoing tracking of the PMB.
- Approves the IT Investment/project Corrective Action Plans when a cost or schedule variance exceeds established thresholds, justifications of a cost or schedule zero variance and Baseline Change Requests in accordance with SBA Policy for IT PBM and procedures to the IT Investment Manager.

Note: OMB standards for realistic baseline measures have provided useful insight into ongoing monthly reporting trends. Typically a zero cost or schedule variance implies a perfect milestone or perfect cost/schedule variance rating, which may signal a red flag if it is continuous throughout future reporting. This is not a normal practice; once a project has started usually there is a slight variance or deviation in cost or schedule performance throughout the project's lifecycle.

4.5 IT Governance Board

SBA's governance relationships include all components of the SBA organizational structures that are required for establishment, approval, management and change of baselines. The IT Governance Board encompasses the Business Technology Investment Council (BTIC). BTIC serves as the senior executive review body, providing oversight advice, and making recommendations to the SBA Administrator, who has the final approval on the Agency's IT Investment Portfolio. The BTIC provides advice and recommendations to the SBA Administrator. The SBA BTIC is responsible for the following activities:

- Provides recommendations on the agency's IT investment portfolio selection, prioritization, and funding.
- Ensures IT investment's performance measurement baseline (PMB) is driven on and grounded in legitimate deliberate business needs, and is aligned with the SBA's mission, strategic goals, and objectives.
- Monitors and evaluates the health and performance of the IT programs of the agency, and advises the Administrator whether to continue, modify, or terminate a program or project that is baselined or re-baselined.

The TechStat Board will be utilized to focus on major investments which are not performing to standards. Some of the core roles of the TechStat board include the following:

- Conducting internal review processes or sessions to identify areas significant to project's health and project stability.
- Participate in face to face, evidence-based accountability review of an IT investment.
- Review evidence based results of risk mitigation strategies and corrective action plans which address identified weaknesses of IT projects/investments.
- Ensure documentation of cost avoidance and cost savings are provided to turn around troubled programs.
- Assist in development strategies disposition or transition plans when terminating failed programs as soon as possible.

5. Baseline Management

5.1 Defining a Baseline

OMB Memo 10-27 defines a baseline as the approved work breakdown structure, costs, schedule, and performance goals for a given investment. A PMB is used as a primary tool for measuring project performance, and identifying risk. The baseline identifies the work that will be accomplished on a project, and defines the cost and schedule for accomplishment of that work. A baseline provides a snapshot or image of the original plan which later provides the basis for comparison, and for assessing program impact between the planned information or snapshot and actual performance of a project/IT Investment. An investment baseline encompasses the budget/cost formulation and ongoing management of those costs throughout all phases of the project lifecycle.

The PMB which consists of cost, schedule, and scope baseline, is derived from the scope of work described in a hierarchical, product-oriented Work Breakdown Structure (WBS) which, in turn, decomposes the entire project into a logical structure of tasks and activities tied to deliverables and to assigned responsibilities – and the associated WBS dictionary. The PMB comprises:

- The cost baseline, which defines the approved, projected, time-phased, life-cycle cost for acquiring, operating, and disposing of the physical and/or logical system represented by the scope baseline.
- The schedule baseline, which is the approved timeline for acquiring, operating, and disposing of the physical and/or logical system.
- The scope baseline, which represents the configuration of the product of the project as developed and described in the project's technical documentation.

The baseline is integrated where the time-phased cost baseline is consistent with the schedule baseline, and the costs are related to acquiring, operating, and disposing of the physical and/or logical system represented by the scope baseline.

The official baseline for an IT investment project is the latest documented and approved baseline, along with any approved changes to cost, schedule, or scope. It is important to note that the cost, schedule, and scope baselines represented in the PMB must be fully risk-adjusted and must be integrated with the risk management process.

Refer to the OMB Capital Programming Guide as defined in the SBA Applicable Laws and Guidance Section of this document for a more in-depth discussion of the need for risk-adjustment in developing a PMB.

5.2 Establishing a Baseline

SBA's policy for establishing a baseline can be referenced in detail in the SBA's CPIC guide. By using the SBA OCIO Investment Initiation Form (IIF) Template, the investment manager captures not only the project description and key benefits, but the project sponsor, project timeline, project life cycle cost estimate (LCCE), investment type, and business/strategic alignment to the enterprise architecture. Some of the core process steps for developing or establishing a baseline are as follows:

- **Work Breakdown Structure** – Alignment of all project tasks/activities that are the basis of inclusion into the entire scope of work prior to assigning resources and cost estimation.
- **Decomposition** – adding more detailed milestones without affecting the cost, schedule, or scope.
- **Out-year Extension** – adding (or decreasing) annual milestones in the life cycle of a project.
- **Proposed Initiative Justification** – creating a new baseline to reflect a proposed (or approved) budget initiative.
- **Milestones Justification** – Milestone development that defines the project's activities and are aligned with the project's annual cost, performance, or schedule.
- **Justification** – Ensure the performance plan baseline maps to or aligns with an external (high level) operating unit, Agency, OMB, or legislative action.
- **Risk Adjustment Factoring** – Ensure the performance baseline accounts for potential risks and that the risk-adjusted assumptions are incorporated in baseline.

Graduated Requirements

Size, scope and development methodology must be detailed as part of gathering the graduated or more detailed requirements beyond preliminary analysis of project scope, size, and complexity. In accordance with OMB Memo 10-27, as well as the GAO Cost Estimating Assessment Guide as a key or critical component of the graduated requirements, the agency must also define program/IT Investment characteristics in a technical baseline description document.

This document should identify the program's purpose and its system and performance characteristics and all system configurations; any technology implications; its program acquisition schedule and acquisition strategy; its relationship to other existing systems, including predecessor or similar legacy systems; Support (manpower, training, etc.) and security needs and risk items; System quantities for development, test, and production; deployment and maintenance plans many of these artifacts should already exist in the SDLC or Program Management repository based on previous legacy systems or current system modules known as useful segments. The SBA IT PMO has formulated a Graduated Requirements Checklist documenting specific details for defining the cost estimation methodology to include estimation purpose, estimation planning, program characteristics, estimation structure and technical approach, ground rules and assumptions to ensure project scope, size, and technical complexity are based on sound requirements.

When establishing a baseline, there are four distinct characteristics which must be address in establishing a sound baseline. As such, the GAO Cost Estimation Assessment Guide identifies four key criteria of a high quality, reliable cost estimate when establishing a baseline. It must be (1) well documented, (2) comprehensive, (3) accurate, and (4) credible.

Based on GAO Cost Estimating Assessment Guide –Either an Independent cost estimate (ICE) may be conducted by an internal Independent Government Cost Estimate (IGCE) Group or developed by an Independent Cost Estimate (ICE) external group or organization. The ICE is developed to determine whether other estimating methods will produce similar results as the planned baseline estimate.

Well Documented Criteria: In examples of a well-documented baseline, the estimate is thoroughly documented, including source data and significance, clearly detailed calculations and results, and explanations for choosing a particular method or reference. Data should be traced back to the source documentation for validity. Recommended process steps and evidence of a well documented baseline estimate includes:

- Defining the purpose of the estimate
- Defining the program/investment goals
- Identifying ground rules and assumptions of project scope (inclusion vs. exclusion work)
- Steps obtaining the data
- Documenting the estimate
- Presenting the estimate to management for approval

Comprehensive Criteria: The estimate's level of detail ensures that cost elements are neither omitted nor double counted. Estimate details all cost-influencing ground rules and assumptions. It must define the WBS and describes each element in a WBS dictionary. A major automated information system program may have only a cost element structure. Recommended process steps and evidence of a comprehensive baseline estimate includes:

- Development of an estimation plan
- Determining the estimation approach

Accuracy Criteria: The estimate is unbiased, not overly conservative or overly optimistic, and based on an assessment of most likely costs. It has few, if any, mathematical mistakes; its mistakes are minor. It has been validated for errors like double counting and omitted costs. Cost drivers have been cross-checked to see if results are similar. It is timely It is updated to reflect changes in technical or program assumptions and new phases or milestones. Estimates are replaced with EVM EAC and the independent EAC from the integrated EVM system. Recommended process steps and evidence of an accurate baseline estimate includes:

- Development of point estimates by using sample data charting, statistical analysis factors, and comparison of data it to an independent cost estimate
- Updating the estimate to reflect actual costs and changes

Credible Criteria: Discusses any limitations of the analysis from uncertainty or biases surrounding data or assumptions Major assumptions are varied and other outcomes recomputed to determine their sensitivity to changes in assumptions. Risk and uncertainty analysis is performed to determine the level of risk associated with the estimate an independent cost estimate is developed to determine if other estimating methods produce similar results. Recommended process steps and evidence of a credible baseline estimate includes:

- Re-developing the point estimate and compare it to an independent cost estimate
- Conducting sensitivity analysis
- Conducting risk and uncertainty analysis

Baseline Revision Process – The Baseline revision process must include the following:

- Description of changes to performance goals and measures
SBA currently utilizes or documents this information in Investment Initiation Form (IIF), and is documented after approval from the BTIC in the project charter.
- Summary of changes in the investment's scope and/or capabilities
SBA utilizes the Baseline Change Request or Audit Tracking Log.
- Identification of the contributing problem
SBA utilizes Corrective Action Plans (CAP) documents, Risk Register Logs, and the ProSight Tool Investment Health Report (IHR)/Project Health Report (PHR) data to examine why the current plan is not feasible, and remediation plans to prevent problem recurrence (if applicable).
- Analysis of Alternatives for Major IT Investments
SBA will utilize the original or revised Alternative Analysis (AA) cost benefit analysis, or ROI, NPV data prior to establishing a new baseline.
- Change Log Management
SBA currently utilizes WBS Dictionary, Integrated Master Schedule (IMS), Schedule Baseline Tracking Tools, P6, ProSight E300, and IT Dashboard Reporting the chronology of changes to an investment's WBS and cost estimate detailing variance from the most recently approved baseline.
- Acquisition Constraints/Risks
SBA currently utilizes Acquisition Management Reports, OMB E-300 Acquisition Table and Performance Table Data reporting to assure that the new baseline accurately reflects any contracting constraints and risks.

“Major IT Investment As defined in the OMB M-10-27, including systems used for financial management that obligate more than \$500,000 annually. In accordance with OMB Circular A-11, Federal Acquisition Regulation (FAR) 202 and appropriate NDIA National Defense Industrial Association (NDIA) Program Manager's Integrated Handbook Guide as standards for conducting an Integrated Baseline Review (IBR). Below are guidelines for Conducting an IBR which are relative to the CPIC and IT PBM Guide. The SBA Initiation Investment Form (IIF), BTIC approved project charters, NDIA Integrated Baseline Review (IBR) Handbook, as well as the GAO Cost Estimation Guide are critical to conducting an IBR. Documentation requirements must align with best practices in (OMB Circular A-11, Capital Programming Guide, OMB A-94 Cost Benefit Analysis, and GAO Cost Estimation Guide).

- **Sound Baseline Estimation Methodology** - Data/Documentation must include Technical baseline description. The cost estimate must document all steps in developing the estimate so that any cost analyst unfamiliar with the program can recreate it quickly with the same results.

- **Detailed Estimation Plan** - Accurate Cost Estimates, benchmarked by parametric, analogous, and historical trends. Cost estimate baseline must describe in detail the estimating methodology and rationale used to derive each WBS element's cost.
- **Credible Estimates** - Must include risk, sensitivity and cost factor assumptions.
Data Accuracy - Documentation of all data sources and rationale for how the data is normalized. Normalization involves organizing and correlating data fields by use of formulas of other tools or methods included with any cost benefit analysis (CBA).
- **Integrated Baseline Reviews** - Documentation of risks to the cost, schedule and performance. The (NDIA Program Manager Integrated Baseline Review Handbook defines five categories of risks: Technical, schedule, cost, resource, and management processes. The PM must document each risk area using evaluation criteria which include schedule and cost rough-order-of-magnitude impacts.

PMs identify risk during PMB assessment and project planning, and through continuous monitoring of management processes, and PMB validation. Review of dates, review of scope, risk evaluation criteria, documentation needs, disposition of findings, and procedures for risk identification, documentation, must all be incorporated into project risk management planning.

1. **Technical risk.** Identify and rate the ability of the project's technical plan to achieve the objectives of the scope of work. Technical risk includes the effects of available technology, software development capability, design maturity, etc.
2. **Schedule risk.** Identify and rate the adequacy of the time allocated for performing the defined tasks to successfully achieve the project schedule objectives. Schedule risk includes the effects on the schedule of the interdependency of scheduled activities to achieve project milestones and support the PMs' ability to identify and maintain the critical path.
3. **Cost risk.** Identify and rate the ability of the PMB to successfully execute the project and attain cost objectives, recognizing the relationship between budget, resources, funding, schedule, and scope of work. The quality of the estimates affects the cost risk, which includes the assumptions used for both estimates and resource allocation on the budgets for work items.
4. **Resource risk.** Identify and rate the availability of personnel, facilities, and equipment, when required, to perform the defined tasks needed to execute the program successfully. Resource risk includes the effect of external factors such as loss of availability to competing programs or unexpected downtime that could preclude or otherwise limit the availability of the resources needed to complete planned work.
5. **Management processes risk.** Identify and rate the degree to which the management processes provide effective and integrated technical/schedule/cost planning and baseline change control. Management processes risk includes the ability to establish and maintain valid, accurate, and timely performance data, including data from subcontractors, for early visibility into risks.

5.3 IT Funding

Time, scope, and resource management are key components which must be considered when establishing a baseline and determining the level of funding required for each IT Investment. IT funding decisions will impact the baseline or may cause a re-baseline of an IT investment. Funding reductions may require re-planning considerations, however, a 10% + plus or - minus variance will result in a re-baseline.

5.4 Planning of Useful Segments

In accordance with OMB Memorandum M-10-27, all SBA baselines must include a useful segment system component or capability. The term “**useful segment**” refers to a functional component being used or operational, while another component is being developed or implemented during the CPIC process or during the appropriate Life Cycle Phase of the IT Investment. A useful segment must exist throughout the CPIC process in order to be fully funded with regular or advance appropriations, and to minimize the risk of funding a completely developmental based IT project/investment. In essence, useful segments are comprised of functional components or technical capability which can be deployed and remain operational while new system features are being developed. Useful segments are used as a form of risk mitigation because it allows for more management durations of product development and deployment.

In accordance with OMB Circular A-11 Part 7 Appendix J—Principles of Budgeting for Capital Asset Acquisitions each IT Investment must identify one of the four principles of accounting that will be used to fund the specific IT Investment. (Full Funding, Regular and Advance Appropriations, Separate Funding of Planning Segments, or Accommodation of Lumpiness or Spikes must all be considered and used to determine the most appropriate method prior to PMB formulation.

5.5 Investment Lifecycles

SBA IT Investment managers are required to establish investment lifecycles of manageable duration so that baselines remain relevant, and thus risks are monitored and managed with greater levels of control.

5.6 Work Breakdown Structure (WBS) Reporting Level

The level of detail in the WBS shall accommodate the reporting frequency. Reports shall, at a minimum, be depicted at WBS Level 3, which is in accordance with OMB and industry best practice defined in (MIL-HDBK-881A) "Work Breakdown Structures for Defense Materiel Items and the Project Management Institute (PMI) Project Management Body of Knowledge (PMBOK) 4th Edition December 2008".

5.7 Baseline Validation Criteria & Tools

A baseline validation and approval process, as well as the Integrated Baseline Review (IBR) are vetted through SBA IT Governance Board. As required to support **all major IT investments** baselines, SBA must adhere to the requirements in *FAR 34.2 Earned Value Management (EVM)*, *Subpart 34.2—Earned Value Management System (EVMS)*, and *34.202 Integrated Baseline Review (IBR)*. OMB requires evidence of specific processes, tools, or methodologies which are used to validate the baseline. SBA has identified the following tools, templates, and processes to support development and validation of the agency baseline. Pre-defined EVM and IBR decision criteria tools or best practices used within the SBA include the following:

- **Schedule Management Tool** – Used to develop cost, schedule, resources, and task activities that rollup into the baseline and become the basis for EVM reporting data.
- **Portfolio Management Tool** - Used to ensure data integrity. Most of the columns of the performance measurement table are locked within the portfolio management tool. Project managers have the ability to update the actual columns in the Exhibit 300 Performance Baseline Table. Changes to the baseline “plan” columns or the addition or deletion of milestones, require completion and approval of a baseline change request.
- **Integrated Baseline Review** – Used to assess the validity of the PMB, support decision authority, or approval of the baseline plan pre/post contract award. In addition, an IBR can be conducted at management’s discretion or when a plus + or minus – 10% variance has occurred during the project lifecycle.
- **ANSI EIA 748 EVMS Criteria Template** – Used to track and assess the investment baseline criteria, ensure tracking of cost, schedule, and performance goals, as well as identify the EVM process maturity level for the IT project/ investment, which is measured against the ANSI EIA 748 32 criteria.
- **SBA CPIC Policy Guide** – Used to provide guidance on development and management of Capital Planning Investment Control (CPIC) practices, as well as outlining specific processes for formulating, managing, and monitoring the PMB in accordance with OMB Circular A-11 standards.
- **NDIA ANSI EIA 748 32 Criteria Intent Guide** – Used to set specific guidelines for establishing and measuring cost, schedule, and performance goals. Provides a basis for the validation of an IT Investment’s EVM practice. The guide provides recommendations on improving an agencies EVM process, and serves as an industry benchmark for EVM implementation.
- **GAO Cost Estimation and Assessment Guide** – Used to provide a basis for calculating project costs, as well as implementing of the core or most critical EVM process. It also serves as a basis for creation of a PMB validation readiness checklist for assessing **all types of risks**, some examples include (cost, schedule, technical, acquisition, performance, environmental, financial, and management) or any other specific types identified by OMB or agency discretion.
- **TechStat Sessions**– Used as internal review process or session to identify areas significant to project’s health and project stability. TechStat is a face to face, evidence-based accountability review of an IT investment. A five phase process is used to include discovery, analysis, preparation, facilitation, and follow-up approach leading to the identification, risk mitigation, action, and methods to address weaknesses, and reduction of current spending or resources to include replanning, re-baselining, or termination of various IT projects/investments.

6. Re-baselining

6.1 Rationale of Re-Baselining:

Prior to any re-baseline justification, IT Investment Managers must ensure there are valid reasons to request a BCR. These factors must be vetted, analyzed and determined as justifiable reason to re-baseline **all major investments**. Specific examples are identified below:

- Significant change in investment goals (scope, requirements, objectives) occur resulting from internal or external management decisions, or changes in funding level or availability of funds (e.g. extended continuing resolution), or contracting (including contractual protests).

- Incremental or iterative system development and planning lifecycle has been chosen for the investment, progressive elaboration may be necessary when transitioning from one iteration or increment to the next, as scope and objectives evolve. Such rapid evolution inherent to iterative development must be vetted and approved by the IT Governance Board prior to re-baselining.
- If extremely high variances within the current baseline no longer serve as useful management tools for realistic performance measurement. This is evidenced by high variances which become difficult to predict future project outcomes or determine root causes of existing variances.

SBA has identified a minimal requirement that will trigger a re –baseline in accordance with standards identified in the OMB Circular A -11. If either the scope of the project has changed from the original plan, and the performance measurement baseline (PMB) is no longer valid. The project's cost and/or schedule variance(s) throughout the lifecycle of the project is outside of a tolerant range of + or -10%, a re-baseline will be triggered.

In either of these cases, the performance measurement baseline (PMB) is no longer a valid management tool, and the project will be re-baselined if there is diversion from SBA's original performance goals/measures. Requests for baseline changes of major IT investments must be approved by the IT governance board. SBA may need to readjust the project baseline for various reasons. Some of the core reasons identified in the IT industry include the following:

- **Lack of solid planning and forecasting:** Performance measurement serves as a progress check enabling organizations to determine whether project/investment goals are met, or whether the project/investment needs revised budgets and forecasts.
- **Benchmark:** When agencies or companies compare its performance against industry benchmarks, can identify weak areas and address them to sharpen competitive edge.
- **Improve Progress Tracking:** By tracking performance, agencies/companies can identify and promptly address problems or issues such as declining customer or stakeholder support, increases in agency expenses, reductions of corporate profits, or defects in product deliverables.
- **Regulatory and standards compliance:** Many agencies and companies measure performance in order to comply with government regulations (such as antipollution laws) or international standards (for instance, ISO 9000).

6.2 Development of a Re-baseline

The re-baseline request must describe in detail the portions of the PMB that are to be re-baselined by comparing the documented **OMB Approved vs. Proposed Baseline Changes**. SBA OCIO has developed an automated template which will be used when a re –baseline of an investment is required. The Project Health Report (PHR) form will trigger an alert based on a Cost or Schedule Variance that exceeds the + or - 10% threshold. As a result, an email notification will be sent to the IT Investment Manager and the IT Federal Project Manager for corrective actions. The minimal level of detail required for the corrective action is as follows:

- If budget or reserves are to be changed, provide a side-by-side comparison of the previously approved budget vs. the proposed re-baseline.
- If the project completion date is to be extended, provide a side-by-side comparison of the previously approved master schedule vs. the proposed re-baselined master schedule.

- If project success criteria or technical objectives are to be modified (e.g., de-scoped), provide a detailed side-by-side comparison of the previously approved scope baseline vs. the proposed re-baseline.
- If acquisition strategy is to be modified, describe any changes in the proposed re-baselined acquisition plan.

6.3 Key Re-baseline Process Steps

Once a re-baseline event has been identified, the following core steps of the re –baseline process must occur:

- **Work Breakdown Structure** – Alignment of all project tasks/activities that are the basis of inclusion into the entire scope of work prior to assigning resources and cost estimation.
- **Decomposition** – adding more detailed milestones without affecting the cost, schedule, or scope.
- **Import Actuals** – importing data from an external source, such as the agency’s project management tool database file, this updates the Actuals but does not change the plan.
- **Lifecycle Phase Change Justification** – Changing the project status as it moves from Planning, Acquisition, or Mixed lifecycle to Steady State and therefore changing which performance baseline table in the Exhibit 300 needs to be completed.
- **Out-year Extension** – adding (or decreasing) annual milestones in the life cycle of a steady state project.
- **Proposed Initiative Justification** – changing or creating a new baseline to reflect a proposed (or approved) budget initiative.
- **Restructure Milestones Justification** – replacing milestones with ones that better define the projects activities without changing the projects annual cost, performance, or schedule.
- **Re-plan Justification** – amending the performance plan baseline due to an external (high level) operating unit, Agency, OMB, or legislative action altering the funding, schedule, or scope of the project.
- **Re-baseline Justification** – revising the performance baseline due to large actual or projected variance in the risk adjusted assumptions that are the basis for the current baseline.

Note: New baselines should not be requested due to general cost and/or schedule slippages unless they exceed the tolerant range of + or -10%. Clear distinctions shall exist between re-baselining and replanning. The agency’s policy shall state that adding or modifying detail within the overall cost and schedule goals shall not require a new baseline.

Formerly the Federal Acquisition Streamlining Act, Title V also stipulated “the head of each executive agency should achieve, on average, 90 percent of the cost and schedule goals established for major and non-major acquisition programs of the agency without reducing the performance or capabilities of the items being acquired.”

Currently, the Capital Programming Guide, Supplement to OMB Circular A-11, Part 7 states, “Agencies must establish cost, schedule and performance goals for major acquisitions and then achieve, on average, 90% of those goals requires use of earned value “or similar” performance based management system”. “OMB should review the reasons for deviations for goals, the reasonableness of the corrective actions proposed, and the validity of increased cost estimates.

OMB should consider approving re-baseline proposals only when the agency has provided justification demonstrating the new goals have a high probability of success and that the acquisition will still have a benefit-cost analysis that justifies continued funding after comparison with other projects in the portfolio analysis and budget limitations.”

OMB Circular A-11, Part 7 requires agencies implement EVMS guidelines in American National Standards Institute (ANSI)/Electronic Industries Alliance (EIA) 748-A-1998 (R2002), and conduct Integrated Baseline Reviews Of the 32 Criteria the specific criterion which impacts baseline validation and performance baseline management (PBM) tracking are listed below:

ANSI EIA 748 Criteria 22: At least on a monthly basis, generate the following information at the control account and other levels as necessary for management control using actual cost data from, or reconcilable with, the accounting system:

- (1) Comparison of the amount of planned budget and the amount of budget earned for work accomplished. This comparison provides the schedule variance.
- (2) Comparison of the amount of the budget earned the actual (applied where appropriate) direct costs for the same work. This comparison provides the cost variance.

ANSI EIA 748 Criteria 23: Identify, at least monthly, the significant differences between both planned and actual schedule performance and planned and actual cost performance, and provide the reasons for the variances in the detail needed by program management.

ANSI EIA 748 Criteria 24: Identify budgeted and applied (or actual) indirect costs at the level and frequency needed by management for effective control, along with the reasons for any significant variances.

ANSI EIA 748 Criteria 25: Summarize the data elements and associated variances through the program organization and/or work breakdown structure to support management needs and any customer reporting specified in the contract.

ANSI EIA 748 Criteria 26: Implement managerial actions taken as the result of earned value information.

ANSI EIA 748 Criteria 27: Develop revised estimates of cost at completion based on performance to date, commitment values for material, and estimates of future conditions. Compare this information with the performance measurement baseline to identify variances at completion important to company management and any applicable customer reporting requirements including statements of funding requirements.

7. OMB Notifications of Baselines and Changes

For major investments, once the agency has approved a new baseline or revision to an existing baseline, the information is documented in the Portfolio Management Tool. The OCIO IT PMO ensures updates to the Federal IT Dashboard every 30 days with the current agency approved baseline. General baseline information must include the following prior to OMB notification:

- Date of SBA IT Governance Board approval of the (re)baselining event
- Updated cost and schedule information for remaining tasks and newly planned tasks.

- Selection of reason for change to baseline, and brief summary of the rationale used for the (re)baselining event including changes to scope and/or capabilities.
- Additions/modifications/deletions of performance measures, as appropriate.
- Ensure the final updates to the IT Dashboard are completely accurate.

Note: Posting of the final update to the IT Dashboard will be considered notification to OMB, and SBA should begin to report against approved baseline or re-baseline at that time.

8. Performance Baseline Management System (PBMS)

A PBMS provides for an integration of performance management tools, Capital Planning & Investment Control, and solid project management analysis. A solid PBMS must not only provide a set of tools, which contains data necessary to populate the federal IT dashboard cost and schedule tables on a monthly basis. The PBMS is also used to measure and to capture performance metrics that allow the agency executives to make more informed decisions; it must also assist the agency in effectively managing investments, programs, and projects. The PBMS serves as the foundation for tracking projects' delivery, expected results, and qualitative/quantitative impacts that aid the agency in making sound IT Investment decisions. Currently OCIO manages the PBMS by use of a project management tool and a Portfolio Management Tool. ANSI EIA 748 EVM Development, EVM Implementation, as well as EVM Analysis & Reporting are key indicators of SBA's success in managing and monitoring the PBMS. The SBA PBMS is managed and monitored throughout every phase of the project life cycle. All performance measurement occurs at the project/IT Investment level and must be applied to government FTE and contractor efforts, regardless of contract type.

Creation, review, and monitoring of corrective action or recovery plans are mandatory compliance of OMB M-10-27. Creation of a Corrective Action Plan (CAP) requires providing adequate and specific information that depicts the nature of the finding, the impacts, and the planned remedy. Effective corrective action plans at minimum must address the following:

- Identification of Problem/Root Cause Analysis
- Impact Analysis/Significance to Investment
- Problem Resolution Methods, approaches, or recovery strategies IPT should implement for process improvement
- Realistic goals/deadlines
- Review & Monitoring of Corrective Action/Recovery Plans includes the following:
 - Reductions in errors, Increase in data integrity, process improvements
 - Notification, deadlines, and timeliness trends
 - Data reliability and accuracy
 - Potential impact on government funding, contract requirements.
 - Document/Assess Quantitative/Qualitative Measures
 - Number of discrepancies observed;
 - Associated absolute dollar value impact
 - Changes/Updates to Root cause analysis
 - Non-compliance vs. Compliance of Standards
 - Continuous surveillance, review, and monitoring of the CAP.
 - Documented assessments of progress made in implementing CAP

- Management Approval of resolved CAPs prior to closure.

The policy guide does not adequately address OMB requirements for performing operational analysis on operational/steady state investments to measure how well the investment is achieving expected cost, schedule, and technical and customer performance goals.

Requirements for performing Operational Analysis on Operational/Steady Investments Full
Operational Analysis reports are due annually and must address all four of the following factors:

1. **Customer Results** - Are operational costs to the customer as low as they could be for the results delivered? Is the asset meeting performance goals established during the Selection and Planning Phases? Is the asset performing in accordance with the sustainable design? Is the asset continuing to meet stakeholder needs?
2. **Strategic and Business Result** - Does the asset continue to meet business needs and contribute to the achievement of the organization's current and future strategic goals?
3. **Financial Performance** - Are annual operating and maintenance costs comparable to the estimates developed during the Selection, Planning and Budgeting Phases? (Financial Performance) Are there smarter or more cost effective ways of deliver the functionality?
4. **Innovation** - of the investment during the immediately preceding year.

Quarterly performance reviews of steady state investments must address financial and technical performance of the investment during the previous quarter. Due Dates Annual OA: OMB due dates for Annual Operational Analysis reports are generally required around mid-November of each year. Reports will reflect the investments' operational status for the previous fiscal year.

Due Dates Quarterly Status Reports: OMB may also require quarterly operational status reports for steady state and mixed lifecycle investments. The quarterly status reports are due (Jan 15th, Apr 15th, July 15th, and Oct 15th)

SBA utilizes the OMB Standards required to measure cost, schedule, technical, and performance goals. Specific SBA methods include monthly Earned Value Management (EVM) Reporting, P6 Schedule Management, ProSight Portfolio Management (PfM) and IT Dashboard reporting. Budget at Completion (BAC) Planned Value (PV), Earned Value (EV) and Actual Cost (AC) are reported monthly, along with any variances in Cost (CV) and Schedule (SV) for all Planning, Acquisition, (Development, Modernization, and Enhancement (DME) Mixed Life Cycle Projects.

Examples of methods SBA OCIO IT PMO currently employ to measure an IT Investment's progress are demonstrated by project schedule management, OMB data calls, periodic, and weekly status report meetings. In addition the SBA OCIO IT PMO participates in weekly Demand Meetings on high risk projects, Monthly CIO Reviews of the IT Investment Portfolio, as well as Bi-weekly and Monthly IT Dashboard reporting. Independent assessments of technical progress may also be required, as well as the newly formed OMB required TechStat sessions. SBA OCIO IT PMO is also required to conduct annual Operational analyses for Steady State//Operational & Maintenance (O&M) Projects.

8.1 Earned Value Management (EVM) Requirements

The SBA shall utilize the FAR EVM provisions and clauses in contracts deemed to be major investment. The EVM practice is used to monitor cost, schedule, and performance of an IT Investment, and to assess or project any future impact of ongoing variances. The federal IT Project Manager, Contracting Officer (CO), Contracting Officer Technical Representative (COTR), in collaboration with the Acquisitions Division (AD) will ensure all EVM requirements are in compliance with the FAR standards.

In addition, other SBA functional areas or experts in the fields of acquisition, planning, contractual, legal, administrative, budget & finance, technology, human resource, and environmental policy may be required to support contractual requirements of the FAR which are required to measure against both the current approved re-baseline and the original baseline.

Earned value principles must be used to plan and manage developmental activities for Major IT investments. SBA will incorporate the recommended GAO Core 11 Step EVM process. This process identifies the minimal fundamental steps required to implement an EVM process. The GAO Core 11 EVM processes are included below:

1. Define the scope of effort using a WBS.
2. Identify who in the organization will perform the work.
3. Schedule the work.
4. Estimate the labor and material required to perform the work and authorize the budgets, including management reserve.
5. Determine objective measure of earned value.
6. Develop the PMB.
7. Execute the work plan and record all costs.
8. Analyze EVM performance data and record variances from the PMB plan.
9. Forecast EACs.
10. Take management action to mitigate risks.
11. Update the PMB as changes occur.

9. Federal IT Dashboard Background

On June 1, 2009 OMB launched the Federal IT Dashboard. Through the Federal IT Dashboard, Federal agencies and the public have the ability to view details of Federal information technology investments online and to track progress over time, and spending. All IT Investments baselines and rebaselines are tracked online within the dashboard for transparency at level three (3) of the WBS. The Federal IT Dashboard displays a subset of data from agencies OMB Exhibits 53 and 300 forms; agencies updated milestone information, agency CIO evaluations, EVMS reports on contracts requiring EVMS and other collected investment information. The Federal IT Dashboard does not allow an agency to request or approve baseline changes within the Federal IT dashboard. Only baselines approved in accordance with agency policy should be entered into the Federal IT Dashboard by an authorized user.

10. Major DOD IT Programs (Re-baseline Policy)

SBA has reviewed the IT Investment Portfolio, and has currently identified that there are no SBA E-Gov initiatives, or IT Investments directly integrated with DOD IT Programs. In the future any

Major DOD IT Programs that directly integrate with SBA will follow the guidance identified in the OMB Memorandum 10-27 "IT Investment Baseline Management Policy" that provides guidance on Major DOD IT Projects.

11. Applicable Laws and Guidance

Applicable laws and guidance include, but are not limited to, the following:

- American National Standards Institute/Electronic Industries Alliance (ANSI/EIA) Standard 748.
- Chief Financial Officers Act of 1990 (Public Law 101-576).
- E-Government Act of 2002 (Public Law 107-347).
- Federal Information Security Management Act (FISMA) of 2002 (Public Law 107-347).
- Federal Managers Financial Integrity Act of 1982 (Public Law 97-255).
- Federal Financial Management Improvement Act of 1996 (Public Law 104-208).
- Federal Acquisition Streamlining Act of 1994 (Public Law 103-355).
- GAO Assessing Risks and Returns: A Guide for Evaluating Federal Agencies' IT Investment Decision-making, AIMD-10.1.13, February 3, 1997.
- GAO Cost Estimating and Assessment Guide: Best Practices for Developing and Managing Capital Program Costs, GAO-09-3SP, March 2, 2009.
- GAO Office Information Technology Investment Management: A Framework for Assessing and Improving Process Maturity, GAO-04-394G, March 2004.
- Government Performance and Results Act (GPRA) of 1993 (Public Law 103-62).
- Information Technology Management Reform Act of 1996 (Division E of Public Law 104-106) and Federal Acquisition Reform Act of 1996 (Division D of Public Law 104-106), together known as the Clinger-Cohen Act.
- MIL-HDBK-881 - Work Breakdown Structures for Defense Materiel Items current version, May 2005.
- OMB Circular A-11, Part 7 Planning, Budgeting, Acquisition and Management of Capital Assets.
- OMB Circular A-11, Part 7 Supplement, Capital Programming Guide, June 2006.
- OMB Circular A-76, Performance of Commercial Activities (05/29/2003) including changes made by OMB Memorandum M-07-02 (10/31/2006) and a technical correction made by OMB Memorandum M-03-20, 08/15/2003.
- OMB Circular A-94, Guidelines and Discount Rates for Benefit-Cost Analysis of Federal Programs December 2008.
- OMB Circular A-127, Financial Management Systems.
- OMB Circular A-130, Management of Federal Information Resources.
- OMB Memorandum 10-27 Memorandum for Chief information officer, Information Technology Investment Baseline Management Policy, June 28, 2010.
- OMB Memorandum 97-02 Funding Information Systems Investments, October 25, 1996.
- OMB Memorandum M-04-24, Expanded Electronic Government (E-Gov) Presidents Management Agenda (PMA) Scorecard Cost, Schedule, and Performance Standard for Success, August 2004.

- OMB Memorandum 05-23, Improving Information Technology (IT) Project Planning and Execution, August 5, 2005.
- Paperwork Reduction Act of 1995 (Public Law 104-13).
- Project Management Institute, Project Management Body of Knowledge 4th Edition, December 2008.
- SBA Capital Planning and Investment Control (CPIC) Operational Guide, Version 1.0, August 4, 2009.
- SBA Capital Planning and Investment Control (CPIC) Policy Guide, Version 1.0, August 4, 2009.
- SBA Capital Planning and Investment Control (CPIC) Portfolio Management Guide, Version 1.0, August 4, 2009.
- SBA Earned Value Management (EVM) Guide, Version 1.0, August 4, 2009.
- SBA Operational Analysis (OA) Guide, Version 1.0, August 4, 2009.