

DEPARTMENT OF VETERANS AFFAIRS

Office of Information and Technology



Project Management Guide
Appendices

Department of Veterans Affairs
Office of Information and Technology
Project Management Guide

September 16, 2004

TABLE OF CONTENTS

APPENDIX A – KEY TERMS AND ACRONYMS	A-1
APPENDIX B – VA PM BEST PRACTICES	B-1
B.1 PROJECT CHARTERING AND INITIATING	B-1
B.2 PROJECT MANAGEMENT PLAN	B-3
<i>B.2.1 Format of the Project Management Plan.....</i>	<i>B-4</i>
<i>B.2.2 Project Management Plan Review</i>	<i>B-4</i>
<i>B.2.3 Project Scope Statement.....</i>	<i>B-4</i>
<i>B.2.4 Work Breakdown Structure (WBS).....</i>	<i>B-5</i>
<i>B.2.5 Organizational Breakdown Structure (OBS)</i>	<i>B-7</i>
<i>B.2.6 Project Schedule</i>	<i>B-9</i>
<i>B.2.7 Baselineing</i>	<i>B-12</i>
B.3 SCOPE MANAGEMENT PLAN	B-13
B.4 CHANGE CONTROL PLAN	B-14
<i>B.4.1 Change Control Process</i>	<i>B-15</i>
<i>B.4.2 Implementing the Integrated Change Control Management Plan</i>	<i>B-16</i>
B.5 SCHEDULE MANAGEMENT PLAN.....	B-16
B.6 STAFFING MANAGEMENT PLAN	B-17
<i>B.6.1 Implementing the Staffing Management Plan</i>	<i>B-18</i>
B.7 QUALITY MANAGEMENT PLAN	B-18
<i>B.7.1 Quality Planning.....</i>	<i>B-19</i>
<i>B.7.2 Quality Assurance.....</i>	<i>B-19</i>
<i>B.7.3 Implementing Quality Assurance</i>	<i>B-20</i>
<i>B.7.4 Quality Control</i>	<i>B-21</i>
B.8 RISK MANAGEMENT	B-21
<i>B.8.1 Risk identification</i>	<i>B-22</i>
<i>B.8.2 Risk Triggers.....</i>	<i>B-23</i>
<i>B.8.3 Risk Analysis</i>	<i>B-23</i>
<i>B.8.4 Risk Severity.....</i>	<i>B-25</i>
<i>B.8.5 Implementing the Risk Management Plan.....</i>	<i>B-26</i>
B.9 COMMUNICATIONS MANAGEMENT PLAN	B-26
<i>B.9.1 Format of the Communications Management Plan</i>	<i>B-28</i>
<i>B.9.2 Implementing the Communications Management Plan.....</i>	<i>B-28</i>
B.10 COST MANAGEMENT PLAN	B-30
B.11 PROCUREMENT MANAGEMENT PLAN	B-30
<i>B.11.1 Procurement Planning</i>	<i>B-31</i>
<i>B.11.2 Solicitation Planning.....</i>	<i>B-32</i>
<i>B.11.3 Format of the Procurement Management Plan.....</i>	<i>B-33</i>
<i>B.11.4 Implementing the Procurement Management Plan.....</i>	<i>B-34</i>
B.12 WORK AUTHORIZATION.....	B-36
B.13 EARNED VALUE MANAGEMENT	B-36
B.14 ROLE OF PROJECT PLANNING & CONTROL DURING THE EXECUTION PHASE	B-39
B.15 TEAM DEVELOPMENT	B-39
B.16 PROJECT PLAN EXECUTION	B-40
B.17 PROJECT ADMINISTRATION	B-41
B.18 PERFORMANCE REPORTING	B-41
<i>B.18.1 Performance Metrics.....</i>	<i>B-42</i>
<i>B.18.2 Performance Evaluation</i>	<i>B-43</i>
<i>B.18.3 Predictive Performance Evaluation.....</i>	<i>B-46</i>
<i>B.18.4 Performance Evaluation Process.....</i>	<i>B-47</i>

B.18.5	<i>Other Performance Evaluation Metrics</i>	B-49
B.18.6	<i>Output from Performance Evaluation</i>	B-51
B.18.7	<i>Implementing Project Performance</i>	B-51
B.19	CLOSING	B-52
B.19.1	<i>Re-distribution of Resources</i>	B-52
B.19.2	<i>Closeout Project Financial Records</i>	B-52
B.19.3	<i>Archive Project Records</i>	B-52
B.19.4	<i>Final Project Performance</i>	B-53
B.19.5	<i>Final Project Review</i>	B-53
B.19.6	<i>Contract Closeout</i>	B-54
B.19.7	<i>Administrative Closure</i>	B-54
B.19.8	<i>Formalizing Customer Acceptance</i>	B-55
B.19.9	<i>Documenting Lessons Learned</i>	B-55
APPENDIX C – VA IT PROJECT MANAGEMENT FORMS		C-1
APPENDIX D – OMB EXHIBIT 300		D-1
D.1	OMB DIRECTION	D-1
D.2	OMB EXHIBIT 300	D-1
D.3	OMB EXHIBIT 300 GUIDANCE	D-4
D.4	OMB EXHIBIT 300 SCORING	D-12
D.5	SCORING CRITERIA	D-13
D.6	HOW TO SCORE A 5	D-14
APPENDIX E – VA GOVERNING ORGANIZATIONS		E-1
E.1	VA EXECUTIVE BOARD (VAEB)	E-1
E.2	STRATEGIC MANAGEMENT COUNCIL (SMC)	E-1
E.3	OFFICE OF THE ASSISTANT SECRETARY FOR INFORMATION AND TECHNOLOGY (VA CHIEF INFORMATION OFFICER AND DEPUTY CIO)	E-1
E.4	OFFICE OF POLICY, PLANS, AND PROGRAMS	E-1
E.5	THE OFFICE OF THE ASSISTANT SECRETARY FOR MANAGEMENT	E-2
E.6	VA ENTERPRISE INFORMATION BOARD (EIB)	E-2
E.7	ENTERPRISE PROJECT MANAGEMENT COUNCIL (EPMC)	E-2
E.8	VETERANS BENEFITS ADMINISTRATION (VBA) INFORMATION TECHNOLOGY INVESTMENT BOARD (ITIB)	E-2
E.9	VETERANS BENEFIT ADMINISTRATION (VBA) PROJECT MANAGEMENT OFFICE	E-3
E.10	VETERANS BENEFITS ADMINISTRATION (VBA), OFFICE OF INFORMATION (OIM), BUSINESS SYSTEMS INTEGRATION AND MAINTENANCE SERVICE	E-3
E.11	VETERANS HEALTH ADMINISTRATION (VHA) PROJECT MANAGEMENT OFFICE	E-3
E.12	NATIONAL CEMETERY ADMINISTRATION (NCA)	E-4
APPENDIX F – MONTHLY PERFORMANCE REPORT TEMPLATE		F-1
F.1	MONTHLY PERFORMANCE TEMPLATE INSTRUCTIONS	F-1
F.2	INDIVIDUAL PROJECT TEMPLATE - DEVELOPMENT	F-6
F.3	INDIVIDUAL PROJECT TEMPLATE – SUSTAINMENT	F-7
F.4	WEIGHTING FACTORS – DEVELOPMENT	F-8
F.5	WEIGHTING FACTORS – SUSTAINMENT	F-9
APPENDIX G – MILESTONE REVIEW BRIEFING TEMPLATES & INSTRUCTIONS		G-1
G.1	PROJECT DECISION MEMO	G-1

G.2	MILESTONE 0 BRIEFING INSTRUCTIONS	G-2
G.3	MILESTONE 0 REVIEW TEMPLATE	G-8
G.4	MILESTONE I BRIEFING INSTRUCTIONS.....	G-14
G.5	MILESTONE I REVIEW TEMPLATES	G-30
G.6	MILESTONE II BRIEFING INSTRUCTIONS	G-41
G.7	MILESTONE II REVIEW TEMPLATE	G-51
G.8	MILESTONE III, IIIA & IIIB BRIEFING INSTRUCTIONS	G-62
G.9	MILESTONE III, IIIA & IIIB REVIEW TEMPLATES.....	G-72
G.10	MILESTONE IV BRIEFING INSTRUCTIONS.....	G-83
G.11	MILESTONE IV REVIEW TEMPLATE	G-90
G.12	REQUIREMENTS CHANGE REQUEST FORM.....	G-99
G.13	BASELINE CHANGE REQUEST FORM.....	G-100
APPENDIX H – VA PM PROCESS FLOW		H-1
APPENDIX I – VA IT SECURITY C&A GUIDANCE.....		I-1
I.1	BACKGROUND.....	I-1
I.2	DEFINITIONS	I-2
I.3	APPLICABLE POLICIES, STANDARDS, AND GUIDELINES:.....	I-3
I.4	ROLES AND RESPONSIBILITIES (AS DESCRIBED IN NIST SP 800-37 AND VA DIRECTIVE 6214)).....	I-4
I.5	SECURITY ACCREDITATION DECISIONS.....	I-6
I.6	CERTIFICATION AND ACCREDITATION PROCESS.....	I-7

LIST OF FIGURES

Figure B.1: Project Management Plan Development Process Flow	B-3
Figure B.2: Scope Planning Process Flow	B-5
Figure B.3: Scope Definition Process Flow	B-5
Figure B.4: Organizational Planning Process Flow	B-7
Figure B.5: Example Project Organization Structure	B-8
Figure B.6: Schedule Development Process Flow	B-10
Figure B.7. WBS Schedule Relationship (Gantt Chart)	B-10
Figure B.8: Sample TeamPlay Project Schedule	B-11
Figure B.9: Sample Schedule (Gantt Chart)	B-11
Figure B.10: Notional Change Request/Approval Process.....	B-16
Figure B.11: Quality Planning Process Flow	B-19
Figure B.12: Example of a Quality Management Process Model	B-20
Figure B.13: Quality Assurance Process Flow	B-21
Figure B.14: Risk Management Process Flowchart	B-22
Figure B.15: Communications Planning Process Flow	B-27
Figure B.16: Information Distribution Process Flow	B-29
Figure B.17: VA IT Acquisition Approval Process.....	B-31
Figure B.18: Procurement Planning Process Flow	B-32
Figure B.19: Solicitation Planning Process Flow	B-33
Figure B.20: Solicitation Process Flow	B-34
Figure B.21: Source Selection Process Flow.....	B-35
Figure B.22: Contract Administration Process	B-35
Figure B.23: Baseline Plan	B-36
Figure B.24: Schedule Performance	B-37
Figure B.25: Cost Performance	B-38
Figure B.26: Graphic Representation of Earned Value	B-39
Figure B.27: Team Development Process Flow	B-40
Figure B.28: Project Management Plan Execution Process Flow	B-41
Figure B.29: Performance Reporting Process Flow	B-42
Figure B.30: Schedule Control Process Flow	B-44
Figure B.31: Cost Control Process Flow	B-44
Figure B.32: S-Curve Illustration	B-44
Figure B.33: Project Performance Evaluation	B-48
Figure B.34: Risk Monitoring & Control Process Flow	B-49
Figure B.35: Quality Control Process Flow	B-50
Figure B.36: Scope Verification Process Flow.....	B-50
Figure B.37: Example Resource Staffing Chart	B-51
Figure B.39: Administrative Closure Process Flow	B-55
Figure D.1: VA OMB Exhibit 300 Fiscal Cycle	D-11
Figure D.2: Capital Asset Management System (CAMS).....	D-12

APPENDIX A – KEY TERMS AND ACRONYMS

- A -

Activity – An element of work performed during the course of a project. An activity normally has an expected duration, cost, and resource requirements and results in a deliverable or handoff to another activity. In this way, the activity is tied back to the *Work Breakdown Structure*. Activities are often subdivided into tasks.

Activity Based Budget – A budgeting concept based on the goods and services produced by an organization for its customers rather than the traditional cost based budget based on requests from cost centers. Activities are processes that consume resources, such as time and money, to produce a given output.

Actual Cost (AC) – Total costs incurred that must relate to whatever cost was budgeted within the planned value and earned value (which can sometimes be direct labor hours alone, direct costs alone, or all costs including indirect costs) in accomplishing work during a given time period. See also *earned value*.

Actual Cost of Work Performed (ACWP) – This term has been replaced with the term actual cost.

Administrative Closure – Generating, gathering, and disseminating information to formalize phase or project completion.

Assumptions – Assumptions are factors that, for planning purposes, are considered to be true, real, or certain. Assumptions affect all aspects of project planning, and are part of the progressive elaboration of the project. Project teams frequently identify, document, and validate assumptions as part of their planning process. Assumptions generally involve a degree of risk.

- B -

Baseline – The original approved plan (for a project, a work package, or an activity), plus or minus approved scope changes. Usually used with a modifier (e.g., cost baseline, schedule baseline, performance measurement baseline). Also called *Baseline Plan*.

Budget At Completion (BAC) – The sum of the total budgets for a project.

Budgeted Cost of Work Performed (BCWP) – This term has been replaced with the term *earned value*.

Budgeted Cost of Work Scheduled (BCWS) – This term has been replaced with the term *planned value*.

Business Case – Structured proposal for business improvement that functions as a decision package for organizational decision-makers. It may contain the goals of the project and how those goals support the goals of the enterprise. Other sections may include a cost/benefit

analysis, a requirement analysis, and a make or buy analysis. A business case usually includes a comprehensive fiscal analysis and estimate.

Business Requirements – 1) Requirements state the customer needs the project output will satisfy. Requirements typically start with phrase “The system shall” Business requirements refer to how the project will satisfy the business mission of the customer. 2) Business requirements refer to business functions of the project, such as project management, financial management, or change management.

Business Reference Model (BRM) – A function-driven framework that describes the Lines of Business and Internal Functions performed by the Federal government independent of the agencies that perform them. Major IT investments are mapped to the BRM to identify collaboration opportunities.

Buy-In – usually refers to securing a personal or organizational agreement with project goals or management methods. Buy-in from senior management or functional organizations may be necessary to accomplish many aspects of an enterprise project.

- C -

Capital Assets – land, structures, equipment, intellectual property (e.g., software), and information technology (including IT service contracts) that are used by the Federal government and have an estimated useful life of two years or more. See Appendix One of the Capital Programming Guide for a more complete definition of capital assets. Capital assets do not include items acquired for resale in the ordinary course of operations or items that are acquired for physical consumption, such as operating materials and supplies.

Capital Planning And Investment Control (CPIC) – The same as capital programming and is a decision-making process for ensuring that information technology (IT) investments integrate strategic planning, budgeting, procurement, and the management of IT in support of agency missions and business needs. The term comes from the Clinger-Cohen Act of 1996 and generally is used in relationship to IT management issues.

Capital Programming – An integrated process within an agency for planning, budgeting, procurement and management of the agency’s portfolio of capital assets to achieve agency strategic goals and objectives with the lowest life-cycle cost and least risk.

Capital Project (Investment) – The acquisition of a capital asset and the management of that asset through its life-cycle after the initial acquisition. Capital projects (investments) may consist of several useful segments.

Change Control – The processes, procedures and responsibilities for identifying, evaluating and managing change. Integration is achieved by assessing a potential change’s impact to all relevant aspects of a project, primarily scope, cost, schedule, risk and quality. Change control involves implementing a process change requests and the systematic tracking of change assessment and implementation.

Change Management – 1) The process of implementing change control. 2) The active involvement of project management in monitoring and controlling the change control process.

Change Control Management Plan – See Integrated Change Control Management Plan

Closeout – The last phase of a project. Closeout involves closing contracts, archiving records, completing project administrative tasks, and conducting final project reviews.

Communications Management – see *Project Communications*

Communications Management Plan – The Communications Management Plan describes how the various types of project information are distributed, reviewed, updated and filed.

Concept Definition – A phase of a project where the initial business case (based on a business need) is tested and the viability of the proposed solution and approach is explored. During the Concept Definition phase the project is “initiated” or “chartered” and the Project Sponsor, Business Sponsor, and/or Project Manager is given authority to proceed with the project.

Configuration Management (CM) – Any documented procedure used to apply technical and administrative direction and surveillance to: identify and document the functional and physical characteristics of an item or system, control any changes to those characteristics, record and report the change and its implementation status and audit the items and system to verify their conformance to requirements.

Constraint – Applicable restriction that will affect the performance of the project. Any factor that affects when an activity can be scheduled.

Contingencies – See reserve and contingency planning.

Contingency Planning – The development of a management plan that identifies alternative strategies to be used to ensure project success if specified risk events occur.

Contingency Reserve – The amount of money or time needed above the estimate to reduce the risk of overruns of project objectives to a level acceptable to the organization.

Contract – A mutually binding agreement that obligates the seller to provide the specified product and obligates the buyer to pay for it.

Contract Administration – Managing the relationship with the seller.

Contract Closeout – Completion and settlement of the contract, including resolution of any open items.

Control – The process of comparing actual performance with planned performance, analyzing variances, evaluating possible alternatives, and taking appropriate corrective action as needed.

Control Charts – A graphic display of the results, over time and against established control limits, of a process. They are used to determine if the process is “in control” or in need of adjustment.

Corrective Action – Changes made to bring expected future performance of the project into line with the plan.

Cost Baseline – The process of freezing cost estimates and budget. When a baseline is established, the change control process is implemented and performance is measured against the baselined cost data.

Cost Budgeting – Allocating the overall cost estimates to individual project activities.

Cost Control – Controlling changes to the project budget.

Cost Estimating – Developing an approximation (estimate) of the cost of the resources needed to complete project activities.

Cost Management – The process of monitoring project cost data to determine performance and variance from the planned cost targets/estimates.

Cost Management Plan – The cost management plan describes the process for implementing change control over cost estimates and the project time-phased cost baseline. The plan includes the steps taken when the performance measurement system identifies major or minor cost variances.

Cost of Quality – The costs incurred to ensure quality. The cost of quality includes quality planning, quality control, quality assurance, and rework.

Cost Performance Index (CPI) – The cost efficiency ratio of earned value to actual costs ($CPI = EV/AC$). CPI is often used to predict the magnitude of a possible cost overrun using the following formula: $BAC/CPI = \text{projected cost at completion}$.

Cost Variance (CV) – (1) Any difference between the budgeted cost of an activity and the actual cost of that activity. (2) In earned value, ($CV = EV - AC$).

Crashing – Taking action to decrease the total project duration after analyzing a number of alternatives to determine how to get the maximum duration compression for the least cost.

Critical Activity – Any activity on a critical path. Most commonly determined by using the *critical path method*. Although some activities are “critical,” in the dictionary sense, without being on the *critical path*, this meaning is seldom used in the project context.

Critical Path – The series of activities that determines the duration of the project. In a deterministic model, the critical path is usually defined as those activities with *float* less than or equal to a specified value, often zero. It is the longest path through the project. See *critical path method*.

Critical Path Method (CPM) – A network analysis technique used to predict project duration by analyzing which sequence of activities (which path) has the least amount of scheduling flexibility (the least amount of *float*). Early dates are calculated by means of a *forward pass* using a specified start date. Late dates are calculated by means of a *backward pass* starting from a specified completion date (usually the forward pass’ calculated project *early finish date*).

Critical Success Factors – Defines how progress and outcomes will be measured on a project—sometimes called objectives. Some typical critical success factors include functionality, quality, time, and cost.

Current Finish Date – The current estimate of the point in time when an activity will be completed.

Current Start Date – The current estimate of the point in time when an activity will begin.

Customer – Generally the organization that receives and becomes the final owner of the output of the project. The customer can be both internal or external to the organization developing the project output.

Customer Approval – The formal process of receiving written acceptance of the project output.

Customer Requirements – Requirements enumerate and state the customer needs the project output will satisfy. Requirements typically start with phrase “The system shall”

- D -

Data Date (DD) – The date at which, or up to which, the project’s reporting system has provided actual status and accomplishments. Also called *as-of date*.

Deliverable – Any measurable, tangible, verifiable outcome, result, or item that must be produced to complete a project or part of a project. Often used more narrowly in reference to an external deliverable, which is a deliverable that is subject to approval by the project sponsor or customer.

Dependency – Logical relationship between and among tasks of a project’s WBS, which can be graphically depicted on a network. May also refer to dependencies among projects.

Deployment Process – see also *System Deployment*

Duration (DU) – The number of work periods (not including holidays or other non-working periods) required to complete an activity or other project element. Usually expressed as workdays or workweeks. Sometimes incorrectly equated with elapsed time. See also *effort*.

Duration Compression – Shortening the project schedule without reducing the project scope. Duration compression is not always possible and often requires an increase in project cost.

- E -

E-business (Electronic Business) – Doing business online. E-business is often used as an umbrella term for having an interactive presence on the Web. A government e-business initiative or investment includes web-services type technologies, component based architectures, and open systems architectures designed around the needs of the customer (citizens, business, governments, and internal Federal operations).

E-government (E-Gov) – The use by the government of web-based Internet applications and other information technologies, combined with processes that implement these technologies.

Early Finish Date (EF) – In the *critical path method*, the earliest possible point in time on which the uncompleted portions of an *activity* (or the project) can finish based on the *network logic* and any schedule *constraints*. Early finish dates can change as the project progresses and changes are made to the project plan.

Earned Value (EV) – The physical work accomplished plus the authorized budget for this work. The sum of the approved cost estimates (may include overhead allocation) for activities (or portions of activities) completed during a given period of (usually project-to-date). Previously called the budgeted cost of work performed (BCWP) for an activity or group of activities.

Earned Value Management (EVM) – A method for integrating scope, schedule, and resources, and for measuring project performance. It compares the amount of work that was planned with what was actually earned with what was actually spent to determine if cost and schedule performance are as planned.

Effort – The number of labor units required to complete an activity or other project element. Usually expressed as staff hours, staff days or staff weeks. Should not be confused with duration.

Element – One of the parts, substances, or principles that make up a compound or complex whole.

Enterprise Information Board (EIB) – Chaired by the Assistant Secretary for Information and Technology (VA Chief Information Officer) and includes representatives from VA's business and technical communities. Provides a corporate forum for Department IT project and program management. Oversees the process of reviewing IT investment proposals for compliance with the VA enterprise architecture. Ensures that the IT planning process addresses sociological change management, cyber and information security, project management, and capital investment as well as VA enterprise architecture concerns.

Enterprise Project Management Council (EPMC) – Reports to the Assistant Secretary for Information and Technology. Responsible for defining Department-wide processes and procedures for managing projects.

Estimate – An assessment of the likely quantitative result. Usually applied to project costs and durations and should always include some indication of accuracy (e.g., +/- x percent). Usually used with a modifier (e.g., preliminary, conceptual, feasibility). Some application areas have

specific modifiers that imply particular accuracy ranges (e.g., order-of-magnitude estimate, budget estimate, and definitive estimate in engineering and construction projects).

Estimate At Completion (EAC) – The expected total cost of an activity, a group of activities, or of the project when the defined scope of work has been completed. Most techniques for forecasting EAC include some adjustment of the original cost estimate, based on project performance to date.

- F -

Federal Enterprise Architecture (FEA) – A framework that describes the relationship between business functions and the technologies and information that support them. Major IT investments will be aligned against each reference model within the FEA framework.

Federal Information Security Management Act (FISMA) – Requires agencies to integrate IT security into their capital planning and enterprise architecture processes, to conduct annual IT security reviews of all programs and systems, and to report the results of those reviews to OMB.

Final Performance Report – Developed during the closeout phase of the project to capture the final variance from baselined scope, cost and schedule.

Finish Date – A point in time associated with an activity’s completion. Usually qualified by one of the following: actual, planned, estimated, scheduled, early, late, baseline, target, or current.

Float – The amount of time that an activity may be delayed from its *early start* without delaying the project finish date. *Float* is a mathematical calculation, and can change as the project progresses and changes are made to the Project Plan. Also called *slack*, *total float*, and *path float*.

Full Acquisition – the procurement and implementation of a capital project (investment) or useful segment/module of a capital project (investment). Full acquisition occurs after all planning activities are complete and the EIB and SMC selects and approves the proposed technical approach and project (investment) plan, and establishes the baseline cost, schedule and performance goals for this phase of the investment.

Full Funding – appropriations—regular annual appropriations or advance appropriations—are enacted that are sufficient in total to complete a useful segment of a capital project (investment) before any obligations may be incurred for that segment. When capital projects (investments) or useful segments are incrementally funded, without certainty if or when future funding will be available, it can result in poor planning, acquisition of assets not fully justified, higher acquisition costs, project (investment) delays, cancellation of major projects (investments), the loss of sunk costs, or inadequate funding to maintain and operate the assets. Budget requests for full acquisition of capital assets must propose full funding.

Functional Manager – A manager responsible for activities in a specialized department or function (e.g., engineering, manufacturing, marketing).

- G -**- H -**

Human Resource Management – The processes employed to organize the efforts personnel assigned to the project. Human Resource Management include organizational planning, staff acquisition, and team development.

- I -

Impact Assessment – The process of evaluating project risks and performance variances to determine the effect on project disciplines such as scope, cost and schedule.

Impact Probability Chart – Rates risks on the cost effect a risk occurrence will generate on the project budget. Can be stated as a percentage or also as a statement like: very high (above 81%), high (60% to 80%), probable (40% to 79%), low (20% to 39%), and very low (below 19%).

Information Collection and Distribution – Making needed information available to project shareholders.

Information Technology – As defined by the Clinger-Cohen Act of 1996, sections 5002, 5141, and 5142, means any equipment or interconnected system or subsystem of equipment that is used in the automatic acquisition, storage, manipulation, management, movement, control, display, switching, interchange, transmission, or reception of data or information. For purposes of this definition, equipment is “used” by an agency whether the agency uses the equipment directly or it is used by a contractor under a contract with the agency that (1) requires the use of such equipment or (2) requires the use, to a significant extent, of such equipment in the performance of a service or the furnishing of a product. Information technology includes computers, ancillary equipment, software, firmware and similar procedures, services (including support services), and related resources. It does not include any equipment that is acquired by a Federal contractor incidental to a Federal contract.

Initiation – Approving the Project Sponsor, Business Sponsor, and/or Project Manager to begin the next phase in the project life cycle.

Integrated Change Control – Coordinating changes across the entire project.

Integrated Change Control Management Plan –Establishes the processes, procedures and responsibilities for identifying, evaluating and managing change. Integration is achieved by assessing a potential change’s impact to all relevant aspects of a project, primarily scope, cost, schedule, risk and quality.

Integrated Project Team (IPT) – A multi-disciplinary team lead by a project manager responsible and accountable for planning, budgeting, procurement and life-cycle management of the investment to achieve its cost, schedule and performance goals. Team skills include: budgetary, financial, capital planning, procurement, user, program, value management, earned value management, and other staff as appropriate.

- K -**- L -**

Lessons Learned – The documented learning gained from the process of performing the project. Lessons learned may be identified at any point. Also considered a project record.

Life Cycle- The entire useful life of a product or service, usually divided into sequential phases which include initiation, development, execution, operation, maintenance, and disposal or termination.

Life-Cycle Costs – The overall estimated cost, including both government and contractor labor costs, for a particular program alternative over the time period corresponding to the life of the program, including direct and indirect initial investment (non-recurring) costs plus any periodic or continuing (recurring) costs of operation and maintenance.

Life Cycle Costing – The concept of including acquisition, operating, and disposal costs when evaluating various alternatives.

Life-Cycle Costs – The overall estimated cost, both government and contractor, for a particular program alternative over the time period corresponding to the life of the program, including direct and indirect initial costs plus any periodic or continuing costs of operation and maintenance.

- M -

Major Acquisition – A capital project (investment) that requires special management attention because of its: (1) importance to an agency’s mission; (2) high development, operating, or maintenance costs; (3) high risk; (4) high return; or (5) significant role in the administration of an agency’s programs, finances, property, or other resources.

Major IT Investment – A system or investment that requires special management attention because of its importance to an agency’s mission;

- ▲ investment was a major investment in the FY 2004 submission and is continuing;
- ▲ investment is for financial management and spends more than \$500,000;
- ▲ investment is directly tied to the top two layers of the Federal Enterprise Architecture (Services to Citizens and Mode of Delivery);
- ▲ investment is an integral part of the agency’s modernization blueprint (EA);
- ▲ investment has significant program or policy implications;
- ▲ investment has high executive visibility; investment is defined as major by the SMC
- ▲ OMB may work with the agency to declare other investments as major investments

All major investments must submit a “Capital Asset Plan and Business Case,” exhibit 300. Investments that are e-government in nature or use e-business technologies must be

identified as major investments regardless of the costs. If you are unsure about what investments to consider as “major,” consult the IT Capital Planning Service.

Management Plan – see also *Project Management Plan*

Master Schedule – A summary-level schedule that identifies the major activities and key milestones.

Milestone – A significant event in the project, usually completion of a major *deliverable*.

Milestone Reviews – Decision points in VA’s Program/Investment Management Life Cycle where the project/system is presented to the EIB and approved (or disapproved) to move forward to the next step in the process.

Mitigation – See *risk mitigation*.

Monitoring – The capture, analysis, and reporting of project performance, usually as compared to plan.

- N -

Network Analysis – The process of identifying early and late start and finish dates for the uncompleted portions of project activities. See also critical path method, program evaluation and review technique, and graphical evaluation and review technique.

- O -

Office of Policies, Plans, and Programs – Provides technical direction and guidance to ensure that information technology (IT) is acquired and IT resources are managed for the Department in a manner that implements the policies and procedures of the Clinger-Cohen Act and the priorities established by the Secretary and Chief Information Officer.

OMB Exhibit 300 (Capital Asset Plan and Business Case) – OMB Circular A-11 Part 7 describes the OMB Exhibit 300 as a format to demonstrate to agency management and OMB that it has employed the disciplines of good project management, represented a strong business case for the investment, and met other Administration priorities to define the proposed cost, schedule, and performance goals for the investment if funding approval is to be obtained.

Operational (steady state) – An asset or part of an asset that has been delivered and is performing the mission.

Organizational Breakdown Structure (OBS) – A depiction of the project organization arranged so as to relate *work packages* to organizational units.

Organizational Planning – Identifying, documenting, and assigning project roles, responsibilities, and reporting relationships.

- P -

Performance Criteria – Various standards used to evaluate variances from the scope, schedule, and cost baselines. Examples could include schedule activities that are one week late, cost increases that exceed ten percent of budget, or the addition of a work breakdown structure work package

Performance Reporting – Collecting and disseminating performance information. This includes status reporting, progress measurement, and forecasting.

PERT Chart – The term is commonly used to refer to a project network diagram. See *program evaluation and review technique* for the traditional definition of PERT.

Planned Value (PV) – the cumulative budgeted value of the project for work *scheduled* to date. PV is calculated by applying the scheduled percentage of completion against the cost budget.

Planning – preparing, developing or acquiring the information you will use to: design the investment; assess the benefits, risks, and risk-adjusted life-cycle costs of alternative solutions; and establish realistic cost, schedule, and performance goals, for the selected alternative, before either proceeding to full acquisition of the capital project (investment) or useful segment or terminating the investment. Planning must progress to the point where you are ready to commit to achieving specific goals for the completion of the acquisition before preceding to the acquisition phase. Information gathering activities may include market research of available solutions, architectural drawings, geological studies, engineering and design studies, and prototypes. Planning is a useful segment of a capital project (investment). Depending on the nature of the investment, one or more planning segments may be necessary.

PMBOK – The Project Management Institute’s Guide to the Project Management Body of Knowledge. This document represents project management best practices.

PMBOK Map/Mapping – Coordinating organizational project management functions to the functional processes and knowledge area activities described in the PMBOK.

Policy and Governance – Formal written standards that control the operational functions of a major enterprise organization.

Post-Implementation Report – Documents project status and performance as a result of the Post-Implementation Review.

Post-Implementation Review – The last of the VA IT milestone reviews. Conducted at a time when an assessment of the operation of the project output is practical. Determines open project activities and insures major project requirements are satisfied.

Privacy Impact Assessment – A process for examining the risks and ramifications of collecting, maintaining and disseminating information in identifiable form in an electronic information system, and for identifying and evaluating protections and alternative processes to mitigate the impact to privacy of collecting information in identifiable form. Consistent with forthcoming OMB guidance implementing the privacy provisions of the E-government Act, agencies must

conduct privacy impact assessments for all new or significantly altered information technology investments administering information in identifiable form collected from or about members of the public. Agencies may choose whether to conduct privacy impact assessments for information technology investments administering information in identifiable form collected from or about agency employees.

Procurement Management – see *Project Procurement Management*

Procurement Management Plan – Describes the project procurement processes such as: solicitation planning, solicitation, source selection, and contract administration. Includes the tools and techniques and outputs from each procurement process.

Program – A group of related projects managed in a coordinated way. Programs usually include an element of ongoing work.

Program Evaluation and Review Technique (PERT) – An event-oriented network analysis technique used to estimate project duration when there is uncertainty in the individual activity duration estimates. PERT applies the critical path method using durations that are computed by a weighted average of optimistic, pessimistic, and most likely duration estimates. PERT computes the standard deviation of the completion date from those of the path's activity durations.

Project – A temporary endeavor undertaken to create a unique product, service or result.

Project Assumptions – see *Assumptions*

Project Authority – Generally a senior organizational executive that approves project mission and cost planning. In some cases the project authority and project sponsor may be the same executive.

Project Budget – The estimated costs, over time, for each project Work Breakdown Structure element.

Project Charter – A document issued by senior management that formally authorizes the existence of a project. It provides the *Project Manager* with the authority to apply organizational resources to project activities.

Project Closeout – see *Closeout*

Project Constraints – see *Constraints*

Project Control – The act of monitoring and measuring variances from the project plan. Implementation of the integrated change control process establishes control over project activities.

Project Communications – The process that insures the generation, collection, dissemination and storage of project information. Project communications includes communications planning, information distribution, performance reporting and administrative closure.

Project Initiation – see *Initiation*

Project Life Cycle – A collection of generally sequential project phases whose name and number are determined by the control needs of the organization or organizations involved in the project.

Project Management – The application of knowledge, skills, tools, and techniques to project activities in order to meet the project requirements.

Project Management Framework – The processes used to manage a project from initiation to closeout. The VA IT Project Management Framework includes the milestone reviews, the monthly performance reviews, the VA IT Acquisition process, integrated with the process groups of initiating, planning, executing, controlling and closing.

Project Management Information System (PMIS) – A system that facilitates project information flow within an organization.

Project Management Office (PMO) – The organization, either at the enterprise, Administration, and/or project level that aids Project Managers with standards, tools and techniques. The PMO maintains project metrics and in most cases monitors and consolidates project cost reporting

Project Management Plan – A management summary document that gives the essentials of a project in terms of its objectives, justification, and how the objectives are to be achieved. It describes how major activities of the project management function are to be accomplished (project execution), and describes the methods of overall project control. The project management plan includes the subsidiary plans covering the project management knowledge areas.

Project Management Process – Overlapping activities occurring at varying intensities, throughout each phase of the project.

Project Management Software – A class of computer applications specifically designed to aid with planning and controlling project costs and schedules.

Project Management Team – The members of the project team who are directly involved in project management activities. On some smaller projects, the project management team may include virtually all of the project team members.

Project Manager (PM) – The individual responsible for managing a project.

Project Master Schedule – A detailed schedule, based on project milestones and deliverables, that integrates all aspects of the project. The Project Master Schedule is using the Work Breakdown Structure (WBS).

Project Performance Reports – see *Performance Reporting*

Project Phase – A collection of logically related project activities, usually culminating in the completion of a major *deliverable*.

Project Management Plan – A formal, approved document used to guide both project execution and project control. The primary uses of the project plan are to document planning assumptions and decisions, facilitate communication among stakeholders, and document approved scope, cost, and schedule *baselines*.

Project Management Plan Development – Integrating and coordinating all project plans to create a consistent, coherent document.

Project Management Plan Execution – Carrying out the project plan by performing the activities included therein.

Project Planning – The development and maintenance of the project plan.

Project Procurement Management – A subset of project management that includes the processes required to acquire goods and services to attain project scope from outside the performing organization. It consists of procurement planning, solicitation planning, solicitation, source selection, contract administration, and contract closeout.

Project Procurement Management Plan – See Procurement Management Plan

Project Quality Management – A subset of project management that includes the processes required to ensure that the project will satisfy the needs for which it was undertaken. It consists of quality planning, quality assurance, and quality control.

Project Schedule – The planned dates for performing activities and the planned dates for meeting *milestones*.

Project Scope – The work that must be done to deliver a product with the specified features and functions.

Project Scope Management – A subset of project management that includes the processes required to ensure that the project includes all of the work required, and only the work required, to complete the project successfully. It consists of initiation, scope planning, scope definition, scope verification, and scope change control.

Project Sponsor – Executive level person or organization that champions the project goals. In some cases, but not all, the project sponsor may control the financial resources for the project.

Project Status Report – Details the current and upcoming activities on the project. Also can report on performance related to project scope, schedule and cost.

Project Team Members – The people who report either directly or indirectly to the *Project Manager*.

Project Team Resources – Generally refers to personnel assigned to the project team. May include skill descriptions and availability.

Project Time Management – A subset of project management that includes the processes required to ensure timely completion of the project. It consists of activity definition, activity sequencing, activity duration estimating, schedule development, and schedule control.

- Q -

Qualitative Risk Analysis – Performing qualitative analysis of risks and conditions to prioritize their effects on the project objectives. It involves assessing the probability and impact of project risks and using methods such as the *probability and impact matrix* to classify risks into categories of high, moderate, and low for prioritized risk response planning.

Quality Assurance (QA) – (1) The process of evaluating overall project performance on a regular basis to provide confidence that the project will satisfy the relevant quality standards. (2) The organizational unit that is assigned responsibility for quality assurance.

Quality Control (QC) – (1) The process of monitoring specific project results to determine if they comply with relevant quality standards and identifying ways to eliminate causes of unsatisfactory performance. (2) The organizational unit that is assigned responsibility for quality control.

Quality Management – A collection of quality policies, plans, procedures, specifications, and requirements is attained through quality assurance (Managerial) and quality control (Technical).

Quality Management Plan – address what will be measured, how it will be measured, the responsibility for those activities and how quality improvement will be implemented during the course of the project.

Quality Planning – Identifying which quality standards are relevant to the project, and determining how to satisfy them.

Quantitative Risk Analysis – Measuring the probability and consequences of risks and estimating their implications for project objectives. Risks are characterized by probability distributions of possible outcomes. This process uses quantitative techniques such as simulation and decision tree analysis.

- R -

Reserve – A provision in the project plan to mitigate cost and/or schedule risk. Often used with a modifier (e.g., management reserve, contingency reserve) to provide further detail on what types of risk are meant to be mitigated. The specific meaning of the modified term varies by application area.

Resource – People, equipment and/or materials used to accomplish activities.

Rework – Action taken to bring a defective or nonconforming item into compliance with requirements or specifications.

Risk – An uncertain event or condition that, if it occurs, has a positive or negative effect on a project's objectives.

Risk Category – A source of potential risk reflecting technical, project management, organizational, or external sources.

Risk Containment Plan – A document detailing all identified risks, including description, cause, probability of occurring, impact(s) on objectives, proposed responses owners and current status. Also referred to as *risk response plan*.

Risk Event – A discrete occurrence that may affect the project for better or worse.

Risk Identification – Determining which risk events might affect the project and documenting their characteristics.

Risk Management – The art and science of identifying, analyzing, and responding to risk factors throughout the life of a project and in the best interests of its objectives.

Risk Management Plan – Documents how risk processes will be carried out during the project. This is an output of Risk Management planning.

Risk Mitigation – Risk mitigation seeks to reduce the probability and/or impact of a risk to below an acceptable threshold.

Risk Monitoring and Control – Monitoring residual risks, identifying new risks, executing risk reduction plans, and evaluating their effectiveness throughout the project life cycle.

Risk Response Plan – See *risk containment plan*.

- S -

Schedule Baseline – See Baseline

Schedule Control – Controlling changes to the schedule.

Schedule Critical Path – Activities or tasks in a project schedule that, if the duration changes, will either shorten or lengthen the total duration of the project.

Schedule Dependency – The linking of tasks in a project schedule in order of execution or implementation. Example: task must be completed before task B.

Schedule Development – Analyzing activity sequences, activity durations, and resource requirements to create the project schedule.

Schedule Management – Updating the project master schedule and comparing progress with the baseline schedule. Changes to the project schedule are managed through the Integrated Change Control Plan.

Schedule Performance – Comparing the project master schedule with the baseline schedule to determine slippage or changes in scope.

Schedule Performance Index (SPI) – The schedule efficiency ratio of earned value accomplished against the planned value. The SPI describes what portion of the planned schedule was actually accomplished. SPI is calculated as $(SPI = EV/PV)$.

Schedule Variance (SV) – (1) Any difference between the scheduled completion of an activity and the actual completion of that activity. (2) In *earned value*, $(SV = EV - PV)$.

Scope – The sum of the products and services to be provided as a project. See *project scope* and *product scope*.

Scope Change – Any change to the *project scope*. A scope change almost always requires an adjustment to the project cost or schedule.

Scope Change Control – Controlling changes to *project scope*.

Scope Creep – Any change to the *project scope* (products and services described by the project) that happens incrementally and is subtle in recognition.

Scope Definition – Subdividing the major *deliverables* into smaller, more manageable components to provide better control.

Scope Management – See Integrated Change Control

Scope Planning – The process of progressively elaborating the work of the project, which includes developing a written scope statement that includes the project justification, the major deliverables, and the project objectives.

Scope Statement – The scope statement provides a documented basis for making future project decisions and for confirming or developing common understanding of project scope among the stakeholders. As the project progresses, the scope statement may need to be revised or refined to reflect approved changes to the scope of the project.

Scope Verification – Formalizing acceptance of the *project scope*.

Section 508 – Refers to Section 508 of the Rehabilitation Act of 1973 (29 U.S.C. 794d), which requires Federal agencies to develop, procure, maintain, or use electronic and information technology (EIT) that is accessible to Federal employees and members of the public with disabilities.

Simulation – A simulation uses a project model that translates the uncertainties specified at a detailed level into their potential impact on objectives that are expressed at the level of the total

project. Project simulations use computer models (e.g., Monte Carlo technique) and estimates of risk at a detailed level.

Solicitation – Obtaining quotations, bids, offers, or proposals as appropriate.

Source Selection – Choosing from among potential sellers.

Sponsor – see *Project Sponsor*

Staff Acquisition – Getting needed human resources assigned to and working on the project.

Stakeholder – Individuals and organizations that are actively involved in the project, or whose interests may be positively or negatively affected as a result of project execution or project completion. They may also exert influence over the project and its results.

Start Date – A point in time associated with an activity's start, usually qualified by one of the following: actual, planned, estimated, scheduled, early, late, target, baseline, or current.

Statement of Work (SOW) – A narrative description of products or services to be supplied under contract.

Strategic Management Council (SMC) – Chaired by the Deputy Secretary. Recommends to the Secretary and the VAEB, project management policy, strategic direction, resource allocations and performance in key areas.

System Deployment – Addresses the Project Closing Phase, Step 4 of the VA system Development Life Cycle. Project Closing is performed once all defined project objectives have been met and the customer has accepted the project's product. Refers to transferring the project output to the customer.

System Development – A project life cycle phase encompassing the design, integration and demonstration of the project output. Generally follows the planning phase and is usually accomplished in conjunction with the execution and control process groups.

System Development Life Cycle – varies by project output. For example in the construction the System Development Life Cycle could be described as feasibility, planning, design, construction and turnover. For software development a spiral (the life cycle repeats until complete) process is employed: requirements identification, system design, build and rebuild, and evaluation.

System Development Methodology – The type of methodology to be used in a system development project, e.g. Rational Unified Process, Spiral Development, Iterative Development, System Development Methodology, Information Engineering Methodology, or Rapid Application Development Methodology.

System Operation – The phase in the system life cycle where the system is in use and on-going activities such as regular maintenance and improvement are underway.

System Prototype – A development model that is used for testing in an operational environment. Typically built to be modified into the production model.

- T -

Task – A generic term for work that is not included in the work breakdown structure, but potentially could be a further decomposition of work by the individuals responsible for that work. Also, lowest level of effort on a project.

Triggers – Triggers, sometimes called risk symptoms or warning signs, are indications that a risk has occurred or is about to occur. Triggers may be discovered in the risk identification process and watched in the risk monitoring and control process.

- U -

User – Usually a member of the customer’s organization. Person or organization that will operate the project’s output.

- V -

Variance – Divergence from plan. For example if the schedule falls behind it is said to have negative variance. A variance is typically expressed in explicit terms such as a \$200,000 overrun. Variance can also be expressed as an index, in which case a schedule performance index of .89 would mean the schedule is 11 percent behind the baseline plan (schedule).

- W -

Work Activities – Sometimes called tasks. Generally project events or efforts that make up a schedule. Activities have a duration (time), consume resources and in most cases are dependent or result from other activities.

Work Activity Durations – The amount of time it takes to accomplish the work. Can be expressed in hours, day, weeks, or months.

Work Breakdown Structure (WBS) – A deliverable-oriented grouping of project elements that organizes and defines the total scope of the project. Each descending level represents an increasingly detailed definition of a project work.

Work Breakdown Structure (WBS) Baseline – The process of freezing the WBS to measure the affect of change. When the WBS is baselined, change control is applied and change is assessed against other aspects of the project, such as cost and schedule.

Work Package – A deliverable at the lowest level of the work breakdown structure, when that deliverable may be assigned to another Project Manager to plan and execute. This may be accomplished through the use of a subproject where the work package may be further decomposed into *activities*.

- Z -

Zachman Cell – The Zachman Framework is guide for developing and managing an enterprise architecture. It consists of a grid with columns titled: data, function, network, people, time and motivation and rows titled: scope, business model, system model, technology model and detailed representation. A specific cell might represent the scope of the data aspect of the enterprise data infrastructure.

APPENDIX B – VA PM BEST PRACTICES

Appendix B is a collection of VA and project management best practices. The purpose of this appendix is to serve as a reference tool for project managers who might be new to managing projects and also as review for project managers who are proficient at project management.

Appendix B is organized in order of the PMI Project Management Life Cycle process groups – Initiating, Planning, Executing, Controlling and Closing.

INITIATING

B.1 Project Chartering and Initiating

Project Chartering or Initiating formally communicates the existence of a project. The documents created during Project Chartering are used as the basis to create the Project Management Plan. During Project Chartering, documents are developed that initiate the project and describe the nature and scope of the Project Manager's authority, provide a communication vehicle for project participants and external entities during the initiation of a project, and contains the following attributes:

- ▲ **Project Scope** – At this stage in the project life cycle, the scope is documented at a high level, but should be detailed sufficiently enough to allow for further decomposition in the Project Management Plan. For example, at this stage, the requirement for training may be identified, but during the next stage the decomposition within the Project Management Plan will document the types of training to be delivered, procurement or development of course materials, and so on.
- ▲ **Project Objectives** – Projects are executed to meet the strategic goals of the VA. Objectives are communicated to ensure all stakeholders understand the VA's needs that the project addresses.

Project objectives are used to establish performance goals – planned levels of accomplishment stated as measurable objectives that can be compared to actual results. Performance measures should be derived for each goal. These measures can be quantified to see if the project is meeting the VA's objectives. Project performance can then be traced directly to the VA's goals, mission, and objectives enabling participants to correct areas that are not meeting those objectives.

- ▲ **Project Authority** – Because of a project's complexity, many difficult decisions must be made to keep it on track. For this reason, the authority and mechanisms to resolve potential problems must be defined. Three areas should be addressed. First, the VA's senior management must charter or initiate the project. A level of management is required that can provide organizational resources to the project and have control over the elements that impact it. Second, the Project Manager's authority to plan, execute, and control the project must be defined. Finally, the relationship between the project and senior management to ensure that a support mechanism exists to resolve issues outside the authority of the Project Manager must be defined.

- ▲ **Roles and Responsibilities** – Is it important to have a defined formal structure for the project and for the project staff. This provides each individual with a clear understanding of the authority given and responsibility necessary for the successful accomplishment of project activities. Project team members need to be accountable for the effective performance of their assignments and achievement of the project goals and objectives. Specific roles and responsibilities are addressed in Chapter 2.
- ▲ **Management Checkpoints** – To ensure the project progresses satisfactorily, management checkpoints or milestones should be clearly defined with planned dates to measure progress. Checkpoints are high-level milestones. The VA uses a series of Milestone Decision Briefings. Senior management uses them to approve the completion of a phase or milestone and as a go/no-go decision point to proceed with the project. The checkpoints ensure that the products and services delivered meet the project objectives in the time frame established by senior management.
- ▲ **Stakeholders** – Stakeholders are individuals and organizations who have a vested interest in the success of the project. The identification and input of stakeholders help define, clarify, drive, change, and contribute to the scope, cost, timing, quality and, ultimately, the success of the project. To ensure project success, the project management team needs to identify stakeholders early in the project, determine their needs and expectations, and manage and influence those expectations over the course of the project. Stakeholders on every project include:

Organizational Management, who define business needs, goals and objectives of the project as well as defining the policies and procedures governing the project

The Project Manager, who has ultimate responsibility for project success

The Project Team members, who are responsible for managing the performance of the project work activities. These members could include:

Project management staff

Business development staff

Subject Matter Experts (SME)

Documentation (user and technical) staff

Technical staff

Leaders/decision makers

The Project Sponsor or Business Sponsor, who leads in getting the need for the project recognized as well as providing funding and enabling the resource staff

The Customer, who is the person(s) or organization(s) using the product of the project and who determines the acceptance criteria for the product

PLANNING

B.2 Project Management Plan

A Project Management Plan is a management summary document that gives the essentials of a project in terms of its objectives, justification, and how the objectives are to be achieved. It describes how major activities of the project management function are to be accomplished (project execution), and describes the methods of overall project control. The Project Management Plan evolves through successive stages of the project. The Project Management Plan forms the basis for all management efforts associated with the project. It is a record of plans that is also expected to change over time.

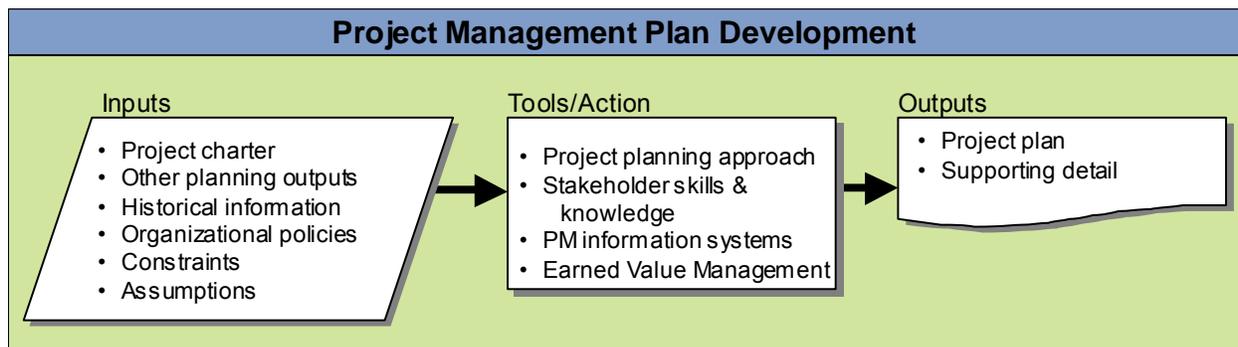


Figure B.1: Project Management Plan Development Process Flow

The assigned Project Manager creates the Project Management Plan. It should be as accurate and complete as possible without being several volumes in length. The Project Management Plan documents the pertinent information associated with the project; it is not a verbose textual document. The Project Management Plan should cover the following topics at a minimum:

- ▲ General project information (Points of Contact, phone numbers, etc)
- ▲ Project Executive Summary
- ▲ Project Scope Statement
- ▲ Critical Success Factors
- ▲ Work Breakdown Structure
- ▲ Cost Benefit Analysis
- ▲ Staffing/Resource Management
- ▲ Project Schedule
- ▲ Risk
- ▲ Procurement
- ▲ Quality
- ▲ Communications
- ▲ Configuration Management/Change Control

- ▲ Project Budget Estimate
- ▲ Project Planning Transition Checklist

While each of these areas should be discussed with the Project Plan, it is still imperative to develop documents and processes that describe each of these in detail.

B.2.1 Format of the Project Management Plan

A Project Management Plan form is provided in the Appendix. The form itself is presented in an abbreviated form. The actual form and particular sections, once filled in with project data, will be longer than they appear in the blank form.

It is suggested that all areas of the Project Planning Phase be reviewed in detail before the actual Project Management Plan is created. In fact, the review and subsequent documents/plans created from the review may be summarized within the Project Management Plan or in some cases, be attached to the Project Management Plan. It is imperative however, that all areas requested in the Project Management Plan be addressed.

The information associated with the plan evolves as the project moves through its various stages and is to be updated as new information develops about the project. This, of course, will require revision to the Project Management Plan itself. The Project Management Plan is a dynamic document that is expected to go through many updates during the life of the project.

B.2.2 Project Management Plan Review

Once the Project Manager completes the Project Management Plan, VA management conducts a review. The level and extent to which the plan will be reviewed is based on the size of the project as stated in dollars or period of time. Ultimately, the review process allows for executive/senior management buy-in and approval of the Project Management Plan. Once approved and signed, the Project Manager is then given the authority to complete the current project efforts and carry on into the Execution Phase.

The following plans are added to the Project Management Plan as subsidiary components:

- ▲ Scope Management Plan
- ▲ Schedule Management Plan
- ▲ Quality Management Plan
- ▲ Risk Management Plan
- ▲ Communication Management Plan
- ▲ Project Procurement Plan

B.2.3 Project Scope Statement

The project scope statement is included as a section of the project management plan. The scope statement provides the basis for future project decisions. This statement is of singular importance to the project because it sets the overall guidelines as to the size of the project. There is often

confusion in project teams regarding the difference between project objectives and project scope. The term project scope refers to the magnitude of the effort to complete a project. Conversely, the term project objective refers to a description of the desired outcome of the project. For example, the objective could be to build a new five story building on the location of the back parking lot by next December. The scope could be to build the building with a pre-fabricated metal frame with a cement floor. Consequently, it is important that the project objectives and the project scope are clear to everyone to ensure project success. The project scope statement is the basis for developing the project Work Breakdown Structure (WBS).

The content of this statement, at a minimum, should include:

- ▲ Project results/Completion Criteria: What will be created in terms of deliverables (and their characteristics) and/or what constitutes a successful phase completion.
- ▲ The Approach to be used: What type of process or technology will be used, will the project be done internally or externally, etc.
- ▲ Content of the Project: Defining what is and is not included in the work to be done.

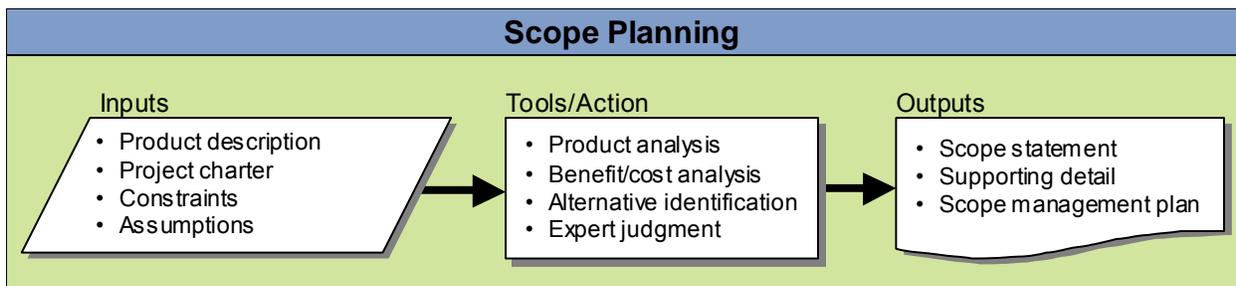


Figure B.2: Scope Planning Process Flow

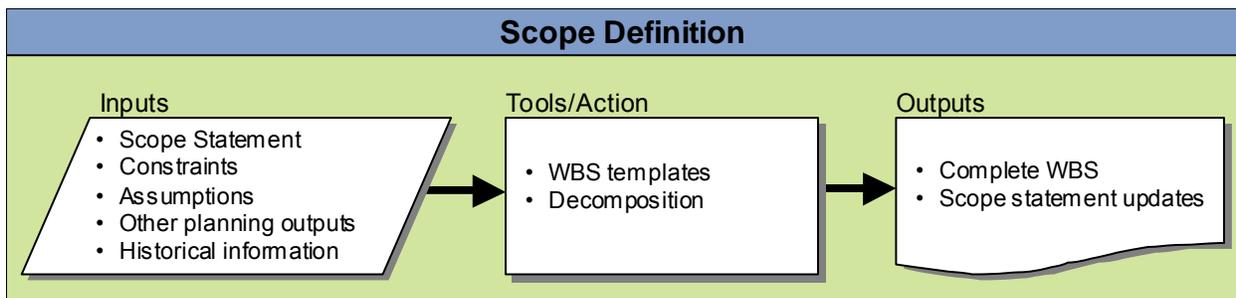


Figure B.3: Scope Definition Process Flow

To ensure the project scope is completed correctly and in its entirety, it is important that a Project Scope Statement be completed and signed by key stakeholders. The Project Scope Statement form is available in the Appendix.

B.2.4 Work Breakdown Structure (WBS)

The project work breakdown structure organizes the project by major functions (project management, software design, quality control, etc.), continuous processes (status reporting, financial reporting, etc.), and primary deliverables. Each of these areas is decomposed down to the level where the actual work is being done and labor costs are tracked. These work packages

may be further decomposed in the schedule. The WBS is the primary tool for managing the scope of the project. The WBS can be used to create a time phase project budget where actual data is collected to generate project performance measurement.

The Work Breakdown Structure (WBS) is the fundamental planning tool for project management. The ability to have a repeatable, traceable process is one of the goals of instituting project management methodology within the VA. One method of accomplishing repeatability is to use a standard WBS that is focused on deliverables and services. The WBS should be used as a baseline by all Project Managers from which they develop a detailed breakdown of products.

Once the scope statement has been approved, Project Managers should convene the planning team. The team will then tailor the template WBS to delete any products not required for the project. They should also ensure that a careful analysis is completed to ensure all products are included. The WBS template will help ensure consistent visibility, avoid duplication, and give the project management team a basis for planning.

In this example, some of the product lines have been decomposed as examples of how the process should be performed. PM teams are not constrained as to the number of products or level of detail to which it is developed, but common sense and good management practices should be applied during the development stage.

A sample WBS follows:

- 1 Automated Software System
 - 1.1 Prime Mission Product
 - 1.1.1 Subsystem 1...n
 - 1.1.1.1 PMP Application Software
 - 1.1.1.2 PMP System Software
 - 1.1.1.3 Integration, Assembly, Test and Checkout
 - 1.1.1.4 Platform Integration
 - 1.2 Systems Engineering
 - 1.3 Program Management
 - 1.3.1 Program Funding
 - 1.3.2 Program Control
 - 1.3.2.1 Status Meetings
 - 1.4 System Test and Evaluation
 - 1.5 Training
 - 1.5.1 Facilities
 - 1.6 Data
 - 1.7 Peculiar Support Equipment

1.8 Operational/Site Activation

1.8.1 System Assembly, Installation and Checkout on Site

1.8.1.1 Conversion

1.8.2 Contractor Technical Support

1.8.3 Site Construction

1.8.4 Equipment Conversion

The advantages to adopting, instituting, and using a product oriented WBS are:

- ▲ A common numbering system that allows traceability for all actions from the work packages up to the complete system
- ▲ Flexibility to give as much or as little visibility to identified products as necessary for project management and control
- ▲ Projects can be rolled up and used in summary form for VA wide view and visibility for enterprise updates and planning sessions
- ▲ Costs can be tracked by product and analyzed for later decisions
- ▲ The template is a uniform tool that will become familiar to all personnel in a very short time and allows for repeatable, uniform methodology in project planning, definition, and management

B.2.5 Organizational Breakdown Structure (OBS)

The Organizational Breakdown Structure (OBS) is a diagram showing the functional relationship between organizations assigned work components within the project. Creating the OBS is a rather straight forward development process. The OBS is the tool that is used to show which work elements in the Work Breakdown Structure as assigned to which organizational units. The OBS should show the assignment of project responsibilities and reporting relationships. The OBS is the primary tool for developing the communications management plan and aids in the development of the project schedule. The OBS is a core area of the Project Management Plan. The planning process for an OBS is shown in Figure B.4.



Figure B.4: Organizational Planning Process Flow

The steps in creating the OBS are as follows:

- ▲ Create a blank ‘tree’ type diagram that looks similar to a Work Breakdown Structure, in order to prepare to assign responsibility for work packages. A spreadsheet type with all the elements of the Work Breakdown Structure listed, including work definitions, is a suggested format.
- ▲ Confirm that the work package to be assigned has been approved and that there is adequate definition to explain the function that needs to be carried out.
- ▲ Assign resources as to the number of resources, the type of resources, the duration of each resource specified, and that time in the project that the resource will be required. Consideration should be given to the level of involvement of each resource (e.g., some resources are needed to do the work, some resources are needed for inspection, some resources are needed for approval, and some may be needed for review).

When completed, the Organizational Breakdown Structure will be the tool that provides a means for all project team members to view their responsibilities and agree upon their assignments.

The following is a sample Organization Breakdown Structure for a generic VA Information Technology project:

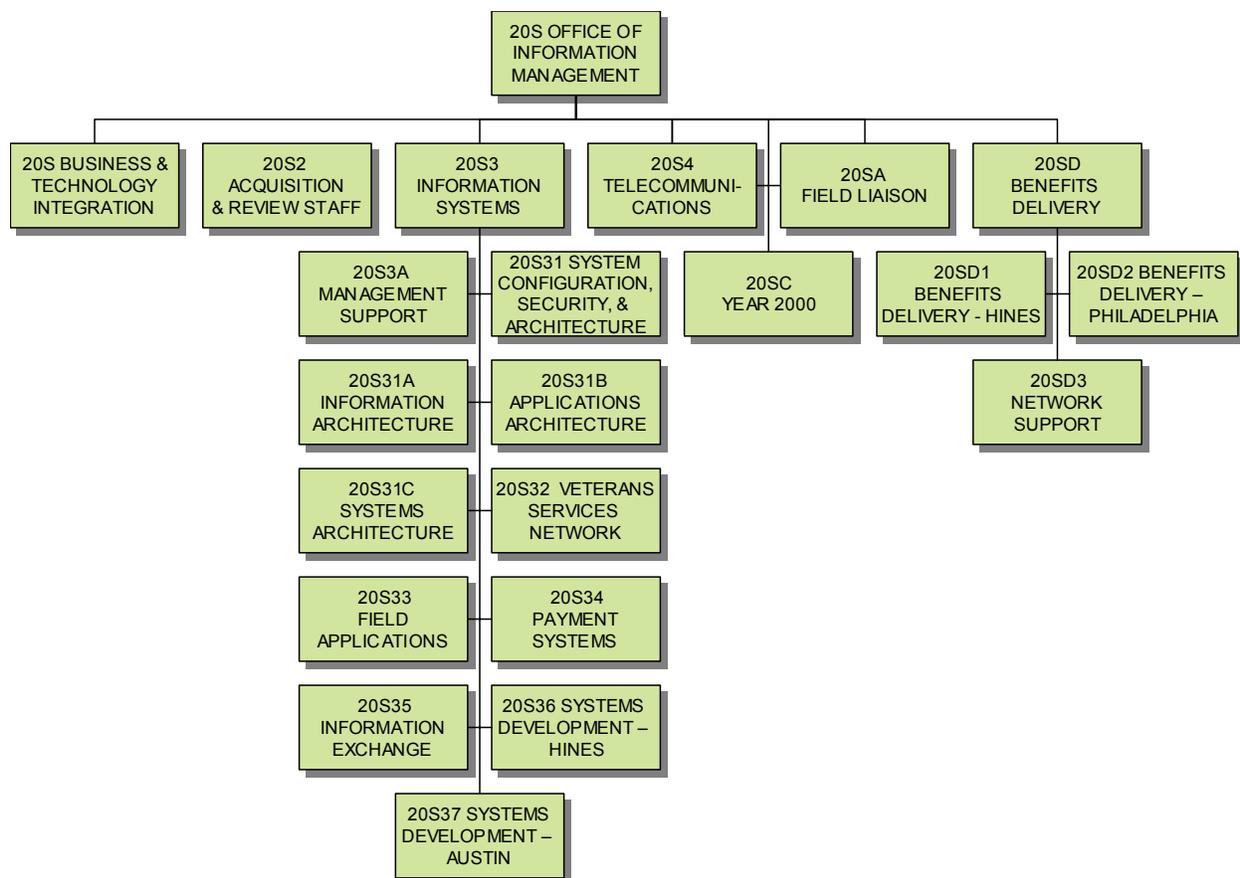


Figure B.5: Example Project Organization Structure

B.2.6 Project Schedule

Following the definition of project activities, the activities are associated with duration to create a project schedule. The Project Schedule provides a graphical representation of predicted tasks, milestones, dependencies, resource requirements, and task duration. The project's master schedule interrelates all tasks on a common time scale.

The detailed project schedule is developed in TeamPlay to control project activities and measure progress. The WBS is the basis for the schedule. Along with the unique numbering system provided by TeamPlay for each schedule activity, WBS numbers are also assigned to each activity in the schedule. At lower levels, many activities can be assigned to the same WBS work package and can have the same WBS number. By placing activities within the WBS framework, the schedule will reflect the scope of the project and support resource allocations, budget tracking over time and performance measurement such as earned value.

Generally, the schedule will further decompose the WBS work packages using scheduling rules of thumb, such as the 80 hour rule, where activities are not too long to allow close measurement or too short causing too many activities to be created. Major milestones should also be an integral part of schedule development. Schedule dependencies will usually lead to the successful completion of milestones such as the VA Milestone 2 briefing or the accomplishment of a major deliverable. Project managers and schedule managers should monitor the float/slack on activities and utilize critical path analysis to alert management to potential problem areas. Baselineing the schedule is critical to measuring project performance, providing visibility into potential problem areas, and reporting earned value.

Like the development of each of the Project Management Plan components, developing a schedule is an iterative process. Milestones may suggest additional tasks, tasks may require additional resources, and task completion may be measured by additional milestones. For large, complex projects, detailed sub-schedules may be required to show an adequate level of detail for each task.

Once completed and approved by the project's key stakeholders, the schedule that will be used to manage the project is known as the baseline schedule. During the life of the project, actual progress is frequently compared with the baseline schedule. This allows for evaluation of execution activities. The accuracy of the planning process can also be assessed. Changes to the project schedule are managed through the Integrated Change Control Plan and Schedule Management Plan. Basic efforts associated with developing a project schedule include:

- ▲ Define milestones
- ▲ Estimate task durations
- ▲ Define priorities
- ▲ Define dependencies
- ▲ Document assumptions
- ▲ Identify risks
- ▲ Review results

Figure B.6 depicts the schedule development process.

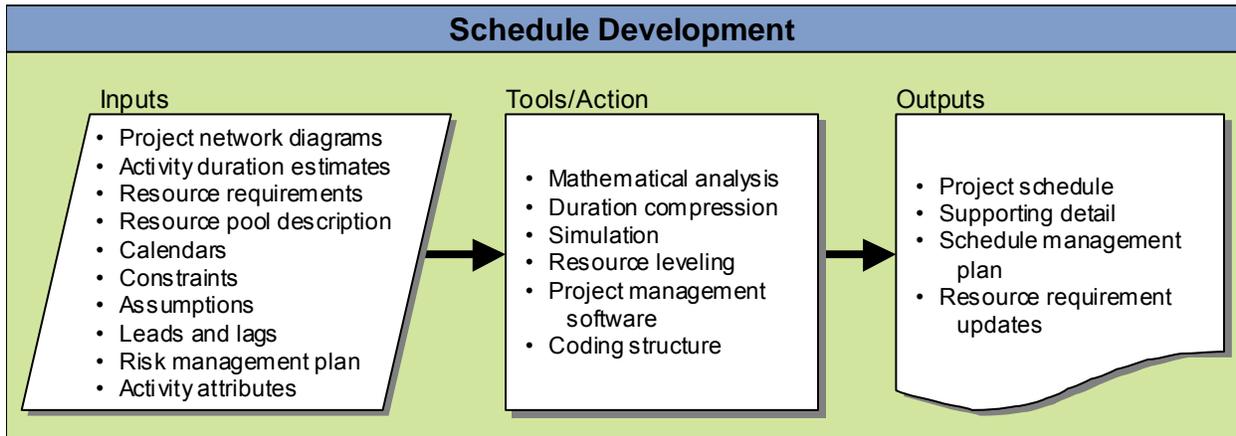


Figure B.6: Schedule Development Process Flow

The detailed project schedule is developed in TeamPlay to control project activities and measure progress. The WBS is the basis for the schedule. Along with the unique numbering system provided by TeamPlay for each schedule activity, WBS numbers are also assigned to each activity in the schedule; although at lower levels many activities can be assigned to the same WBS work package and can have the same WBS number. By basing the schedule on the WBS the schedule will reflect the scope of the project and allow for resource calculations, budget tracking over time and performance measurement such as earned value.

Generally, the schedule will further decompose the WBS work packages using scheduling where activities are not too long to allow close measurement or too short causing too many activities to be created. Major milestones should also be an integral part of schedule development. Schedule dependencies will usually lead to the successful completion of milestones, as shown in Figure B.7 such the VA Milestone 2 Briefing or the accomplishment of a major deliverable. Project Managers monitor the float/slack on activities and allow the schedule critical path to alert management to potential problem areas.

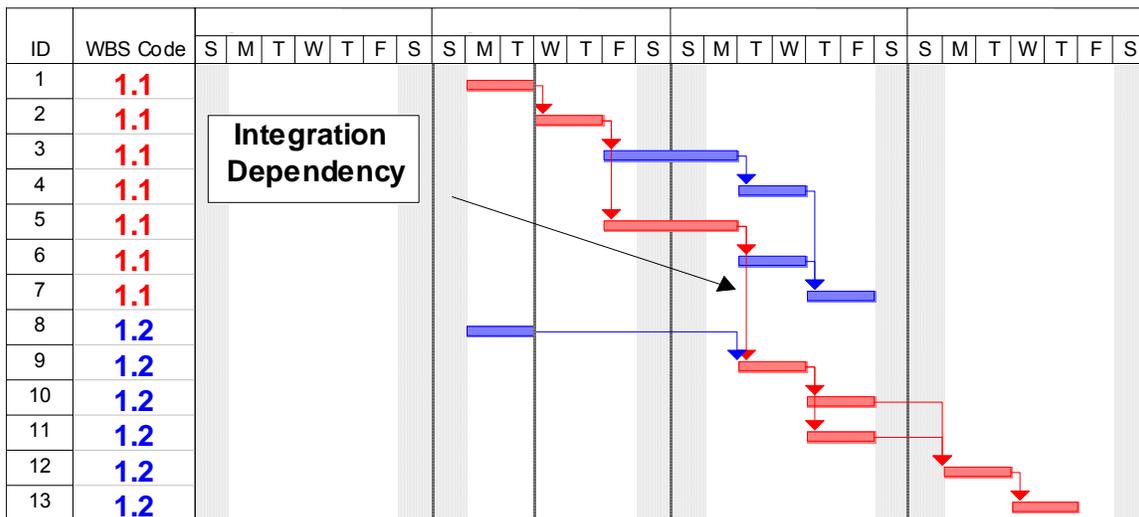
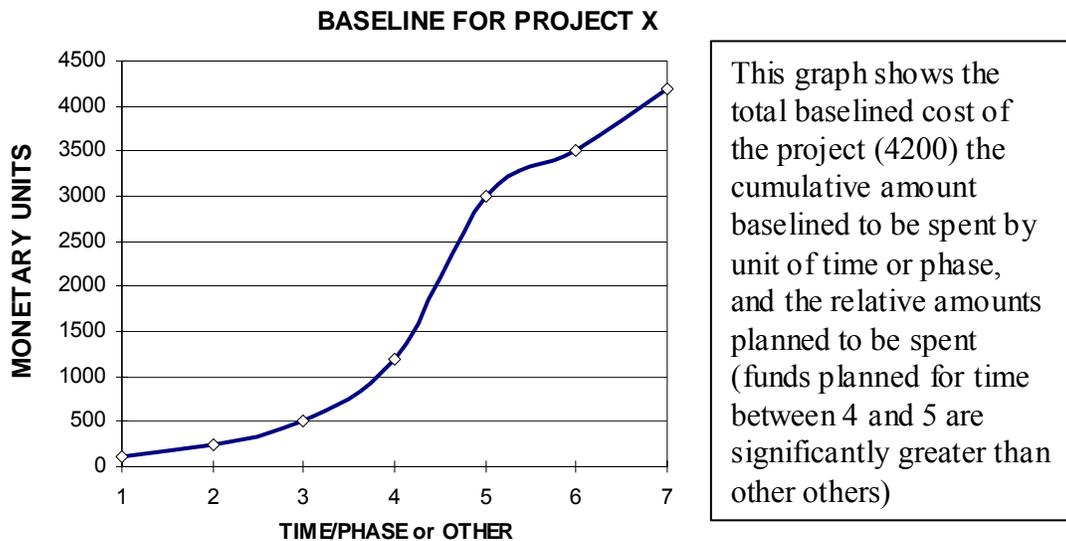


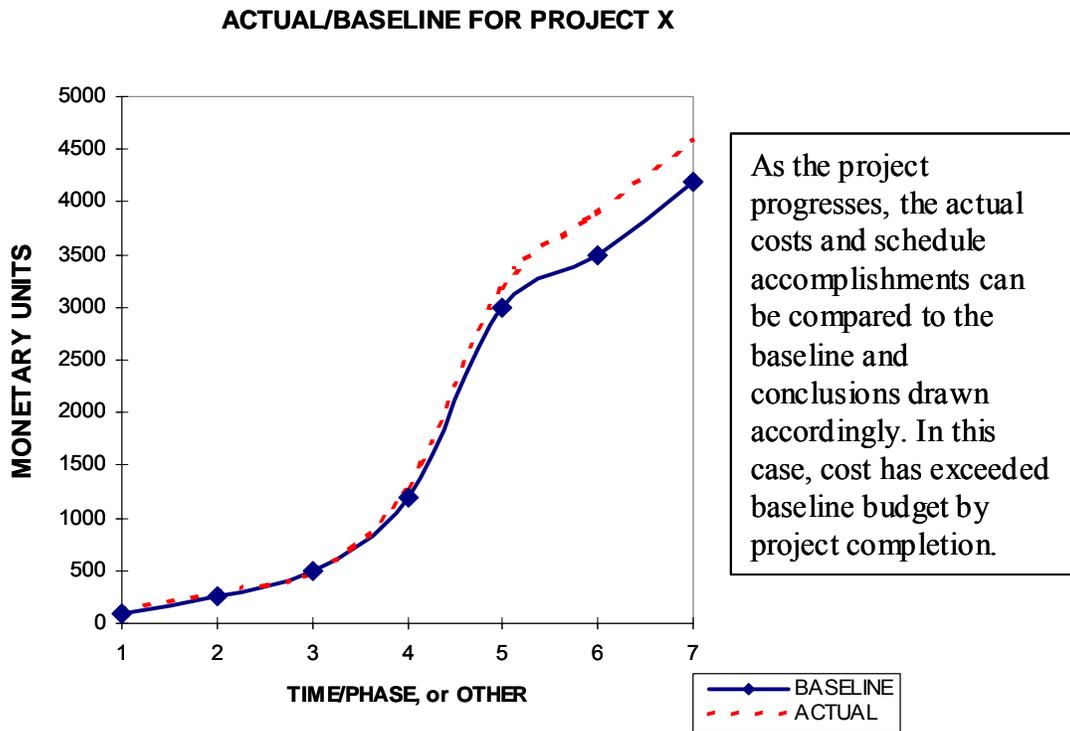
Figure B.7. WBS Schedule Relationship (Gantt Chart)

B.2.7 Baseline

An approved scope statement becomes the functional baseline for planning and control. Changes to the baseline requirement will almost always lead to program problems, increased risk, and delays in delivery. The requirements baseline will drive the project's budget, timeline, and viability. It bears repeating that getting the requirements right the first time is the single most important step in ensuring a smooth, trouble free project. Once the functional baseline has been developed and approved, the Project Manager can generate a baseline schedule and baseline cost data. These baselines, once presented to decision making authorities and approved, becomes the contract between the Project Manager and the customer for the delivery of the proposed system or products. The baseline can be converted into a graphical representation for tracking, briefing, and high level overview of project status. Below is an example of graphic baseline representation.



Once schedules and work packages have been folded into the project plan, the tracking of cost and task accomplishments can be performed and plotted along the baseline to discover variances, overruns, and problems in need of closer examination.



B.3 Scope Management Plan

The scope management plan describes how the project scope will be managed and how scope changes will be integrated into the project. It addresses the likelihood of scope change within the project and how changes will be identified and classified. The scope management plan should include an assessment of the amount and type of scope changes anticipated as progressive elaboration is used to define the project output. More formalized processes of Scope Management are normally used on larger projects in which the likelihood for scope creep or changing requirements is greater.

Scope management includes monitoring and controlling what the end product of the project will be. The objective during the project planning process is to define specifically and completely the total scope of the project. The objective of the scope management plan is to make certain that the project scope is delivered.

Scope changes are common in projects, especially complex projects, as more information and detail become available during project planning and execution. The scope management plan should describe the process that project will follow to implement scope changes. The process should include how and by whom a change is initiated, how and by whom the change is assessed, and how and by whom the change is integrated into project documentation. The process used to document and report the impact the change will have on other aspects of the project, especially cost and schedule, should be also be included in the scope management plan. Specific reference should be made to the integrated change control process contained in the integrated change management plan.

The project work breakdown structure (WBS) is the primary tool for depicting and controlling the scope of the project. Project Scope Management is accomplished through integrating the Project Scope Statement, establishing a scope baseline, and managing a change control process. Project Scope Management involves communicating the scope baseline and the scope change control process which contains the steps the Project Manager should take to get scope changes approved and recorded. In addition, the change management process should contain an assessment of what constitutes a scope change on the project and the likelihood of changes affecting the scope of the project.

- ▲ **Implementing Scope Management** – This simply requires that the scope is monitored for any changes, expansion in scope demands or requirements and that any change is identified and documented. Any scope change is then brought under the change control process and evaluated accordingly.

Scope creep (typically a slow, gradual or incremental expansion of project scope) is a common problem resulting from not monitoring and controlling project scope. The Project Manager and team must be aware of and vigilant about meeting scope requirements but not allow the project scope to expand without planning or control. Scope creep can be costly in terms of direct cost, time, required resources or change in quality.

B.4 Change Control Plan

Projects are dynamic efforts and as such change is inevitable. One of the greatest challenges to a project's success is controlling the impact of change or managing changes to the benefit of the project objectives. By accepting the fact that change will occur and planning for the management of change, the probability of project success is increased and enhanced.

Any change in an area of a project will have impacts on other dependent areas. A change in schedule can cause an increase in cost, a change in available resources, or impact the schedule for delivery of a critical component. Risk events could change in probability of occurrence or severity. A change in scope could alter the entire project plan in terms of cost, schedule, resources, or quality.

By planning and implementing a disciplined, systematic change control process, change can be effectively managed; impact can be fully comprehended and informed decisions made without endangering the project objectives or customer expectations. In fact, in many cases, change is a necessary process as project information becomes available. A project's objective is not to simply meet the letter of the scope statement but to provide a product or service that meets the needs and requirements of the customer. As a project proceeds it may be evident that the end result of the execution of the project plan will miss the "need" target of the customer and the plan will need refinement or correction to get it back on track.

The Change Control Plan establishes the processes, procedures and responsibilities for identifying, evaluating and managing change. Integration is achieved by assessing a potential change's impact to all relevant aspects of a project, primarily scope, cost, schedule, risk and quality.

Depending upon the size and complexity of a project, the establishment of a review board(s) may be advantageous. Typically, a Change Control Board (CCB) is established to review and evaluate a change. This body is responsible for ensuring that change is managed, that negative impacts are minimized and that the project objectives remain the focal point. In some instances there may be more than one board especially when highly technical deliverables are involved. A Technical Review Board (TRB) or Engineering Review Board (ERB) may be established in addition to the project CCB. These boards may be subordinate to the CCB with final review and approval by the CCB. The project team must assess the project and plan the organization and structure to meet the needs of the project.

A recommended Change Control Request form is provided in the Appendix.

The Change Control Plan will define all processes, practices, tools, review bodies, and authority necessary to monitor and control project performance. If a project is executed, ideally, within all parameters defined by the project plan, this process will not be necessary. However, the likelihood of that ideal occurring is low. Performance reports indicating slippage in time, cost overruns, quality issues, risk events or a change in scope as a result of project developed information or customer input must all be managed and corrective action taken to bring the project back in line with project objectives.

B.4.1 Change Control Process

The Change Control Plan must be comprehensive and should be concise. The plan does need to address all aspects of change control to ensure complete evaluation of change and enable managed decision-making.

The risks associated with such “scope creep” are driven by the size of the proposed change and the point along the development process it is inserted. A rule of thumb in project management is that the first 10% of decisions drive 85% of a programs cost. It is understood that for many reasons, a change to the scope baseline may become unavoidable. Resource constraints, technology innovation, political considerations can all affect the original plan. Accordingly, a method for identifying, documenting, approving and implementing required changes should be established and adhered to in order to reduce the risk associated with such actions. Establishing a scope baseline, at a specific point in the development cycle is recommended. Change proposals surfacing after that event or date being held in abeyance until the next planned upgrade, should be considered. The use of project review meetings and informal communications to identify needed changes is encouraged, but these forums are inappropriate for approval of changes. The authority to approve and record changes to the project and functional baselines is vested in the decision authority. The detailed process of formulating, approving and implementing changes is illustrated in Figure B.10.

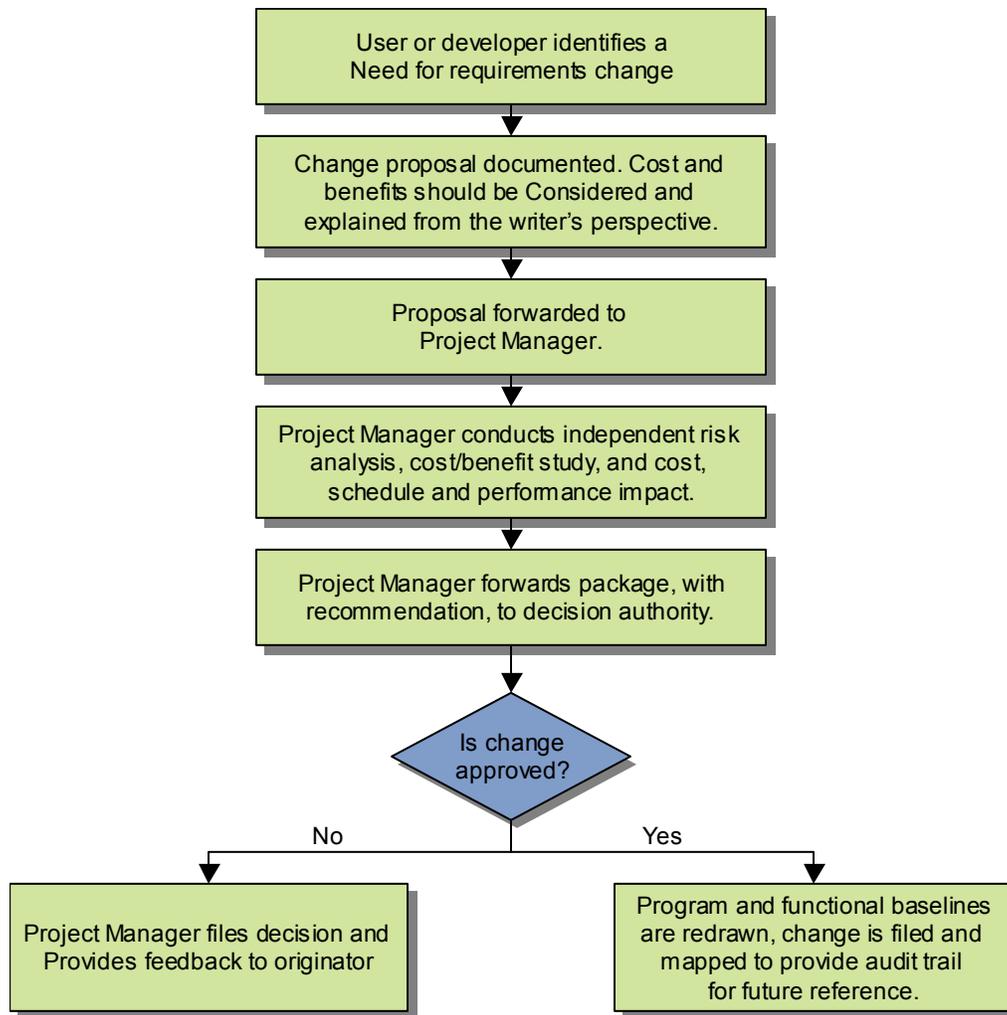


Figure B.10: Notional Change Request/Approval Process

B.4.2 Implementing the Integrated Change Control Management Plan

Identified changes in scope, cost, schedule, risk and quality are managed according to the Change Control Process. The project team must be disciplined about recognizing and managing change. Project success is dependent upon the implementation of change control processes that provide review, approval and communication of change and its impact.

B.5 Schedule Management Plan

The schedule management plan describes who owns and manages the project schedule. Although the project manager has overall responsibility for the schedule, other team members and matrixed organizations may have responsibility for sections of the schedule. Depending on the schedule dependencies, such as constraints, changes in one area of the schedule can have an impact on other areas and affect the accomplishment of major milestones and deliverables. The schedule management plan identifies processes to control schedule change, updating and analysis. It also describes the process for establishing a baseline schedule. TeamPlay is the primary tool for managing the project schedule. Using TeamPlay the schedule is coordinated

with the WBS using WBS codes for all activities and the baseline schedule is established and maintained.

- ▲ **Implementing Schedule Management** – Timing and schedules are updated according to project activity progress and schedule adherence is monitored. Schedule maintenance processes are implemented as well as the update and statusing process. Periodic schedule reports are generated and are included as a standard during project status meetings.

B.6 Staffing Management Plan

The staffing/resource component of the Project Management Plan includes the ability to plan and manage the resources required to deliver a project. This is accomplished through a Staffing Management Plan that defines the project organization, resource planning (people) and process for managing project staffing. It describes when and how human resources will be brought onto and taken off of the project. It provides for orderly and efficient management of human resources within the context of the overall Project Management Plan and is an output from the planning process for the project team development.

Typically, the process of identifying project team members and stakeholders is completed early in the project planning phase. This not only involves identifying individuals but also the roles and responsibilities for each. The result is an organizational plan that defines the project structure. This can be as simple as an organization chart or as complex as developing an Organizational Breakdown Structure (OBS) with documented roles and responsibilities. With the project organization and team defined and in place, planning then must be accomplished for staffing the project, i.e. obtaining the resources to complete the activities.

The Staffing Management Plan should not be an extensive document but must be complete and thorough. Functional support organizations rely heavily on projected staffing needs and assignments and must manage their business accordingly. Communications with these organizations during the course of a project is essential especially as project changes occur relative to resource requirements, timing and scope.

The Staffing Management Plan should at a minimum include:

- ▲ **Purpose** – A brief statement outlining the purpose of the plan and its application to the project.
- ▲ **Project Organization** – A description for the project organization including the project team and stakeholders. This should include the roles and responsibilities of the team members and stakeholders. An OBS may be developed indicating the responsible personnel, the department or functional area, the specific activities of responsibility and may include the associated budget allocation.
- ▲ **Resource Requirements** – An outline of the resource requirements needed to execute the project. In many cases it is possible to define this based on areas of responsibility or technical capability. Identified areas such as engineering, software development, system engineering, etc. should be listed as well as the necessary skill sets and expertise required within each area.

- ▲ **Resource Staffing Plan** – This describes what resources are required when. This should be graphical in nature and indicate the time phased resource loading. This is the basis for managing resources and serves to assure that the project is resource loaded properly.
- ▲ **Resource Constraints** – This documents any known constraints regarding resources. Constraints may be project based, defining specific requirements and limitations within the project objectives, or organizationally based, defining limitations or requirements of the organization to adequately staff the project and meet project requirements and needs.
- ▲ **Staffing Reports** – This defines the reporting frequency and requirements during execution of the project. These need to be planned to meet project needs while not burdening the project team or organization. Typically, a staffing report will indicate on a time phased basis what resources are required and when. This not only allows the project team to plan and confirm resource availability but also allows functional organizations to better manage their business requirements.
- ▲ **Staffing Contingency Plans** – During the planning phase certain critical resources may be identified. Contingency plans should be developed providing alternatives should these critical resources not be available when required. These are documented here.
- ▲ **Training Requirements** – Specialized training may be identified and required for project team members or staffing. These requirements should be defined and planned into the project.

B.6.1 Implementing the Staffing Management Plan

Project resources are evaluated continuously for efficient utilization and availability. Changes in schedule or scope requirements may require adjusting resource planning. The Project Manager and team monitor activity progress and output assessing resource requirements continuously. Resource costs are also monitored against budgeted forecasts. The Staffing Management Plan is also referred to as Human Resource Management Plan.

B.7 Quality Management Plan

Quality Management is the process of ensuring that the products or services provided meet the customer's needs and requirements. This process is focused on two primary aspects of the project—the end product and the management of the project.

Quality requirements should be defined clearly and measurably. The quality criteria are typically defined as the scope statement is developed and scope definition is completed. The quality management expectations are defined by the control constraints placed on the project and the projects teams' success in achieving those.

Quality doesn't simply happen. It should be planned into the project. There should be some method of ensuring that the end result will meet the customer needs and the project objectives and there should be a method for validating this. Quality Planning, Quality Assurance and Quality Control processes developed within the Quality Management Plan are used to achieve this.

A Quality Management Plan form is provided in the Appendix.

B.7.1 Quality Planning

Quality Planning is the process of identifying the quality criteria and standards that the project objectives should meet and will be measured against. The planning process will also result in the project's Quality Management Plan. The plan should address what will be measured, how it will be measured, the responsibility for those activities and how quality improvement will be implemented during the course of the project.

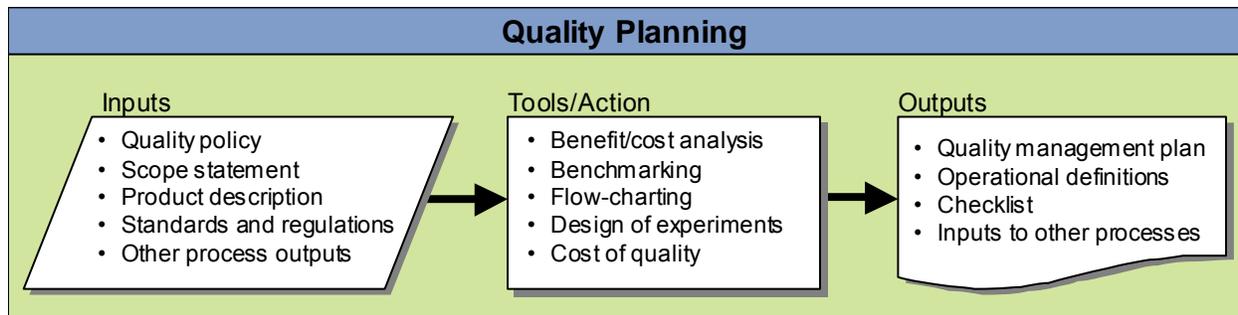


Figure B.11: Quality Planning Process Flow

The Quality Management Plan will also address the Quality Assurance and Quality Control processes that will be used during the Project Execution and Control phases.

B.7.2 Quality Assurance

Quality Assurance is defined by the activities planned for the project to evaluate project performance, ensure that the project will meet customer needs and standards and provide quality improvements as the project is being executed. Quality assurance is an ongoing activity that occurs in a planned and systematic way, not as a “post facto” event. Quality Assurance is focused on the quality process that:

- ▲ Organizes
- ▲ Designs programs/processes
- ▲ Sets objectives
- ▲ Provides resources
- ▲ Develops procedures

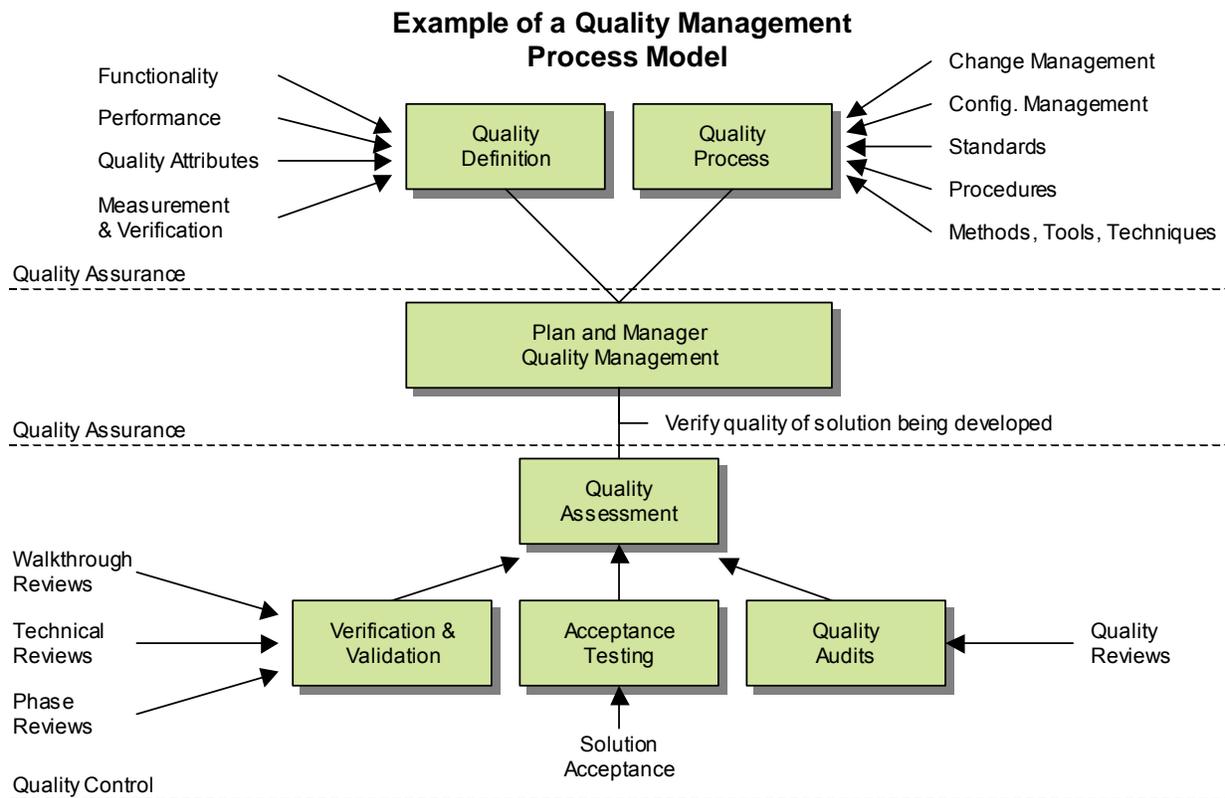


Figure B.12: Example of a Quality Management Process Model

B.7.3 Implementing Quality Assurance

During the planning phase the quality assurance tools, methods and processes were defined and planned. These are employed on an ongoing basis throughout the project execution phase. The objective is to be certain that quality is an inherent aspect and characteristic of the project deliverables. “Add on” features addressed upon completion of the activity or deliverable should be minimized.

This continuous effort will involve the Project Manager and all project team members and will address all deliverables and work output. The primary effect of this process (see Figure B.13) will be to provide quality improvements as the product or service is developed. Quality issues are addressed with an immediacy that ensures acceptable activity outcomes.

If quality is designed into the product then the quality control process will simply be a verification of quality and the result will meet project objectives.

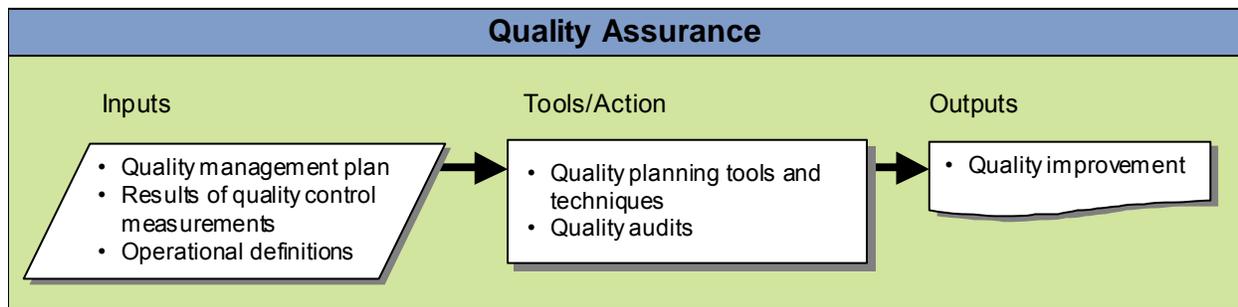


Figure B.13: Quality Assurance Process Flow

B.7.4 Quality Control

Quality Control is defined by the process and activities planned to measure project deliverables and validate that the deliverables are meeting the project objectives. Quality Control is focused on product quality by:

- ▲ Examining
- ▲ Analyzing
- ▲ Monitoring conformance
- ▲ Providing quality reports

B.8 Risk Management

Risk is defined as:

“An uncertain event or condition that, if it occurs, has a positive or negative effect on a project’s objectives”

Risk is an inherent characteristic of a project. Risks are presented in many forms and can impact several aspects of the project, some with relatively small effect, and some with potentially devastating effects.

A Risk Management Plan includes Risk Identification, Analysis and Containment for identifying and analyzing potential risk events as well as for planning to contain a risk event or the effect of that event. The Risk Management Plan is a subsidiary component of the Project Management Plan. OMB Circular A-11 Part 7 Section 300 specifically evaluates Risk Management in Part I, Section I.F. The Risk Management Plan form, provided in the Appendix, is designed to address the OMB Exhibit 300 risk category reporting requirements.

The Risk Management Plan should describe how risks are identified, tracked, assessed and, if necessary, mitigated. The plan should identify the tools used to capture identified risks, risk categories, assigned owners, calculated probabilities, identified thresholds or triggers for instigating mitigating action and contingency plans. The Risk Management Plan identifies the Risk Management process, responsible managers, the timing of risk assessments and reporting.

A suggested Risk Management process flow is provided below. The actual process developed by the project team may vary depending upon the size and complexity of the project. Although, in the example, there are several process steps depicted, there are four primary activities that should occur to identify, quantify and manage risk effectively. The primary activities are:

- ▲ Risk Identification
- ▲ Risk Analysis (Qualitative and Quantitative Analysis)
- ▲ Risk Containment (risk response planning)
- ▲ Risk Monitoring and Control

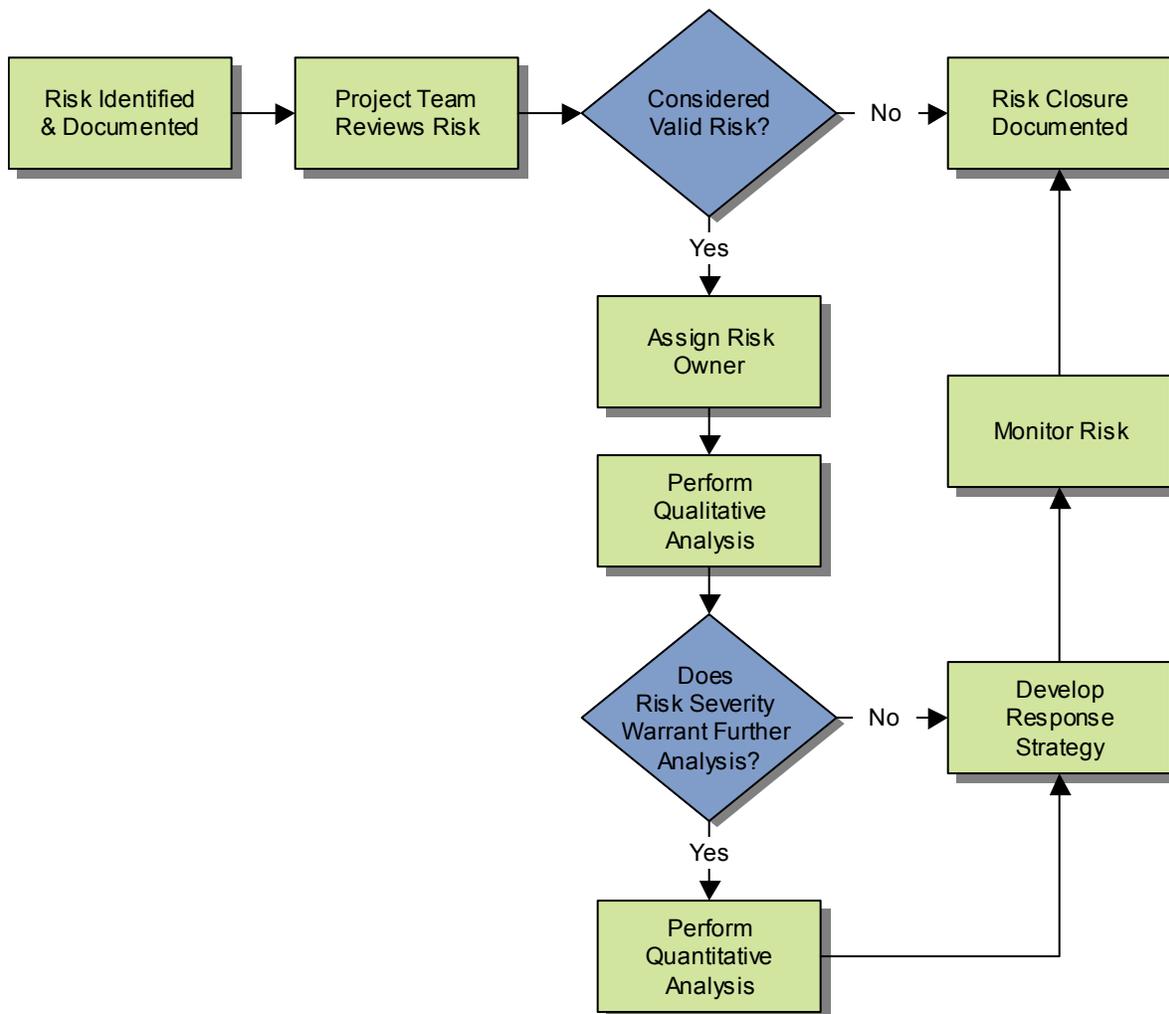


Figure B.14: Risk Management Process Flowchart

B.8.1 Risk identification

Risk identification is the process by which the perception of an uncertain event or condition is recorded in sufficient detail to enable an effective assessment.

The project team systematically reviews the project deliverables and activities for possible risk information. Typically risk event information is developed from:

- ▲ Analysis of High Level Deliverables
- ▲ Analysis of the Work Breakdown Structure (WBS) and Network Diagram
- ▲ Analysis of Change Requests
- ▲ Project Team input (experience, lessons learned, etc.)
- ▲ Stakeholder Input (assumptions, organizational requirements, etc.)

Risks may be identified through the course of planning the project, as a result of identified assumptions, or as a result of project changes during the execution and control phases of a project. Risks will also be exposed at reviews, meetings and quality assurance/control efforts.

Risk Identification Workshops may also be held at various stages during the project to focus the organization on identifying potential risks. A cross-section of project team members brainstorms several risks, which are later developed and presented to the risk review team for approval.

B.8.2 Risk Triggers

Risk triggers are events or performance characteristics that warn of the occurrence or the impending occurrence of risk events. As risks are identified and analyzed, risk triggers need to be identified to enable the team to adequately monitor potential risk events. Any of these triggers can be identified simply by answering, “How will I know that the event is or is about to happen?” Most risk events have some symptomatic action prior to its onset. For example, having several milestone deliverable dates missed by a particular supplier could indicate that some future activity could be delayed or need to be rescheduled at a greater cost to the project.

Each identified risk should have a Risk Control Form opened to capture the pertinent information and analysis and the risk logged into the Risk Log. A Risk Control Form and a Risk Log are provided in the Appendix. This serves as the basis for further analysis and the development of containment strategies as well as for tracking purposes. The Risk Control Form should contain a description of the risk, the risk category, risk owner, any identified risk triggers, the results of the risk analysis and the containment strategy.

Identified risks are considered “proposed” pending Project Team review. The team can sanction the opening of a risk, require further assessment, or reject it. If the team rejects a risk, the reason for rejection is recorded on the Project Risk Control Form and a copy is sent to the originator of the risk.

B.8.3 Risk Analysis

All identified risk events will need some amount and form of analysis. The purpose of the analysis is to determine the potential impact of the event, should it occur, and to set a priority for the risk events. Two methods of risk analysis are employed in this process – Qualitative and Quantitative Analysis. A more detailed description of each follows. The results of the qualitative

analysis, and the resulting assessed impact and priority, will determine the necessity of performing the quantitative analysis.

Qualitative risk analysis is a probability estimate of a risk event occurring and the potential impact of the risk on the project. The steps for qualitative analysis are as follows:

- 1. Probability Assessment** – Estimate the probability of the risk event occurring, using the Probability Matrix. This is essentially a subjective analysis on the part of the Project Manager, the project team and key stakeholders. It requires knowledge of the activity and experience or historical data. The Probability Matrix is shown below.

Risk Probability Matrix

Risk Event Probability	Likelihood of Risk Event	Response Strategy Difficulty
5 – Very High	> 80% – Risk event expected to occur	No strategy available to counteract the risk event occurring.
4 – High	60-80% – Risk event more likely to occur	Limited resources or strategies are available that will influence the occurrence of or contain the risk event. A high level of management attention is necessary.
3 – Probable	40-60% – Risk event may or may not to occur	A higher level of management attention is required to develop strategies that will produce an acceptable outcome.
2 – Low	20-40% – Risk event less likely to occur	With attention, normal management strategies should produce an acceptable outcome
1 – Very Low	< 20% – Risk event not expected	Normal management strategies should produce an acceptable outcome.

- 2. Impact Assessment** – If a risk event is determined to have a high probability of occurrence, the impact of each risk is rated according to the Risk Impact Matrix. This rating may also be somewhat subjective and requires knowledge and experience in addition to historical data to rate properly. An example of the Risk Impact Matrix is shown below.

Risk Impact Matrix

Risk Event Impact	Schedule Slippage	Cost Increase	Performance (Scope and/or Quality)
5 – Very High	> 20%	> 20%	End product fails to meet customer needs
4 – High	10 – 20%	10 – 20%	Reduction in functionality or usability unacceptable to customer
3 –Moderate	5 – 10%	5 – 10%	Major impact in functionality or usability requiring customer approval

2 – Low	< 5%	< 5%	Relatively minor impact in functionality or usability
1 – Very Low	~ 0	~ 0	Very minor impact in functionality or usability

After analysis of the impact to schedule, cost, scope and quality, use the worst-case impact. Where possible, use cost to assess the impact by considering the financial implications of a schedule slip or reduced performance (change in scope or quality).

Quantitative Analysis is the process of determining the amount that a potential risk event impact will have on scope, cost, resources and quality. After completing the qualitative risk assessment, the higher priority risk events are analyzed to determine the estimated quantification of impact.

Assuming a high probability of occurrence, a probabilistic three-point estimate of Schedule and Cost impacts is generated using the following scenarios (the results are presented as percentages of increase in Cost or Time):

Best Case Given the use of maximum resources/facilities requiring minimal alteration to the project plan, estimate the time/cost impacts to complete the identified activity.

Most Likely Case Given normal constraints on resources and facilities and making reasonable allowances for technical problems and some project plan alteration, estimate the time/cost impacts to complete the identified activity.

Worst Case Given the worst case envisioned for limited resources/facilities and/or technical problems requiring considerable project plan alteration but excluding fall-back options, estimate the time/cost impacts to complete the identified activity.

If the impact is primarily performance related (affecting scope and/or quality), then the probabilistic three-point estimate is assessed as a percentage of reduction in performance, compared to the customer requirements.

B.8.4 Risk Severity

The results of the qualitative analysis will be shown on an Impact/Probability Chart, called the Risk Severity Grid. The grid is used to determine the priority that should be assigned each identified risk and the need to develop containment strategies. In general, the severe risks indicated in the red shaded boxes shown on the grid require further analysis and containment planning while the risk priority in the yellow shaded areas (potential second level priority) should be analyzed and at least initial containment plans developed. Those areas shown in the green shaded grid area need to be noted and monitored throughout the project but should not require the development of containment plans.

Risk Severity Grid

Impact	5 Very High	21	4	23	10	17
	4 High	18	16	5	20	22
	3 Moderate	14	2	12	6	9
	2 Low	1	24	3	7	13
	1 Very Low	11	8	25	15	19
		1 Very Low	2 Low	3 Probabl e	4 High	5 Very High
		Probability				

(Example Only: The numbers in the boxes represent the individual Risk Identification Number (as listed on the Risk Log) for each probability/impact combination.)

B.8.5 Implementing the Risk Management Plan

During the project planning phase project risk events and risk triggers were identified. The Project Manager and team now monitor these identified events and triggers for potential occurrence and impact to the project. Additionally, as the project progresses, previously unidentified risk events may become evident requiring the project team to evaluate and plan for these occurrences.

Risk containment and contingency plans will be implemented as risk triggers and events occur. As containment strategies are evaluated for effectiveness, the project team may be required to revisit and modify the containment approach.

B.9 Communications Management Plan

The Communications Management Plan describes how the various types of project information are distributed, reviewed, updated and filed. The plan should describe the information product, how it is produced, who produces it, when it is produced and to whom it is distributed. The Communications Management Plan should show the organizations with review responsibilities and identify approval authority. The project Work Breakdown Structure (WBS) and Organizational Breakdown Structure (OBS) are tools used to develop the Communications Management Plan. The Communications Management Plan is a subsidiary component of the Project Management Plan.

After collecting information on the number and needs of the stakeholders involved with the project, it is the Project manager's responsibility to draft the Communications Management Plan that will outline how information will be:

- ▲ **Collect and Update** – This section of the plan discusses how the Project Manager will collect information from certain project areas and how often updated information will be expected to be reported.
- ▲ **Controlled and Distribution** – This section of the plan will provide a description on how project information will flow throughout the VA and who will make decisions on where information flows. It also discusses which stakeholders and team members will have access to what particular areas of information. The intent of the distribution section is not to limit team members from being able to access data that they need, but to provide a structure to keep anyone looking to do potential damage to the project away from sensitive materials. Information security policies should be referenced here.
- ▲ **Stored** – This section of the plan will give project members an idea where physical project files will be kept within the VA as well as where electronic media might be stored for project team access.

The success of any project is heavily reliant upon project team members being informed completely and in a timely manner. Information such as scope, time, cost or quality changes, current project schedule status, current and projected cost data, and project decisions or issues all need to be disseminated to key project members and stakeholders.

In order to assure that essential, timely information is distributed the project team must plan and manage that process (see Figure B.15). The communications process should address:

- ▲ What information will be collected?
- ▲ What reports will be generated, the reporting frequency, and format/structure?
- ▲ What meetings will be scheduled and the purpose of each meeting?
- ▲ Who is responsible for collecting data and generating reports?
- ▲ Who are the recipients of the reports and in what form (hardcopy, electronic, verbal)?
- ▲ How and where information will be maintained and accessible?

Typically, the Communications Management Plan is linked with the organizational plan (reference the Staffing/Resource Management Plan). This assures that all necessary recipients are contained within the planned distribution as well as stakeholder requirements.

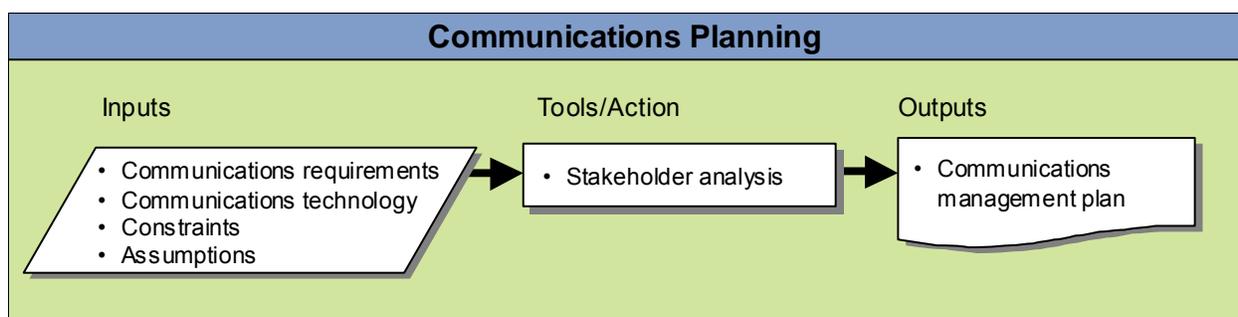


Figure B.15: Communications Planning Process Flow

B.9.1 Format of the Communications Management Plan

The Communications Management Plan does not need to be an extensive document. It simply needs to address the various reports, meetings and informational requirements necessary to manage the project. A suggested format would be:

- ▲ **Purpose** – A brief introductory statement defining the purpose, such as:

“The Communications Management Plan describes how the project communications will be managed and information distributed to key stakeholders.”

- ▲ **Project Reports** – This provides a description of each of the reports to be generated in support of the project. It will define the data to be collected, the frequency of collection, the responsible party for collection for and compilation/analysis, the report media and format, and the distribution of the report. Some examples of reports include:

Project Status

Financial Data

Cost Variance

Schedule Status and Variance

Updated Project Schedules

Open Issues/Action Items

Quality Assurance

Resource Utilization/Projections

Change Control

- ▲ **Project Information Accessibility** – Access to project information must be planned. Centralized project files and data may not be advantageous to large projects with varied geographic locations. This section will define the project team requirements, media and locations for project information availability.

A Communications Management Plan form is provided in the Appendix.

B.9.2 Implementing the Communications Management Plan

Information is critical to the success of any project. Too often changes are required and made affecting one aspect of the project and not communicated or assessed as to the overall impact to other project deliverables. Surprise is not beneficial to Project Managers or team members nor is it an enabler to meeting project objectives.

During the project planning phase, the communications plan was developed to address this and ensure that information would be collated and distributed to the entire project team (see Figure B.16). The two primary sources for information collation and distribution will be Status Reporting and the Project Status Meetings.

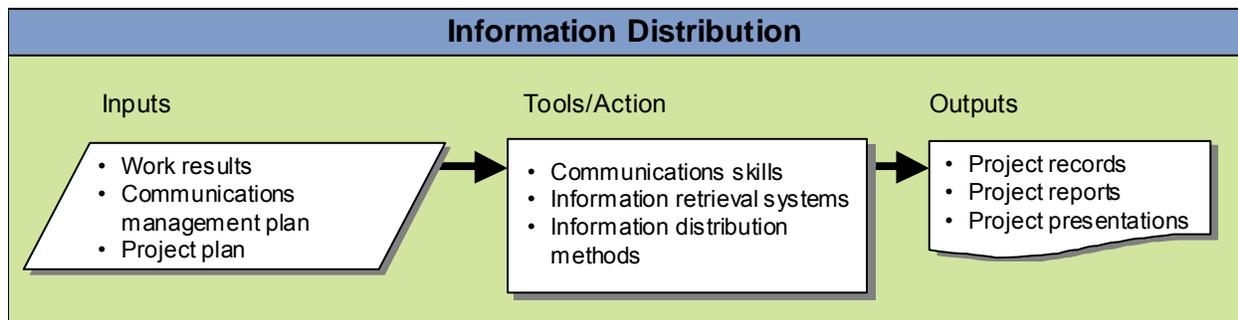


Figure B.16: Information Distribution Process Flow

- ▲ **Status Reporting** – On a regular basis, the Project Manager, and project administrative support or team members will provide the current status of all active work efforts. This status reporting should include:

Time expended to date

Costs authorized or expended to date

Any identified changes, required or proposed, to scope, schedule, quality, cost or risk

Resource availability and utilization

Issues identified or action required

Accomplishments within the reporting period

Expected accomplishments during the next reporting period

Document any Lessons Learned, process or quality improvements

Risks opened or closed and the status of containment or contingency plans

- ▲ **Status Meetings** – Project teams must periodically meet to assess project progress and status. Although the status report information may be readily available, this information is subject to individual interpretation and comprehension. Project status meetings provide a venue to achieve common understanding, shared assessment of impact or potential impact, and ensure that all team members are progressing toward the project objectives.

The status meeting should have a set agenda. This agenda should include:

Issues/Actions – Identification of any issues that might impede meeting the project objectives or deliverables. These should be documented, have an issue owner identified and result in an action plan that is implemented addressing the issue.

Scope – Identification of any scope changes either requested by the customer or required through the execution of project activities and the quality assurance processes. This should include potential impact to project timing, cost or quality.

Cost – A review of the current cost status, projected costs, expected overruns or additional costs not anticipated during the project planning.

Time/Schedule – A review of the current schedule and, if any, schedule variance with an explanation for the variance. This should include any projected schedule slippage, either

earlier or later. Schedules that move may require that resources or actions be moved as well.

Resources – Review resource needs, plans, and requirements. Identify and document any resource issues or concerns, develop plans to address any issues.

Risk Monitoring – Identified risk events and risk trigger events must be monitored. Containment plans should be reviewed for effectiveness and contingency plans brought into play as necessary and warranted.

Quality – As part of the quality assurance process, review the quality criteria for each of the deliverables. Identify any quality issues that arise, develop quality improvement actions and document any quality improvements identified.

The result of the status meetings should be the documented Issue/Action log, change requests, verification of project status and an updated project schedule.

B.10 Cost Management Plan

The cost management plan describes the process for implementing change control over cost estimates and the project time-phased cost baseline. The plan should include the steps taken when the performance measurement system identifies major or minor cost variances. Consideration should be given to variance thresholds that indicate increased management attention, perhaps shortening the time between variance reports, actions taken when the cost baseline is threatened, etc. The cost management plan is a subsidiary component of the Project Management Plan.

A Cost Management Plan form is provided in the Appendix.

B.11 Procurement Management Plan

The VA has procurement officials that handle contracting and purchasing needs. There is a defined process for all contracts and procurements. In order for a procurement to receive approval from the VA Office of Information and Technology, the project office must initiate the procurement through the VA's IT Tracker System. All system acquisitions are submitted through the IT Tracker System. Acquisitions require additional information to accompany the request that is commensurate with the acquisition effort. Examples of the additional information include a requirements analysis, a business case justification, a cost/benefit analysis, and a Statement of Work (SOW). There are additional approval requirements for Advisory and Assistant (A&A) contracts as well as those acquisitions estimated to exceed \$250,000.

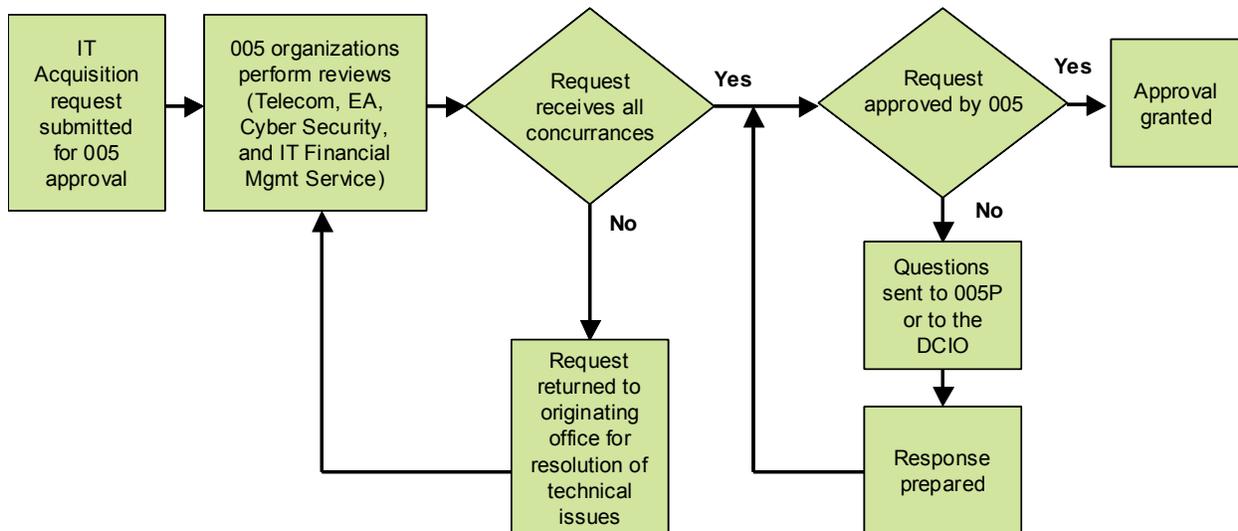


Figure B.17: VA IT Acquisition Approval Process

The Procurement Management Plan should describe processes that will be followed to acquire support contactors and material required to complete the project. It should list all the procurement actions planned for the project. Areas to consider are:

- ▲ Requirements development
- ▲ Acquisition strategies such as: make or buy, off-the-shelf or in-house development
- ▲ Creating statements of work and requests for proposal (or comparable documents)
- ▲ Evaluation criteria
- ▲ Conducting source selections, pre-proposal conferences and negotiations

The Procurement Management Plan should cover the responsibilities of the respective VA administration supporting organizations such as contracting and finance and list the actions required by each organization to initiate the procurement process. Responsibilities for contract administration and closeout should also be covered. The Procurement Management Plan is a subsidiary component of the Project Management Plan.

B.11.1 Procurement Planning

If the decision is made that materials, products or services are required to be obtained outside of the agency, then a plan must be developed that integrates those requirements into the project plan. The procurement planning process (see Figure B.18) compiles that information and determines:

- ▲ What materials, products or services to be procured?
- ▲ How much is to be procured?
- ▲ Where they may be procured?
- ▲ When they will be procured?
- ▲ Who is responsible for procurement?

- ▲ How this will be managed relative to the project requirements in terms of cost, timing and quality?

The Procurement Management Plan defines the process for the Project Manager and project team to make decisions about the purchasing of products or services throughout the life of the project (from planning through closeout). The Procurement Management Plan will define the processes necessary to enable these purchases or contracts.

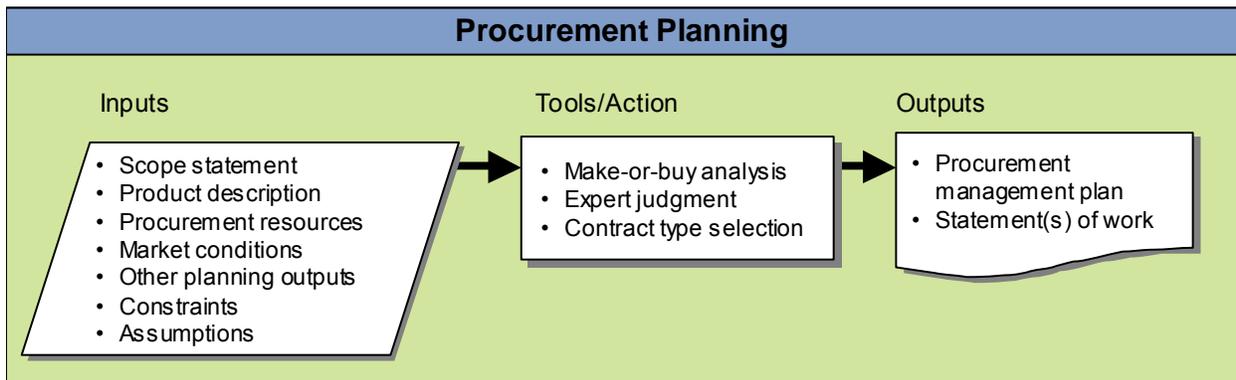


Figure B.18: Procurement Planning Process Flow

B.11.2 Solicitation Planning

Solicitation planning refers to the process and documentation that is needed to support obtaining proposals from prospective suppliers or contractors for material, products or services needed within the project. VA has a formalized and well-documented process for solicitation planning and contract execution, which is guided by the Federal Acquisition Regulations. All VA contracting activities rely on the Project Manager and/or designee to develop the Statement of Work and Business Case or Requirements Analysis. The Business Case supports the concept while the Requirements Analysis or Statement of Work describes the product or services required. Typically a Requirements Analysis is used when purchasing product or equipment and a Statement of Work is used to describe the services to be performed.

Each project is a unique undertaking and therefore, will have distinctly different requirements in reference to the actual technical and specified project needs. The Project Manager and the project team are involved in the development of these detailed requirements/specifications or statement of work. The Project Manager is responsible for the documentation generated within the solicitation planning process accurately and that it reflects the needs, goals and objectives of the project. The Project Manager or a project team member that has the source selection expertise must be involved with the development of the evaluation criteria for the offers to be rated against. The Project Manager is responsible for the evaluation criteria and ensures that the factors identify the critical success factors and are appropriately weighted. VA contracting officers will provide assistance to ensure that the evaluation criteria are measurable, clear and meaningful.

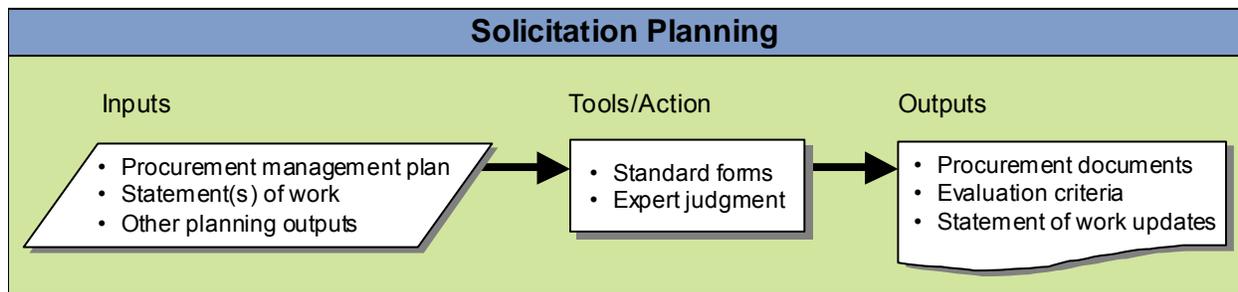


Figure B.19: Solicitation Planning Process Flow

B.11.3 Format of the Procurement Management Plan

The Project Manager and team members should use, standard acquisition forms and templates that are available from their contracting office. Relevant insight into the project procurement and solicitation process should be captured at an executive level by the Project Manager and attached to the Project Management Plan..

The Procurement Management Plan need not be an extensive document but should be commensurate with the complexity and size of the acquisition and include the following:

- ▲ **Purpose** – A brief statement defining the purpose of the Procurement Management Plan.
- ▲ **Identified Procurement Needs** – A list of the materials, products or services identified for outside procurement. Each listed item should include a justification statement explaining why this should be an outside purchase if there is the possibility of inside sourcing (make vs. buy decision).
- ▲ **Market Research** – A list of qualified vendors and current market trends and conditions.
- ▲ **Procurement Process** – A brief overview of the process requirements necessary to manage procurement of the identified needs. This should include:

Initiating a Request

Development of Requirements

Technical

Period of Performance

Cost

Quality

Constraints

Required Procurement Approvals (e.g., applicable Administration approvals, VA IT Tracker approvals, and/or A&A approvals)

Source Selection Evaluation Criteria

Instructions to Offerors

Proposal Review

Contract Management Responsibility

Contract Close Out Requirements

Procurement Process Flowchart

- ▲ **Change Request Process** – This section should describe the roles, responsibilities, and process for evaluating, approving, and implementing proposed procurement changes. It will also define the authority for accepting and approving changes in the procurement, which may include the customer. The evaluation process must include an assessment of the impact of proposed changes on the project. Impacts to scope, cost, schedule, risk and quality must be justified in order to provide a basis for accepting and approving a change.

A Procurement Management Plan form is provided in the Appendix.

B.11.4 Implementing the Procurement Management Plan

The Procurement Management Plan is initiated. The plan establishes the project procurement needs and requirements and the following processes are now commenced:

- ▲ **Solicitation** – This is the process of developing the request-for-proposal documents and requirements and the selection of potential providers or suppliers. The project team employs the VA or applicable Administration procurement process and develops the necessary documentation required for obtaining bids or proposals.

A part of this process is to hold a pre-proposal conference when deemed necessary, or conduct clarifying Question and Answer sessions (orally or written) and obtain proposals.

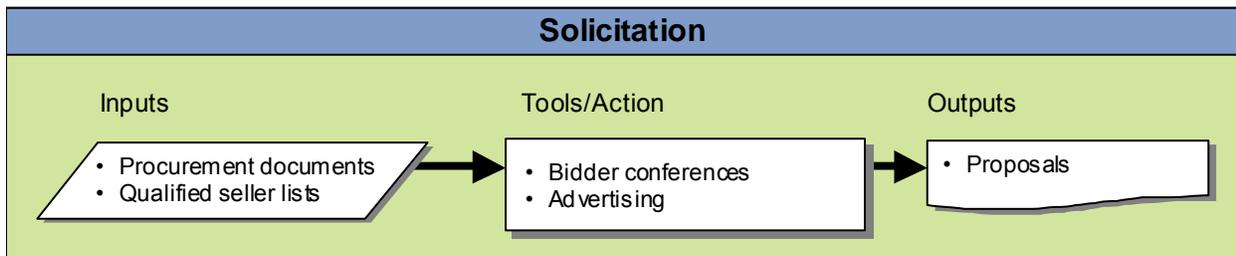


Figure B.20: Solicitation Process Flow

- ▲ **Source Selection** – After obtaining bids or proposals from qualified sources, the source selection process is employed. Each Contracting Activity selection process is guided by acquisition regulation. Discussions or exchanges with offerors are closed to Project Managers and communication is handled by the respective Contracting Officer. Proposals may be received in an oral presentation or a written submission. Contracting Officers rely upon the Project Manager for this deciding factor. Proposal evaluation may be conducted face-to-face, video or telephone conference or through written communication. Each offer must be evaluated in accordance with the published evaluation criteria. Thereafter, the technical evaluation team will discriminate proposals against one another. It is the Project Manager's responsibility to document each

offeror’s strengths, weaknesses, and deficiencies and prepare a final evaluation report to the VA Contracting Officer. The evaluation report must also rationalize the proposed benefits.

Once the evaluation is completed, and if, the Technical Evaluation Team and Contracting Officer deem negotiations are necessary; the contracting officer will initiate these discussions for those proposals that are selected to be within the competitive range. A revised final offer is submitted for final evaluation by the Technical Evaluation Team. The proposed award is subsequently submitted to a higher authority for contract award review by the contracting activity. Upon approval, a contract is issued to the successful offeror.

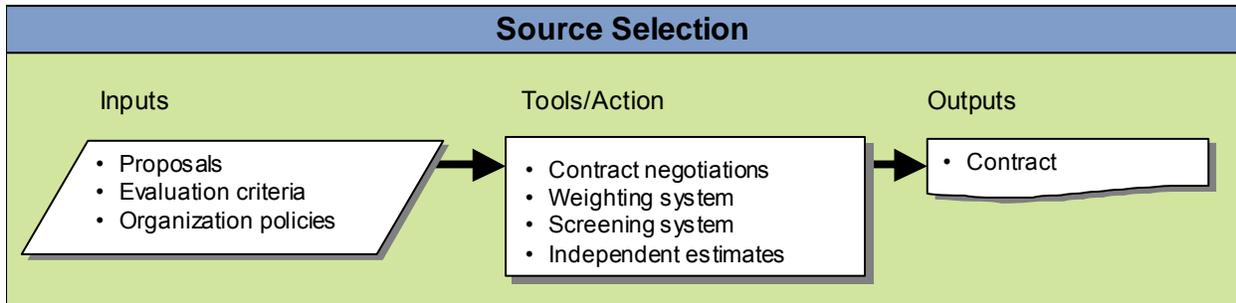


Figure B.21: Source Selection Process Flow

▲ **Contract Administration** – Once the source has been selected and the contract issued, the Project Manager or designated project team member must manage the contract and the contractor. This will entail an oversight effort ensuring that the results of the contractor’s efforts (performance) meet the project objectives and the requirements as defined in the contract. The focus will be on meeting project timing, serviceability and quality requirements, managing change and administering the contract payment terms.

This management effort requires supporting documentation as to status, progress, issue identification and resolution, change requests, acceptance verification and invoicing. The project and the team will both benefit from following this disciplined approach to managing supporting documentation.

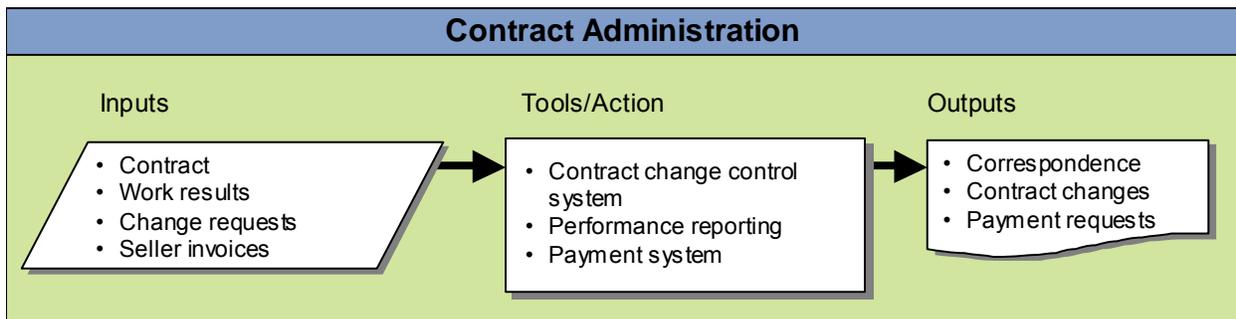


Figure B.22: Contract Administration Process

B.12 Work Authorization

The work authorization process authorizes the expenditure of funds and the initiation of work activities. The cost associated with authorized work is documented and actual costs are monitored against work performed.

As with the schedule management, cost variances (budgeted cost vs. actual cost) are identified as the project progresses. Cost performance is calculated and serves as the basis for determining project performance indicators. Cost variance reports will be generated and potential changes in cost are identified or forecasted. Cost is impacted by changes in scope, schedule, available resources or quality requirements.

B.13 Earned Value Management

Earned value is a management technique that measures cost and schedule performance against a baseline plan. All work is planned, budgeted, and scheduled in time-phased “planned value” increments constituting a cost and schedule measurement baseline. There are two major objectives of an earned value system: to encourage the use of effective internal cost and schedule management control system; and to permit the appropriate oversight body to be able to rely on timely data produced by those systems for determining project status. The following example is intended to illustrate the basic components of Earned Value Management. For more information, see the Earned Value Management Home Page (<http://www.acq.osd.mil/pm/>) sponsored by the Office of the Under Secretary of Defense (Acquisition & Technology) Acquisition Program Integration/Performance Management.

Baseline Plan. In order to measure cost and schedule performance, a baseline plan should first be established. The Budgeted Cost of Work Scheduled (BCWS and also known as Planned Value or PV) depicted in Figure B.23 shows that 5 work units (Tasks 1-5) are planned to be completed at a cost of 5 days of labor by J. Doe for this reporting period.

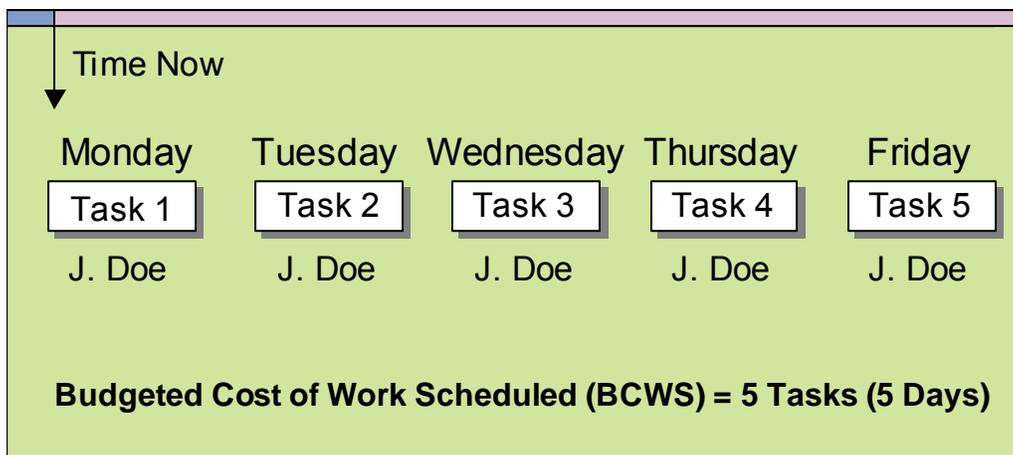


Figure B.23: Baseline Plan

Schedule Performance. As work is performed, it is “earned” on the same “budget” basis as it was planned, in dollars or other quantifiable units such as labor hours. At the end of the reporting period, the worked accomplished (earned) is compared to the baseline plan. Any difference is

called a schedule variance. Using the example depicted in Figure B.24, five tasks were planned to be complete at the end of the week, however, only four tasks were actually completed.

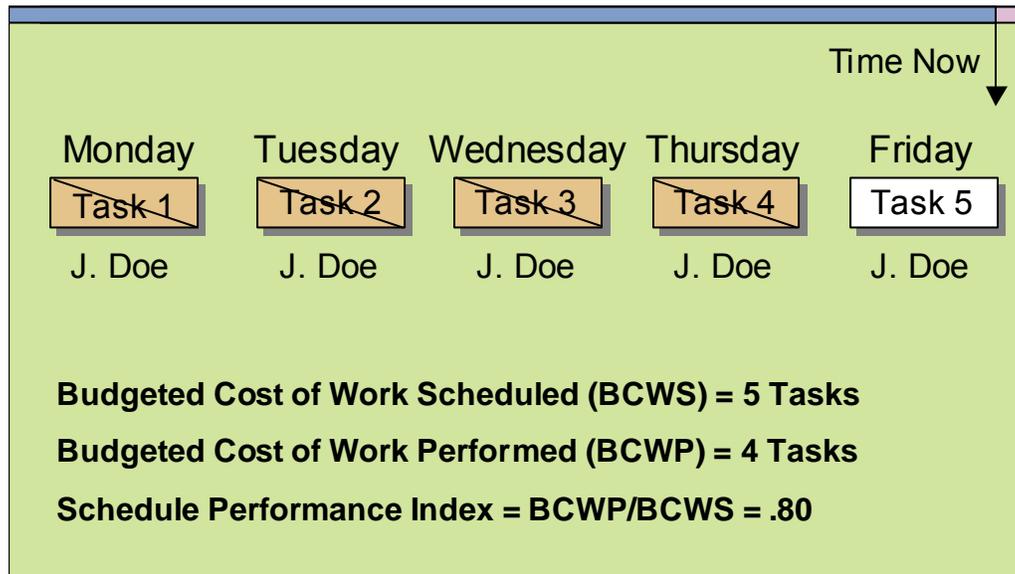


Figure B.24: Schedule Performance

From this information, the Schedule Performance Index (SPI) can be calculated. SPI is defined as budget for the work accomplished/performed (BCWP also known as Earned Value or EV) divided by the budget for work scheduled (BCWS or PV). In this example, four out of five tasks were completed for an SPI = .80. In other words, schedule accomplishment is achieving only 80% of what was planned. If this rate continues, it is likely that the project schedule will slip by 20%. A Schedule Performance Index (SPI) of 1.0 would indicate that the schedule of tasks completed was progressing exactly as planned. An index less than 1.0 means the project is behind. An SPI greater than 1.0 shows the project to be progressing ahead of schedule.

The next step, depicted in Figure B.25, is to measure the Actual Cost of Work Performed (ACWP also known as Actual Cost or AC).

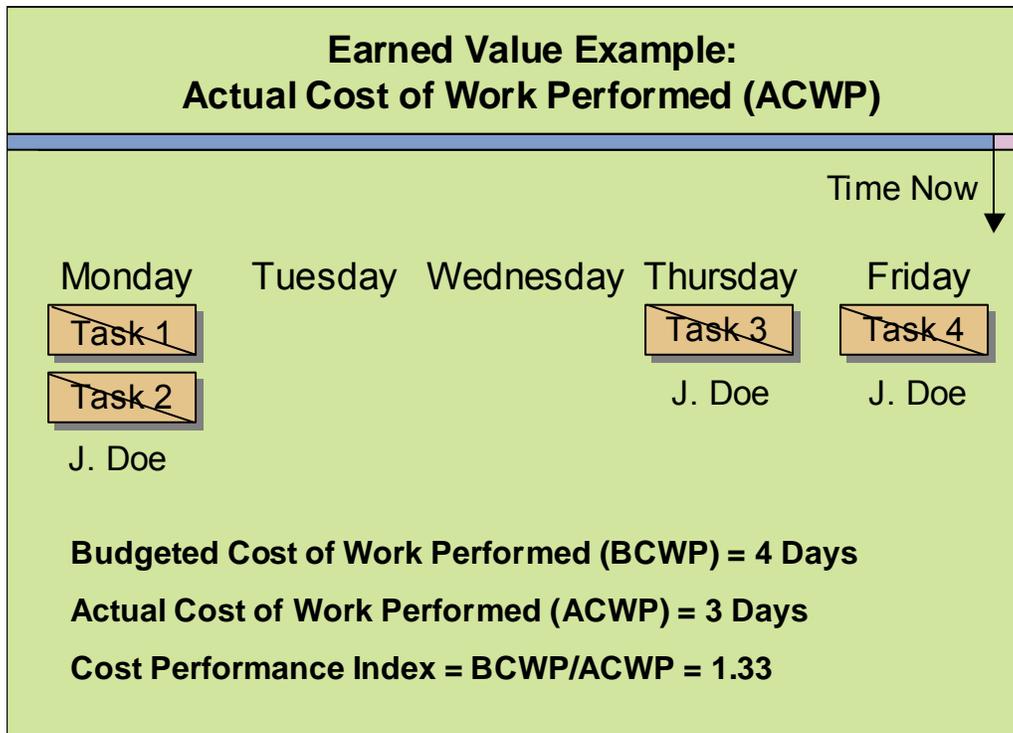


Figure B.25: Cost Performance

In this example, Doe actually completed Tasks 1 and 2 on Monday, Task 3 on Thursday, and Task 4 on Friday. Doe may have been out sick on Tuesday and Wednesday or called upon to work on another project. The baseline plan (Figure B.23) budgeted four days worth of effort to complete Tasks 1, 2, 3, and 4. Doe actually completed these four tasks with only three days worth of effort. As a result, the work was completed under budget. The Cost Performance Index (CPI) is calculated by dividing the Budgeted Cost of Work Performed (BCWP or EV) by the Actual Cost of Work Performed (ACWP or AC). In this example, the $CPI = 1.33$. As with the Schedule Performance Index, a $CPI = 1.0$ indicates the plan is being executed on cost. A CPI less than one is unfavorable and indicates possible cost overruns. A CPI greater than 1.0 is favorable and indicates work is being accomplished under cost.

In this example, a Project Manager would know that they are behind schedule and under cost. The “under budget” cost scenario might allow extra resources to be applied to the project to attempt to recover the schedule slippage. In a project with hundreds of tasks, some behind schedule and some ahead of schedule, the Earned Value method provides an objective means to evaluate project status. The Earned Value method can be invaluable in identifying problems, observing trends, and allowing corrective actions to be planned and implemented in time to mitigate issues and reduce cost/schedule risks.

Graphic representation of Earned Value. Figure B.26 is an example of how the entire data set can be displayed in a simple, easy to understand format for briefing and tracking. This example represents a project that is on schedule and below budget.

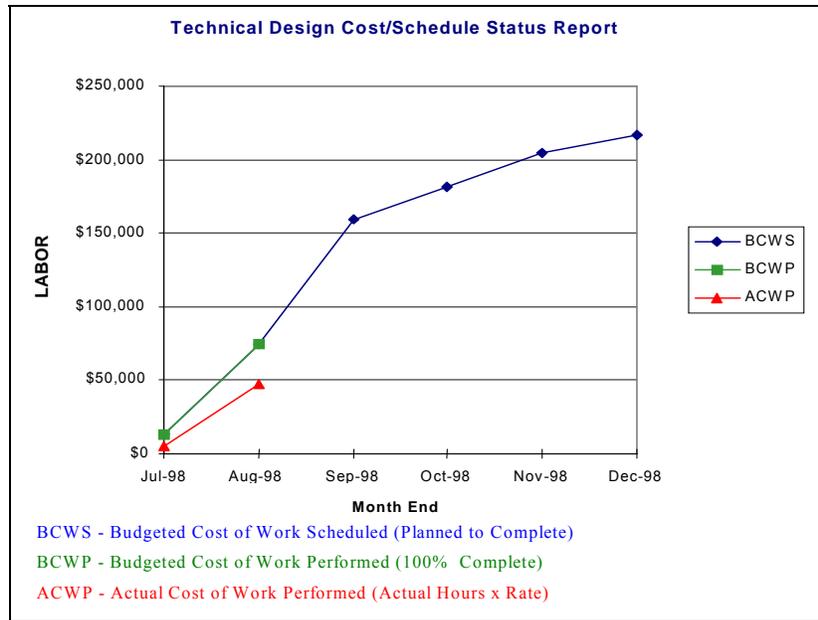


Figure B.26: Graphic Representation of Earned Value

Use of Earned Value Data. The benefits to project management of the Earned Value approach come from the disciplined planning conducted and the availability of metrics which show real variances from plan in order to generate necessary corrective actions. Data can also be invaluable in the planning of future projects. A similar project with equivalent tasks can be better planned and costed after historical data is studied.

B.14 Role of Project Planning & Control During the Execution Phase

During the execution of the project, the Project Control Process Phase processes play an integral part in meeting project requirements and objectives. The execution and control phases are executed concurrently and provide the assurance of meeting functionality and quality for the end product.

Based upon information, data and quality control results developed during the project control processes; some “course correction” or change may be necessary causing some aspect of re-planning or revisiting the project plan. The result is that the Project Planning Processes are involved on an ongoing basis during project execution.

All three process phases must work in concert with one another in order to assure success for the project.

B.15 Team Development

This process focuses on two aspects; enhancing the project team and stakeholders ability to operate as a team, and developing the individual team member’s capabilities to fulfill the project requirements. Refer to Figure B.27 for this process.

- ▲ **Individual Development** – During the planning phase of the project, human resource capability requirements and skill sets were evaluated based on project criteria. Plans

were developed to address these requirements and are implemented, typically, early in the project execution phase. Training will take planning, time and funding and requires that this be addressed early and thoroughly.

- ▲ **Team Building** – Requirements for building a more cohesive and functional team are factors determined by the familiarity of the team with each other and the unique objectives of the project. These requirements will also have been addressed during planning and are implemented during the execution phase. This effort can be far more complex than teams initially realize, as most team members will be assigned with matrixed responsibilities. Balancing those responsibilities and achieving team cohesion can be challenging and may be a critical success factor in achieving project objectives.

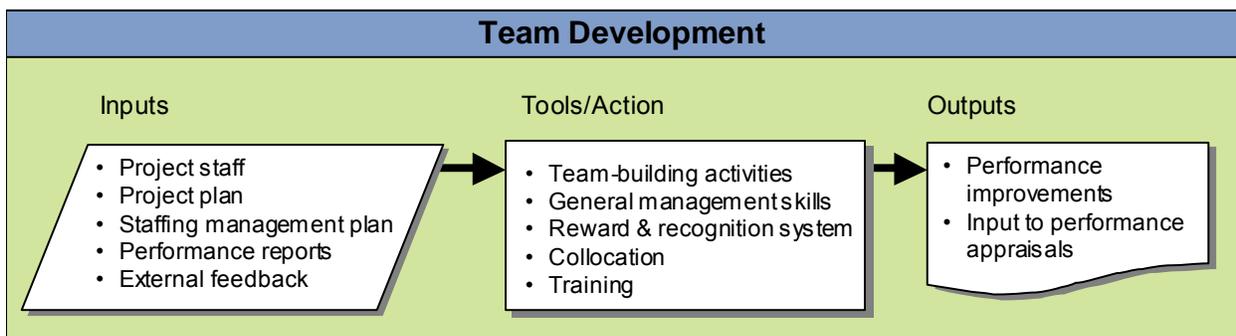


Figure B.27: Team Development Process Flow

EXECUTING & CONTROLLING

B.16 Project Plan Execution

The plan is in place, the resources assigned or obtained and the stakeholders are assured of the success of the project. The team now begins executing the planned activities. The direct result of each activity is some measurable output that either produces a deliverable or product or is a required element for the completion of a deliverable or project product. In order to execute this phase efficiently and effectively there are several management elements that come into play. Refer to Figure B.28 for this process.

- ▲ **Cost Management Plan** – Before any of the planned activities begin, a process of authorizing the commencement of that work must be employed. This work authorization process can be informal or may need to be a formal written document. It is imperative that the Project Manager and project team manage the expenditure of time, resources and funding as the project progresses. By establishing a work authorization process the management becomes easier and communications are enhanced. Control of activities is more easily managed when all team members know what has been authorized to begin.
- ▲ **Activity Coordination and Management** – The Project Manager and project team now begin to coordinate and manage the project work activities. In many cases this simply means that the team members will perform the tasks defined in the project plan. In other cases it means that they will be overseeing the execution of activities and work performed by other resources or contractors. The primary focus here is on the

coordination and management of achievement. The team function should be an enabling function combined with the removal of any barriers and obstacles that could impede project completion. The team will also have to assess activity progress as each is executed with a focus on the quality and measurable results.

- ▲ **Monitoring Work Results** – The team monitors and manages the result of each of the activities during this phase. These may be referred to as work results, output, handoffs, or deliverables. It is the team’s responsibility to make certain that these are produced on time, within budget and meeting quality criteria. It is critical that results be managed, as other activities may be dependent upon having a preceding activity’s output in order to proceed.
- ▲ **Performance Reporting** – As activities are begun, in progress or completed and as work results (output) is generated, the project team and Project Manager will compile information as to the time expended, resources consumed, the costs associated with the work effort, deliverables or work results that have not been completed as planned, quality issues, or any project change requirements. This information will provide the basis for the performance reporting addressed in the Project Control Process Phase.

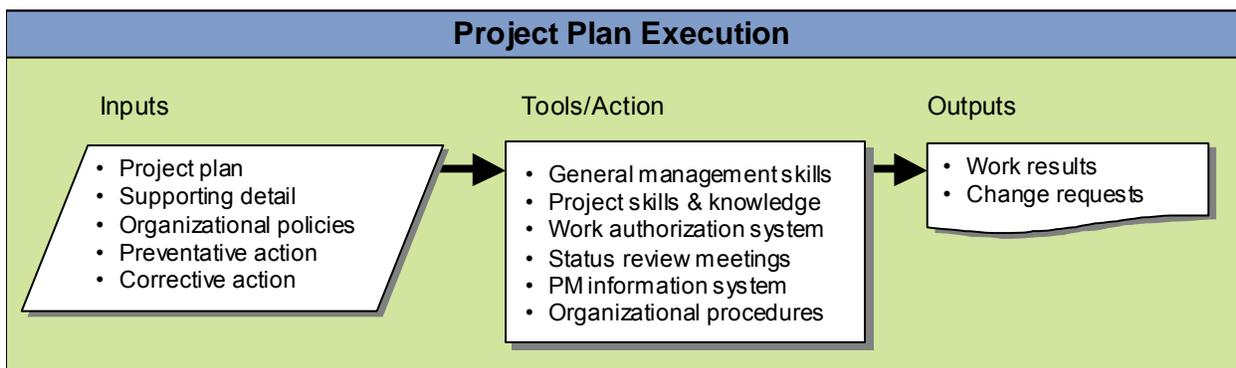


Figure B.28: Project Management Plan Execution Process Flow

B.17 Project Administration

Throughout the execution phase, documentation such as status reports, schedule variance reports, cost variance report and project performance reports are generated. Administration of this documentation becomes critical as this serves not only as a basis for ongoing performance evaluation but as a historical record documenting what happened during project execution, why it happened and is the foundation for project lessons learned and continuous improvement efforts.

Project records are business records and as such should be handled and administered according to the organizations policies and procedures. This requires discipline and organization. Too often, decisions are made while executing projects that do not get documented.

B.18 Performance Reporting

The performance reporting process (see Figure B.29) involves the collection of project data and information, the analysis of that data and information and the dissemination of that analysis to

key project stakeholders. The reporting reflects the success of the Project Manager and project team in the coordination and management of project resources to achieve project objectives and goals. It will also include any corrective or preventive action plans that the team will implement as the project progresses. Project Managers report project performance to OI&T on a monthly basis in accordance with the VA Monthly Performance Review process.

The basis of all performance reporting, analysis and resulting action plans are project metrics. These metrics are obtained from a variety of project processes and characteristics. Primary among these are:

- ▲ **Schedule Variance** – the quantification of any slippage, positive or negative, of the project schedule relative to the baseline.
- ▲ **Cost Variance** – the quantification of any differential in budgeted cost, positive or negative.
- ▲ **Quality Audit Results** – the documentation of quality audit results measuring the compliance or adherence of project deliverables to project quality requirements or criteria.
- ▲ **Resource Utilization** – the evaluation of resources applied or available to be applied to project activities.
- ▲ **Risk Monitoring** – Evaluation of the success of planned containment strategies, the use of contingencies if required and the identification and evaluation of any new risk events surfaced during the project.

Project metrics are collected primarily from project team members, project status and financial reports or activity results. Status reports typically provide a snapshot in time of the project indicating where the project lies relative to the project baseline.

The data analysis provides a more detailed picture of the project’s performance to date. In order to better understand the process for analyzing and evaluating performance, metric concepts and terminology must be defined and understood.

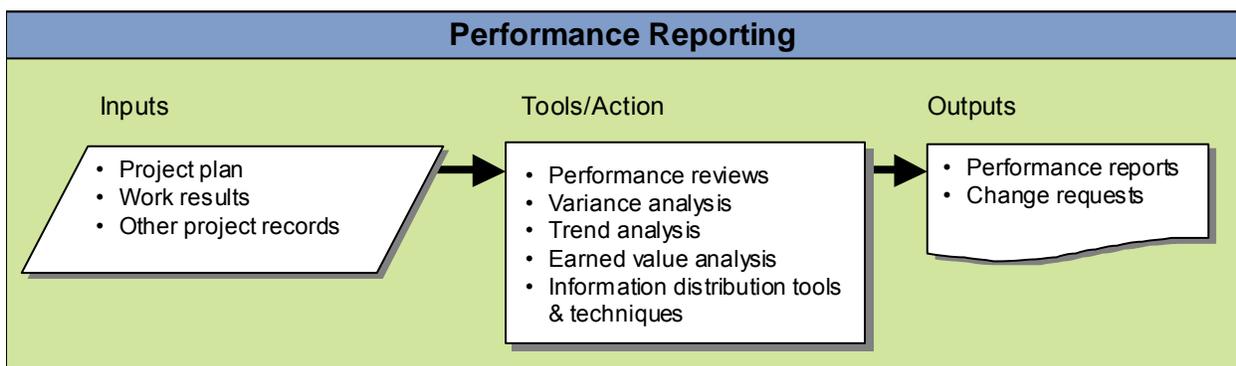


Figure B.29: Performance Reporting Process Flow

B.18.1 Performance Metrics

The following are brief descriptions of metrics typically used in evaluating project performance.

Planned Value (PV) – the cumulative budgeted value of the project for work *scheduled* to date. This will involve calculating the percentage of expected value for work in progress. PV is also known as Budgeted Cost of Work Scheduled or BCWS.

- ▲ **Earned Value (EV)** – the cumulative budgeted value of the project for work *completed* to date. This will involve estimating the percentage of completion of work in progress. EV is also known as Budgeted Cost of Work Performed or BCWP.
- ▲ **Actual Cost (AC)** – the cumulative actual cost of work *completed* to date. AC is also known as Actual Cost of Work Performed or ACWP.
- ▲ **Schedule Variance (SV)** – any difference between work *completed* and work *scheduled* to date. This is typically discussed or depicted in terms of time but is converted to a monetary value for purposes of evaluating performance. This is calculated as $SV = EV - PV$ and indicates the magnitude of variance.
- ▲ **Schedule Performance Index (SPI)** – a calculated indicator representing the schedule performance of the project to date. This is calculated as $SPI = EV/PV$. The ideal value of the index would be 1. Any value **greater** than 1 (i.e. 1.2) indicates the activity or project is **ahead** of schedule. Conversely, any value **less** than 1 (i.e. 0.9) indicates the activity or project is **behind** schedule.
- ▲ **Cost Variance (CV)** – the difference between the budgeted value of work *completed* and the actual cost of work *completed* to date. This is calculated as $CV = EV - AC$ and indicates the magnitude of variance.
- ▲ **Cost Performance Index (CPI)** – a calculated indicator representing the cost performance of the project to date. This is calculated as $CPI = EV/AC$. The ideal value, like the SPI, would be 1. Any value greater than 1 (i.e. 1.2) indicates the project cost **less** than planned (under budget). Any value less than 1 (i.e. 0.9) indicates the project cost is **greater** than planned (cost overrun or over budget).

The metric values derived above provide the basis for evaluating performance of the project to date.

B.18.2 Performance Evaluation

Variance is a measure of current state conditions compared to the original plan conditions. Cost and schedule variance are the two primary measures used to gauge project condition at a given point in time. Variance is an indicator that some aspect of the project did not meet plan expectations or projections. Refer to Figure B.30 and Figure B.31 for the Schedule and Cost Control processes.

Schedule Variance (SV) provides some information as to the project's adherence to the timing plan. Scheduled activities will be on target, behind or ahead of schedule targets. Evaluated on an activity-by-activity basis, it can provide insight into activities that were not planned correctly or that have been impacted by scope, quality or resource changes or issues. Activities that are ahead of schedule need to be evaluated just as activities that are behind.

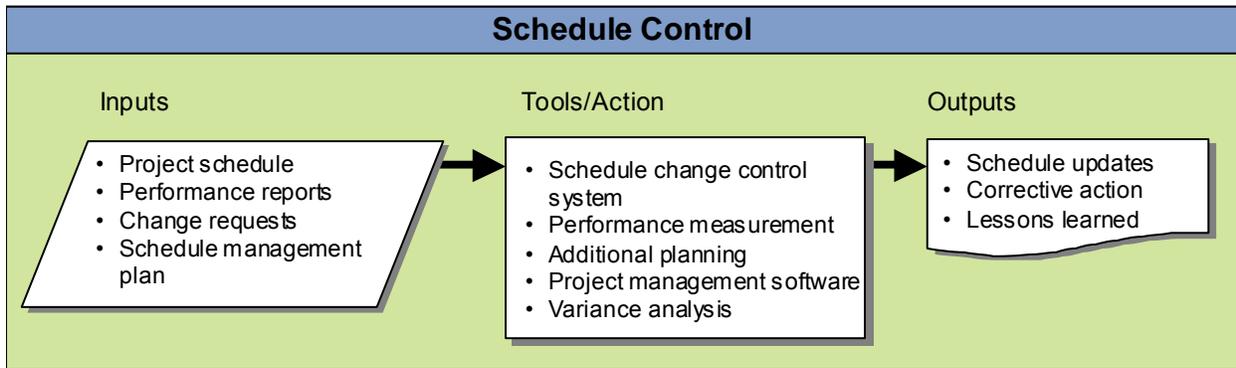


Figure B.30: Schedule Control Process Flow

The same can be said for Cost Variance (CV). Cost variance is considered a critical measure of project performance. Those activities that are both under and over budget need to be evaluated. The project team needs to evaluate the reasons for the variance in order to properly assess the need for corrective action plans and the downstream impact of the variance.

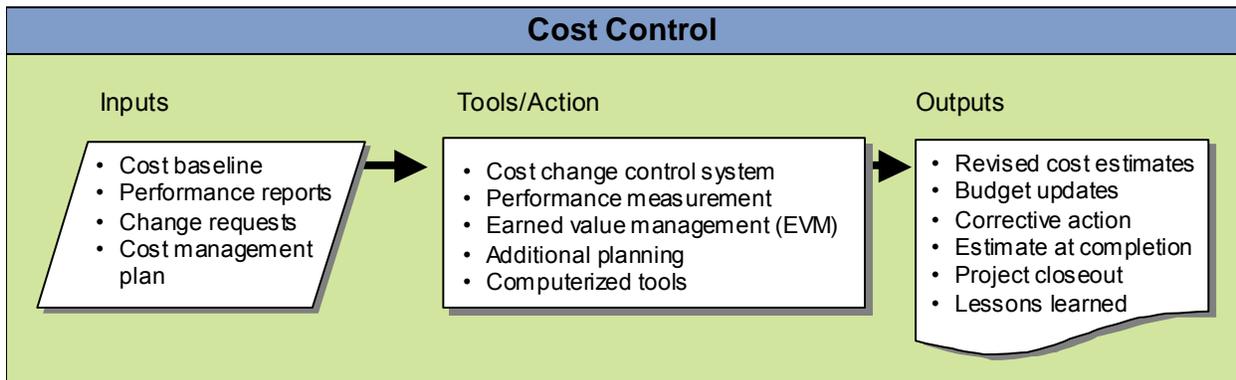


Figure B.31: Cost Control Process Flow

Figure B.32, below, represents a standard graphical method (S-Curve) of indicating cost performance.

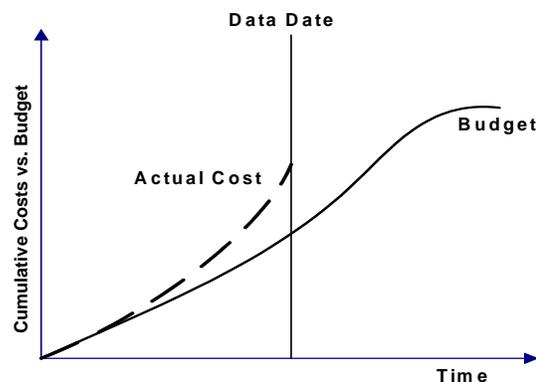


Figure B.32: S-Curve Illustration

Project costs will be on target, over or under budget. Activity costs that are under budget may indicate that all work necessary was not inclusive or completed. Quality Assurance and Quality

Control techniques will validate or verify this. An under budget condition may also indicate that planned resources were not necessary as originally estimated or that other resources were leveraged that exceeded planned performance. Conversely, cost overruns may indicate that more work or functionality was provided than planned. Overruns may have several causal factors, which need to be identified and understood.

The SPI and CPI provide the primary performance indicators but must be evaluated carefully. As with any indicator, the Project Manager and project team must analyze the information and understand what the indicator means.

For example, a project could have a “positive” CPI of 1.2 indicating that the project is under budget. The project may also have an SPI of 0.8 indicating that the project is behind schedule. In this instance the “positive” CPI might be an indicator that work was authorized but sufficient resources may not have been applied to that work resulting in an under budget/behind schedule result. In this case some corrective action plan should be developed or evaluated.

Likewise, it might also indicate that a scope change was realized that reduced the cost of the project deliverable (less resources required) but delayed the project as the team worked to accommodate the change. In this case the schedule delay may well be acceptable and only require that the project schedule be adjusted to reflect the change.

Conversely, a project could have a “negative” CPI of 0.8, indicating that the project is over budget while an SPI of 1.2 indicates that the project is ahead of schedule. This could indicate that more resources were leveraged during that period of time bringing the project forward but at greater expense. This may or may not be a “positive” result and would need further analysis.

If both indicators, SPI and CPI, are less than 1 (i.e. 0.8 & 0.9 respectively), the immediate conclusion is that the project is behind schedule and over budget. No conclusion can be drawn as to the severity of the apparent problem or the need for corrective action until more is known about the factors impacting the indices. This may “simply” be a case of the project plan being inadequate but other factors such as a change in scope, cost of resources, resource availability or quality criteria could be drivers for the “poor” performance.

If both indicators are greater than 1 (i.e. 1.2), this would be a good indicator that the project was not planned properly (too much cost and schedule reserve factored in) or that there has been a reduction in scope without the requisite attention to cost and schedule impact.

Another perspective on the SPI and CPI is to consider these as indicators of the project’s Return on Investment (ROI). If the CPI or SPI has a value of 0.9, for example, then for every dollar invested in the project, the return is 90 cents. If the value is 1.2, then for every dollar invested the return is \$1.20. Obviously the objective of the Project Manager and project team is to maintain an even or positive ROI.

While the SPI and CPI are good indicators of project performance, they do little to explain or identify performance causal factors. This is the function of the Project Manager and the project team. As can be seen from the discussion above, all factors relating to the project need to be considered and evaluated as to their impact on project performance. Positive or negative indices need to be understood in order for the project team to react and plan appropriately.

B.18.3 Predictive Performance Evaluation

With the current state performance indicators determined, the Project Manager and project team need to assess the potential impact and results of the project. One of the strong points of implementing a sound project control process is that the team can predict project performance and take pro-active action to ensure project success.

The performance factors determined above serve as the basis for evaluating expected performance and predicting project results. This process will involve the following:

- ▲ **Budget at Completion (BAC)** – the budget cost allocated to complete the project. This is the summation of budgeted costs for the project established during project planning and is the basis of the cost baseline.
- ▲ **Estimate at Completion (EAC)** – the estimated cost to complete the project based upon performance to date and projections calculated for the balance of the project. The basis for this calculation is dependent on the determination of variance causal factors.
- ▲ **Variance at Completion (VAC)** – the difference between the budgeted cost and the estimated cost to complete the project. This is calculated as $VAC = BAC - EAC$ and indicates an under budget or over budget projection.

The cost baseline, BAC, may change as a project progresses reflecting evaluated and approved changes in cost projections and budgeted amounts. Cost variances are not typically included in this value as these are actual performance results not budgeted values.

The Estimate at Completion (EAC) is not quite a straightforward determination but is dependent upon the evaluation of variance causal factors. Variances may be a result of several causal factors but typically fall into one of three categories:

- ▲ Variance due to a unique anomaly
- ▲ Variance due to poor planning and estimates
- ▲ Variance is considered “normal” and similar variances are expected throughout the balance of the project

In the first category, where the variance was caused by some anomaly that impacted performance, the EAC may simply be calculated by the summation of project costs to date plus the remaining budgeted costs.

In the second category, project performance to date may be considered so poor, or the original estimates considered so flawed, that it requires re-estimating the balance of the work in an attempt to derive a more accurate cost budget. The EAC would then be the summation of the costs to date plus the new estimated values.

In the third category, it may be determined that the performance to date falls within acceptable or marginal parameters and that the variances will be consistent for the remainder of the project. In this case EAC would be calculated by applying the CPI to the budgeted costs (cost baseline). The calculations would be $EAC = BAC/CPI$ or $EAC = BAC \times (AC/EV)$.

The VAC is a straightforward calculation, simply the difference between BAC and EAC derived above. This represents the magnitude of expected change in cost to complete the project at a given point in time. The VAC will change over the life of the project and must be monitored. During the project planning, acceptable cost variance thresholds were established and this value must be assessed against those threshold limits.

A large VAC may require the Project Manager and project team to revisit the project plan or request additional funding to complete the project. If this factor is monitored throughout the project lifecycle, expected changes are more easily identified and controlled.

B.18.4 Performance Evaluation Process

With the understanding of the concepts and terms described above, the process for evaluating project performance is actually straightforward. TeamPlay provides Earned Value information and OI&T has tools available to assist with the mathematical aspect of the evaluation. A simple spreadsheet (Figure B.33) depicts typical EV information.

The form is structured using the WBS and activity list developed during the project-planning phase. Budgeted costs are also included on the form (see Column (1) – Budget at Completion (BAC)).

Based on the data date of analysis, the schedule percentage of completion is entered (see Column (2) – Schedule % Complete). This represents the expected, planned results as of the data date.

During the project execution status reporting, determinations are made regarding the estimated percentage of completion for work in progress, an estimate of actual activity completion, not of expected completion (see Column (4) Estimated % Complete). This is not always a straightforward determination as many activities are difficult to assess regarding percentage of completion. Nonetheless, the activity owner must make some determination as to the current state of progress.

Activity	Cost Budget (BAC)	Sched. % Comp.	Planned Value (PV)	Est. % Comp.	Earned Value (EV)	Actual Cost (AC)	Schedule Variance (SV=EV-PV)	Cost Variance (CV)	Schedule Performance Index (SPI=EV/PV)	Cost Performance Index (CPI=EV/AC)	Estimate at Completion (EAC=BAC/CPI)	Variance At Completion (VAC=BAC-EAC)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
A	3,000	100%	3,000	100%	3,000	2,950	–	50	1	1.02	2,950	50
B	4,000	100%	4,000	100%	4,000	4,200	–	(200)	1	0.95	4,200	(200)
C	2,500	100%	2,500	100%	2,500	2,700	–	(200)	1	0.93	2,700	(200)
D	5,000	100%	5,000	100%	5,000	4,800	–	200	1	1.04	4,800	200
E	6,500	70%	4,550	55%	3,575	3,900	(975)	(325)	0.79	0.92	7,091	(591)
F	5,500	40%	2,200	30%	1,650	1,950	(550)	(300)	0.75	0.85	5,716	(216)
G	7,000	0%	–	0%	–	–	–	–			7,275	(275)
H	3,500	0%	–	0%	–	–	–	–			3,638	(138)
I	4,500	0%	–	0%	–	–	–	–			4,677	(177)
J	7,500	0%	–	0%	–	–	–	–			7,795	(295)
Project	49,000		21,250		19,725	20,500	(1,525)	(775)	0.93	0.96	50,841	(1,841)

Figure B.33: Project Performance Evaluation

Planned Value (PV) is calculated by applying the scheduled percentage of completion against the cost budget.

Earned Value (EV) is calculated by applying the estimated percentage of completion against the Planned Value (PV).

If the spreadsheet is formulated, the values for the remaining columns will be calculated automatically. The formulas required are those identified in the previous discussion regarding Performance Metrics and Predictive Performance Evaluation.

In the example shown in Figure B.33, it can be seen that the project is running behind schedule and over budget. Activities B and C were over budget but are complete. Activities E and F are behind schedule and over budget. The project summary calculates that the SPI (0.93) and CPI (0.96) which indicates that the project in general is schedule and over budget. Depending on the threshold limits established during the planning phase, the CPI and SPI may be within acceptable limits and not require corrective action but will require continued effort and monitoring to ensure that project performance does not worsen.

The forecasting capability of this process is also shown on the chart. The formulated spreadsheet has calculated the expected cost of completing the project given the performance to date, showing that the cost of each remaining activity is expected to be over budget. Again, this projected overage may be within project threshold limits and would need to be evaluated accordingly.

The current Variance at Completion indicates that the project will be \$1,841 over budget, a variance of less than 1%. This may well be within the project reserve amount.

B.18.5 Other Performance Evaluation Metrics

In addition to the schedule and cost performance evaluations project teams need to assess performance in other critical areas:

- ▲ **Risk Monitoring** – The Project Manager and project team need to assess the success of any containment strategies implemented during the project (see Figure B.34). Criteria and measures identified during the risk planning process will provide baseline indicators of success. If risk events occur, regardless of the containment strategy, the impact of the event must be determined.

The purpose of risk monitoring, according to PMBOK, is to determine if:

Risk containment strategies have been implemented as planned.

Risk containment strategies are as effective as expected, or if new strategies should be developed.

Project assumptions remain valid.

Risk exposure has changed from its prior state with analysis of trend data.

A risk trigger event has occurred.

Proper policies and procedures are followed.

Risks have occurred or arisen that were not previously identified.

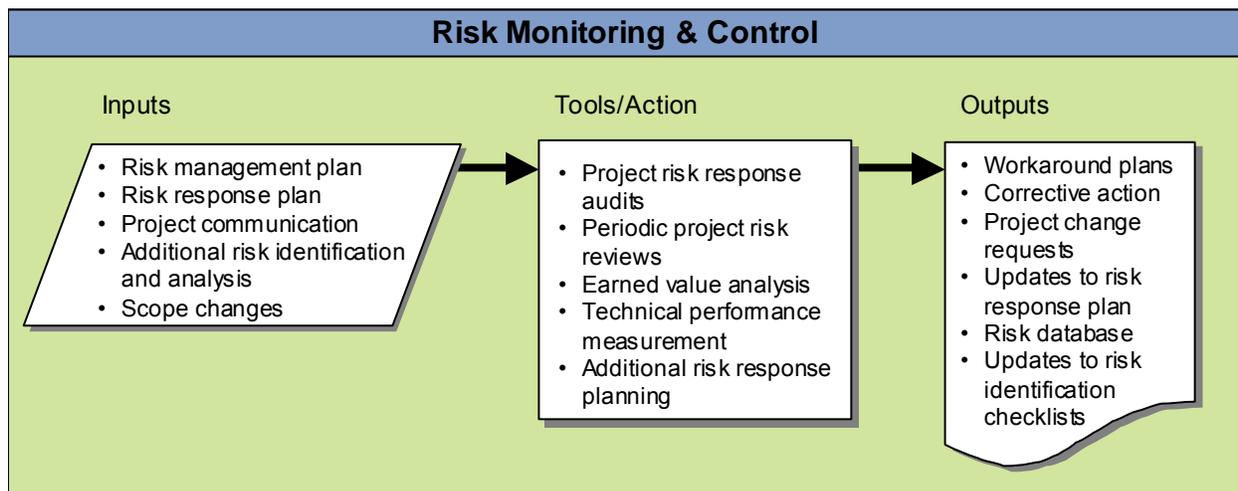


Figure B.34: Risk Monitoring & Control Process Flow

- ▲ **Quality Audits** – While the Quality Assurance (QA) process has been an integral part of the execution process managing the inclusion of quality within the product, the Quality Control (QC) process (see Figure B.35) verifies and validates that deliverables meet project requirements. The QC process evaluates the correctness of the output in meeting project objectives and criteria. Quality audit reports provide a basis for evaluating the successful completion of deliverables and establish the acceptance validation for the customer.

Results of quality audits will provide quality improvements, validate compliance of the deliverable with quality requirements, identify necessary rework or identify necessary process revisions or adjustments.

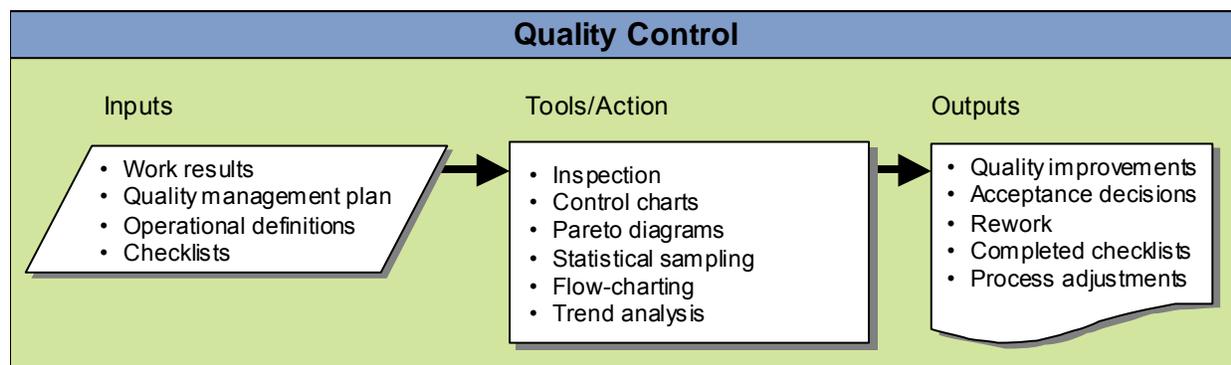


Figure B.35: Quality Control Process Flow

- ▲ **Scope Verification** – Scope Verification is the process within which acceptability of the project’s deliverables is determined and formalized (see Figure B.36). This is a different process function than Quality Control as this process verifies that the deliverables were completed correctly and are acceptable to the customer. The result of this process is formal acceptance by the customer of the deliverable. This should occur as each project deliverable is completed, which will provide a measure of completion progress throughout the execution of the project. Should, for any reason, the project be cancelled, this provides a verifiable measure of completion and achievement.

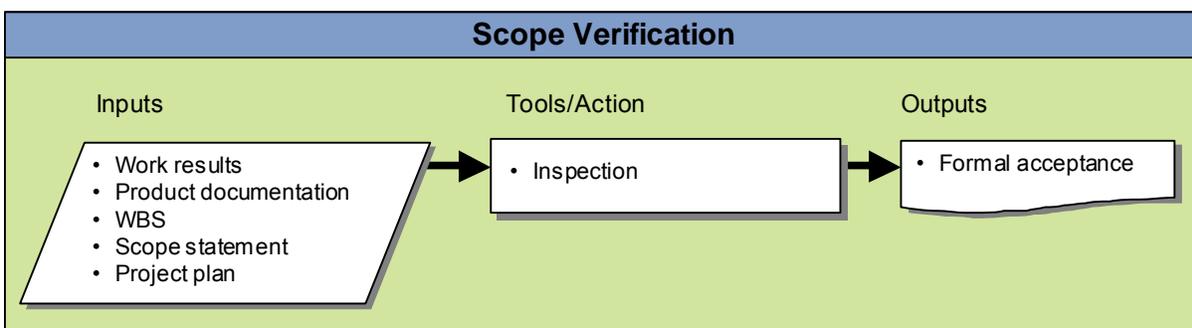


Figure B.36: Scope Verification Process Flow

All project deliverables and the final end product must meet the customer requirements and project objectives. The Project Execution and Control Process Phases are not complete and will not conclude until such time as these requirements are met fully.

- ▲ **Resource Utilization** – As the project progresses, the resource planning and commitments need to be reviewed. Resource reporting will provide reconfirmation of availability and commitments as well as assist in the identification of any potential staffing issues. Resource staffing levels that are not meeting current needs will require corrective action. See Figure B.37 for an example of a staffing plan and utilization chart.

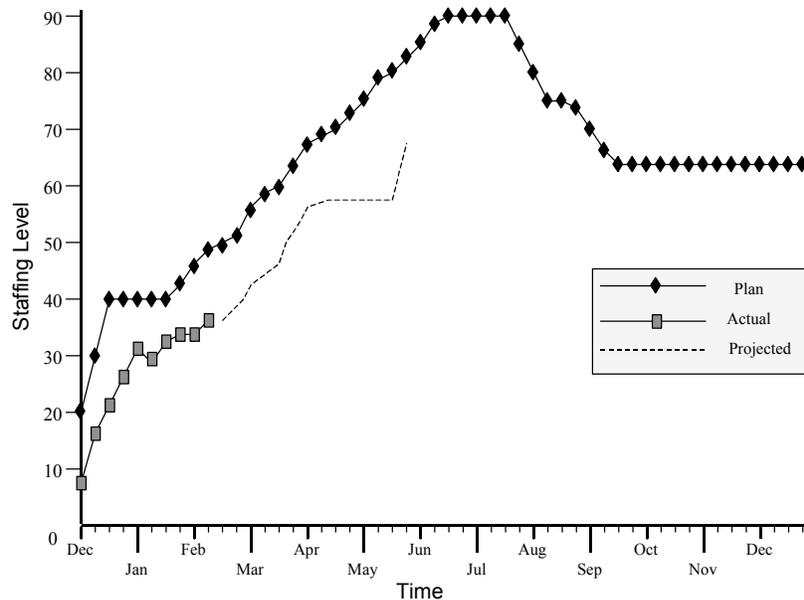


Figure B.37: Example Resource Staffing Chart

B.18.6 Output from Performance Evaluation

The primary outputs from the Performance Evaluation process will be the current assessment of the project, corrective action plans identified and developed to address variance and change requests.

Project Performance reports should have been developed during the project planning phase and will most likely consist of several variants based on the audience or recipient. Management reports may contain high-level information and data with attendant corrective actions while project team reports may contain more information and specifics. Customer reports should contain validation of schedule targets, quality compliance information and any identified issues.

Corrective action plans are changes made to bring expected future performance of the project in line with the plan and will address schedule or cost variances as necessary as well as address any quality audit deficiencies.

Change requests will be generated affecting scope, schedule, costs, risk, and/or quality requirements. These generally will address changes required to meet project requirements as situations develop and as a result of corrective action requirements. All changes will be elevated to the Integrated Change Control Process and the Change Control Board for review and evaluation, resulting in rejection or approval.

B.18.7 Implementing Project Performance

Project Performance (see Project Control Process Phase) is monitored relative to the planned and baselined schedule. Schedule updates must indicate actual current state of the project and will serve as an indicator of project progress. Schedule performance is a measure that will indicate to the team projected timing. Schedule variance reports will be generated and potential changes to schedule will be identified.

CLOSING

B.19 Closing

Several key elements to Project Closing are:

- ▲ Re-distribution of resources – staff, facilities, equipment, and automated systems
- ▲ Closeout of any financial issues such as labor charge codes
- ▲ Completing, collecting, and archiving project records
- ▲ Completing the final project performance report and final project review
- ▲ Completing contract closeout
- ▲ Completing administrative closeout
- ▲ Obtaining customer acceptance
- ▲ Documenting lessons learned
- ▲ Celebrating the success of the project

B.19.1 Re-distribution of Resources

If personnel have been applied against the project on a full time basis, when the project comes to an end, it is important to get the people back into the available resource pool as quickly as possible. This will ensure the people stay busy and that other projects with the VA do not fall short of resources. This effort also includes closeout of the labor charge codes (if necessary).

If the project team has occupied VA facilities for a long period of time during the project, it is a good idea to let the controlling facilities personnel know that the space will be come available.

B.19.2 Closeout Project Financial Records

All financial information should be available and the finance aspect of the project closed out. A review of all invoicing, purchasing, costs and cost performance should be conducted to assess project performance and ensure that all project costs were recorded.

B.19.3 Archive Project Records

Historic project data is an important source of information to help improve future projects. In many situations, archiving and safeguarding project records is a requirement and may have specific retention requirements associated with the records. The project team must compile and archive project records completely and according to organization or, possibly, regulatory requirements.

The specific information that is archived for a project will vary. Typically, the following project information is archived:

- ▲ Project Notebook
- ▲ Project Charter

- ▲ Project Management Plan
- ▲ Project Records
 - Financial records
 - Cost and schedule performance reports and records
 - Quality data
 - Correspondence
 - Meeting Notes
 - Status Reports
 - Issue and Action Log
 - Risk Log
 - Contract Files
 - Change Requests
 - Technical documents
 - Acceptance records

All hard copy records should be stored following standard record retention guidelines. The project archive includes a description of the files being submitted, the application (including version) used to create the archived materials, and a point of contact if further information is needed.

Since there is such a vast amount of data that can be stored, the project team should avoid archiving redundant information wherever possible. Iterative information, such as cost and schedule performance reports, may not need to be stored. Consider archiving only the baseline document, reports at major project milestones and the final update and performance information.

B.19.4 Final Project Performance

The Project Manager should prepare a final project performance report with input from the project team. This report should summarize and encapsulate the project's scope management, schedule performance, cost performance, quality achievements and a review of the risk containment performance. It should include an analysis of overall project performance, documenting what went well and what did not go well. If the project was completed with any schedule or cost variance, the reasons for these variances should be analyzed and noted. If for any reason the project was terminated early, the report should include an analysis of reason affecting that decision.

B.19.5 Final Project Review

The Project Manager, project team and key stakeholders should conduct a final review of the project. This discussion should be open and target learning and continuous improvement suggestions or recommendations. If the project went well, this meeting will set the stage for recognition of success. If the project did not go well, this meeting will set the stage for

improving future projects and project performance. This could be accomplished at the Milestone 4, Post Implementation Review.

B.19.6 Contract Closeout

Contract Closure is the process of bringing contractual agreements with outside suppliers to an end. These contracts may be vehicles for providing technical support, consulting or any number of services supplied during the project. This typically represents the completion of all contract requirements but at times may address termination of a contract for other reasons. Refer to **Figure B.38** for this process.

- ▲ **Contract Documentation** - In order to close a contract it is important to collect all of the pertinent documentation for review. This will include the original contract and any supporting documentation such as communications, schedules, contract changes, performance reports, shipping manifests, invoices, etc. This documentation must be reviewed thoroughly to insure that there are no unrealized contract issues.
- ▲ **Contract Review & Open Issue Resolution** - The Project Manager or responsible project team member should review all contract documentation for compliance with contract terms and completion. Any open issues or items must be documented and addressed by the contractor prior to contract closure. All contract requirements must be completed and verified with acceptance documentation completed.

This process may involve an audit depending upon the size and complexity of the contracted services.

- ▲ **Contract Closure Documentation** - The Project Manager, purchasing or procurement authority or designated project team member should provide written notice to the contractor that all terms have been met and that the contract is formally closed. This should be the authorization for final invoicing (depending on the contract agreement). All contract documentation should be included in the project records and prepared for archiving.

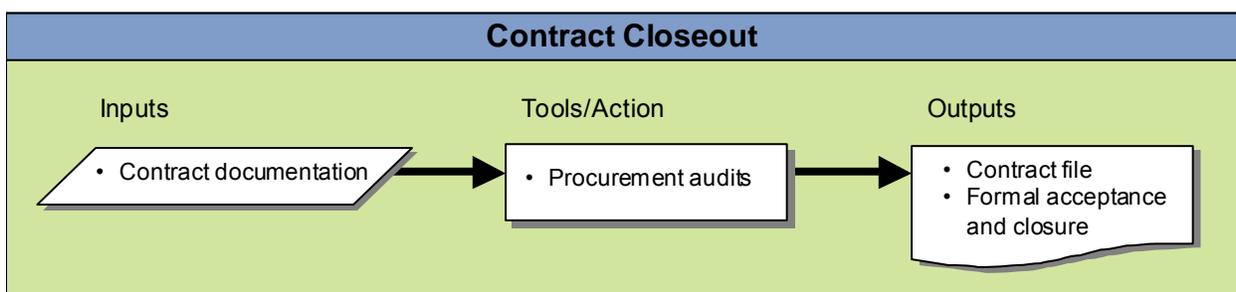


Figure B.38: Contract Closeout Process Flow

B.19.7 Administrative Closure

Administrative Closure is the process (see Figure B.39) within which the Project Manager and project team formally close the project. It involves finalizing all project documentation, obtaining formal acceptance of project deliverables and end product from the customer,

analyzing the project performance, preparing the final project performance report and compiling and archiving the project documents.

The Project Manager and project team need to take the time necessary to complete this process thoroughly. Much information and many lessons learned could emanate from this process that will aid in the planning and execution of future projects. Knowledge management is the key output and too often this is minimized.

Depending upon the complexity and structure of the project, much of the administrative closure can take place as project phases are completed. This aids in the final closure process as information is retained and recorded on an ongoing basis rather than attempting to recall specifics at the very end of the project.

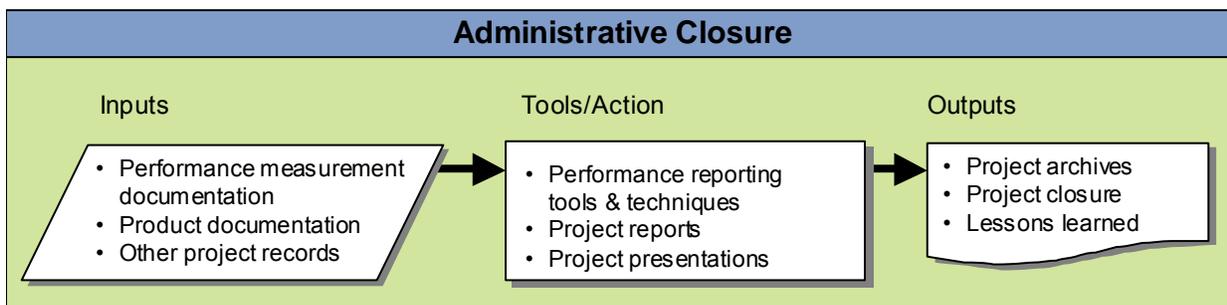


Figure B.39: Administrative Closure Process Flow

B.19.8 Formalizing Customer Acceptance

One of the most important steps in achieving project closeout is the formal acceptance of project deliverables and end products by the customer. This process should be concluded with a formal review meeting with the customer, documenting the final products, closing any open issues or concerns, and reviewing the quality information validating adherence and achievement of project goals and objectives. Any open financial or contractual issues should also be closed prior to or during this meeting. If any issues remain open, the project cannot be closed and remains active until complete customer satisfaction is achieved.

B.19.9 Documenting Lessons Learned

The Project Manager, project team and key stakeholders should conduct a lessons learned review meeting to conclude the project. A lesson learned session is a valuable closure and release mechanism for team members, regardless of the project's success. Some typical questions to answer in such a session include:

- ▲ Did the delivered product meet the specified requirements and goals of the project?
- ▲ Was the customer satisfied with the end product?
- ▲ Were the customer and key stakeholders satisfied with the management of the project?
- ▲ Was the cost budget accurate and did the project meet cost targets?
- ▲ Did the baseline schedule reflect accurately the work activities necessary to complete the project?

- ▲ Were risks accurately identified and were the containment strategies effective?
- ▲ Were the management reserves and contingency planning appropriate?
- ▲ Was project staffing resources appropriate?
- ▲ Are there areas that could be improved and, if so, what areas and how?
- ▲ What could be done to improve the process?

Such a session provides official closure to a project. It also provides a forum for public praise and recognition and offers an opportunity to discuss ways to improve future processes and procedures.

Problem identification on completed projects provides a method to discuss and document project issues encountered in hopes of eliminating their occurrence in future endeavors. It is important, however, that the problem discussions do not merely point a finger at some other target than the project team. Responsibility and ownership for problem areas are critical to developing useful recommendations for future processes.

All lessons learned should be documented describing the issue or action, the action taken to address it and the success of the action taken. Items may also be categorized in a number of ways to aid in future retrieval, or the organization may have standards that the project team should follow. This should be an open document available for review to benefit other project teams.

APPENDIX C – VA IT PROJECT MANAGEMENT FORMS

	Project:
	Concept Paper
	Date:
	PM/POC:
	Approver: signature
	Name & Title

The Concept Paper will be submitted to the CIO/CFO or Deputy Secretary for review. The reviewing official will determine whether the project should go forward to the Senior Management Council (SMC) or be tabled, reworked, etc.

The following are suggested sections for the Concept Paper BY 06

1. Concept Name	Provide the name of the project or organization that will solve a problem or improve VA services.
2. Statement of Need	Briefly describe the problem that will be solved.
3. How will this project solve the problem?	Briefly state the rationale behind this project and why you believe the effort will address the business problem. Suggested area to discuss: <ul style="list-style-type: none"> ▲ “People” Deliverables and Services ▲ “Processes” Deliverables and Services ▲ “Tools” Deliverables and Services
4. Acquisition Strategy	Briefly describe how you intend to acquire the resources needed for this project.
5. Costs	What is the five year rough order of magnitude? <i>High Level Cost:</i> in rough terms, what will it cost to do this project?
6. Benefits	What sort of benefits will accrue to your organization, and to VA, if this project is selected?

	Project:
	Project Management Plan
	Date: XX March 2004
	PM/POC:
	Approver: signature
	Name & Title

The following sections constitute the core areas of the Project Management Plan.

General Project Information	Points of Contact:			
	Position	Name/(department/division/agency)	Phone	E-mail
	Project Manager			
	Senior Management Sponsor			
	Senior Technical Sponsor			
	Procurement Contact			
	Project Team Members:			
	Customers:			
	Other Stakeholders:			
	Other:			
	Prime Contractor Information:			
	Company:			
	Position	Name	Phone	E-mail
	Project Manager			
	Senior Technical Sponsor			
Contracts Contact				
Other:				
Executive Summary	<p>Approach: Provide an executive level overview of the project management plan: identify the business need or problem, identify the project goals and objectives, and define the management strategy used to implement the project.</p> <p>Business Need/Problem: State the business problem/issue the project will solve.</p> <p>Project Objectives: Provide a brief, concise list of what the project will accomplish.</p>			

Organizational Breakdown Structure	<p>Provides an work package based organization chart that defines the communications channels, responsibilities, and the authority of each participating person/unit.</p> <p>Create a blank ‘tree’ type diagram that looks similar to a Work Breakdown Structure, in order to prepare to assign responsibility for work packages. A spreadsheet type with all the elements of the Work Breakdown Structure listed, including work definitions, is a suggested format. (see sample in [OBS section])</p>
Work Breakdown Structure	<p>The project Work Breakdown Structure (WBS) organizes the project by major functions (project management, software design, quality control, etc.), continuous processes (status reporting, financial reporting, etc.), and primary deliverables. It decomposes the work to the level where the actual work is done and labor costs are tracked. The format can be a tree diagram that resembles an organization chart or an outline format that can be accomplished in a spreadsheet format. It is extremely important to have a consistent numbering systems that can tie the WBS to the budget and schedule. A typical numbering format envisions the 1.1.1.1 style, where each number represents a new level of indenture. (see sample in [WBS section])</p>
Project Schedule	<p>Following the definition of project activities, the activities are associated with time to create a project schedule. The Project Schedule provides a graphical representation of predicted tasks, milestones, dependencies, resource requirements, task duration, and deadlines. The Project Schedule should be detailed enough to show each Work Breakdown Structure task to be performed, the name of the person responsible for completing the task, the start and end date of each task, and the expected duration of the task. The Work Breakdown Structure lowest level work packages can be further decomposed into schedule tasks.(see [Project Schedule section])</p>
Project Requirements and Scope Statement	<p>See Project Scope Statement Template.</p>
Cost Estimating	<p>Using the OBS, WBS and the project schedule, cost estimates are developed for the lowest level of the WBS where costs are tracked (this can called the work package level or cost account level – it has also been defined as the level where the OBS intersects with the WBS, thereby identifying responsibility for a portion of the project work). The cost estimates are used during project justification briefings and become the time phased budget used to measure cost performance (see Cost Management Plan). Additional inputs to cost estimating include resource estimates and risk assessments. Cost estimates should also incorporate a coding structure that can be applied to TeamPlay and the organization financial tracking system.</p>

PROJECT MANAGEMENT PLAN DOCUMENTS SUMMARY

Project Management Plan Subsidiary Documents	<p>The following documents are developed when needed during the project life cycle and managed as subsidiary parts of the Project Management Plan. Separate forms are provided aid development of the subsidiary documents:</p> <ul style="list-style-type: none">▲ Staffing Management Plan▲ Risk Management Plan▲ Procurement Management Plan▲ Quality Management Plan▲ Communications Management Plan▲ Change Control Plan▲ Cost Management Plan▲ Scope Management Plan▲ Schedule Management Plan
---	--

	Project:
	Scope Statement
	Date: XX March 2004
	PM/POC:
	Approver: signature
	Name & Title

The following sections constitute the core areas of the Scope Statement.

Purpose of Scope Statement	Describe the purpose of the scope statement using the following guidelines: The Scope Statement is distributed to all the project stakeholders for their approval. It documents a description of the project, including the objectives, planned deliverables, and requirements. It becomes the baseline document that can only be changed through the process outlined in the Scope Management Plan.
Project Business Need	Provide the justification in terms of the problems the project will address and/or the improvements it will implement. The business need impacts the ability to assess project alternatives.
Project History	Provide a short narrative of the events that lead up to project approval. This helps to put the project description into context and supports the rest of the document.
Project Description/ Objectives	Describe the project in terms of strategy, timing, objectives and deliverables.
Project Product Requirements	Provide a description of the project's product or service, its use, technical parameters, requirements, etc.
Project Deliverables	Provide the stakeholders a list of the project deliverables.
Project assumptions and constraints	For assumptions describe details that are considered to be true or certain that impact the success of the project. Examples would be available critical personnel or funding. For constraints describe factors the impact the project such as: budget limitations, organizational policies, statutes or regulations.
Quality Assurance Manager Activities	Generally describe the activities of the QA manager as they relate to specific deliverables. What will the QA manager do to supplement the testing and acceptance process?

Signature Page	The Scope Statement is distributed to all the project stakeholders for their approval. Signature blocks should be provided for the project sponsor, the project manager and the primary resource managers from organizations such as project users, system owner, procurement, human resources, finance, enterprise architecture and others as appropriate.
-----------------------	---

	Project:
	Scope Management Plan
	Date: XX March 2004
	PM/POC:
	Approver: signature
	Name & Title

The following are suggested sections for the Scope Management Plan

Purpose of Scope Management Plan	Describe the purpose of the Scope Management Plan using the following guidelines: The Scope Management Plan discusses the development, baseline and control of the WBS, the primary scope management tool. The Scope Management Plan also describes how scope changes will be managed and integrated into other project areas, such as cost and schedule.
Executive Summary	Approach: Provide an executive level overview of the project: identify the business need or problem, identify the project goals and objectives, and define the management strategy used to implement the project.
Work Breakdown Structure (WBS) Development	The plan should discuss the process the project will follow to develop the WBS (an outline or graphical depiction of the project scope). The development process involves deciding on an approach (usually top-down), involving team members who will accomplish the work (tasking them for inputs, meetings), creating a numbering system, including financial system codes and budgetary information, and deciding where to capture costs (work package level). A thorough understanding and buy-in of the WBS from the project team and supporting organizations is essential.
Scope Baseline	Describe the process for establishing the scope baseline (essentially freezing WBS development). The formal process to insure the project team and stakeholders understand the WBS and are supportive of it's layout. The baselined WBS can then become the backbone for establishing a detailed project schedule and cost accounting system. The integrated change control process must be followed to initiate further changes or revision to the WBS. (schedule, budget, risk database, requirements, acquisition plan, etc.) if rebaselining occurs. Discuss the possible use of a Change Control Board (CCB).
Scope Change Control Process	Describe the scope (WBS) change control process as it pertains to project integrated change control. Discuss the likelihood that WBS changes will be necessary. As an example, progressive elaboration of the project product can lead to changes to the WBS. Discuss the frequency of anticipated changes. Describe how scope changes will be identified classified and

assessed (major cost and schedule impact, minor impact, no impact, etc). Do scope changes require changes to the scope statement, WBS, or schedule? Include a process for tracking scope changes, continuously evaluating the overall impact of changes, and reporting changes to sponsors, senior management, stakeholders, project team members (immediately, at status reviews, etc.). Discuss the triggers for rebaselining the WBS and process for revising project documents (schedule, budget, risk database, requirements, acquisition plan, etc.) if rebaselining occurs. Discuss the possible use of a Change Control Board (CCB).

	Project:
	Schedule Management Plan
	Date: XX March 2004
	PM/POC:
	Approver: signature
Name & Title	

The following are suggested sections for the Schedule Management Plan

Purpose of Schedule Management Plan	Describe the purpose of the Schedule Management Plan using the following guidelines: The schedule management plan should describe who owns and manages the project schedule. The plan puts processes in place that control schedule change, updating and analysis and it describes the process for establishing a baseline schedule.
Executive Summary	Approach: Provide an executive level overview of the project: identify the business need or problem, identify the project goals and objectives, and define the management strategy used to implement the project.
Using TeamPlay	Describe the use of the TeamPlay software to develop and manage project schedules. Explain the conventions to be followed by the project team when developing project schedules (using the project WBS, recommended project calendars, report formatting, when and if to add task resources, limits on developing schedules for the project master schedule, applying durations to tasks, assigning task owners, software switches that facilitate merging schedules, fields to input project data like costs, etc.)..
The Schedule Change Management Process	Describe the timing and the actions required to baseline the schedule. Describe the process for review and authorization of schedule changes after the schedule has been baselined. Describe the schedule update process, review and cutoff dates. Discuss the integration of schedule change management with the integrated change management process. Include the use of the change management forms.
Schedule Uses and Reporting Requirements	Describe how the schedule is used for project performance measurement (variances, estimates to complete, etc.). Describe the various reporting cycles that require the schedule to be regularly updated (monthly status reporting, milestone briefings, OMB reports, etc.). Describe how resourced schedules will be used to calculate and evaluate work costs and budgets for project organizations.

	Project:
	Integrated Change Control Plan
	Date: XX March 2004
	PM/POC:
	Approver: signature
Name & Title	

The following are suggested sections for the Integrated Change Control Plan

Purpose of Integrated Change Control Plan	Describe the purpose of the Integrated Change Control Plan such as in the statement below: The Change Control Plan describes the processes, tools and responsibilities for controlling the necessary changes to project scope, cost and schedule. The plan discusses change identification, submission, authorization and implementation. The plan identifies the tools used to track, document and communicate project changes.
Executive Summary	Approach: Provide an executive level overview of the project: identify the business need or problem, identify the project goals and objectives, and define the management strategy used to implement the project.
Review and Approval Process	Describe the process to identify change in the project scope, cost and budget. Describe the change approval authorities and review boards that will process project change control documents. An example may be a change control board made up of leaders in various project disciplines such as project management, cost, scheduling, configuration management, technical design, and test. Sponsors, system owners and users should also be considered. A process flow chart is appropriate for this section. (see the notional flow chart in the Change Control section)
Change Thresholds	Describe the limits that trigger the change control process for scope (WBS), cost, schedule and possibly resources. An example may be critical WBS elements where costs exceed 10% of budget. Or perhaps a schedule element that is falling behind and will require additional resources to meet a critical deliverable.
Change Identification, Documentation, Implementation and Reporting	Describe the initiation of a change control form and the documentation required to track a request. Describe automated tool used to manage and track changes and identify the process for entering and reporting changes. Also, if the project has a change control board, describe the process for preparing the agenda and communicating results to the stakeholders. Describe the process for updating the WBS, schedules and budget/cost documents with approved changes. If the baseline for these documents changes, describe the means for capturing the baseline change in the Monthly Performance Reporting Process, the Milestone briefing process and the OMB Exhibit 300 process.

	Project:
	Change Request Form
	Date: XX March 2004
	Requestor:
	Change Control Number:

1. Change Request Information

<p>Proposed Change Description and References: The requestor will provide information concerning the requested change along with any supporting documentation.</p>
Justification:
Impact of Not Implementing Proposed Change:
Alternatives:

2. Initial Review Results of Change Request

<p>Initial Review Results: Review Date: _____ Assigned To: _____ Organization: _____ ___ Approved for Implementation ___ Rejected ___ Deferred Until: _____ Reason:</p>

3. Initial Impact Analysis

<p>Baselines Affected: Configuration Items Affected: Cost/Schedule Impact analysis Required? ___ No ___ Yes Impact on Cost: Impact on Schedule: Impact on Resources: Final Review Results: Review Date: _____ Classification: ___ HIGH ___ MEDIUM ___ LOW</p>

4. Final Review Results and Change Priority

Reviewing Body:

Name: _____ Position: _____ Signature: _____

Change/Issue Proposal Title: _____

Change/Issue Proposal Date: _____

Change/Issue Proposal Number: _____

Originator: _____

Organization: _____

Detailed Impact Analysis Requested By: _____

Assigned To: _____

Organization: _____

Specific Requirements Definition:

	Project:
	Staffing Management Plan
	Date: XX March 2004
	PM/POC:
	Approver: signature
	Name & Title

The following are suggested sections for the Staffing Management Plan

Purpose of Staffing Management Plan	Describe the purpose of the Staffing Management Plan using the following guidelines: The Staffing Management Plan that defines the project organization, resource planning (people) and process for managing project staffing. It describes when and how human resources will be brought onto and taken off of the project.. The Staffing Management Plan provides for orderly and efficient management of human resources within the context of the overall Project Management Plan
Executive Summary	Approach: Provide an executive level overview of the project: identify the business need or problem, identify the project goals and objectives, and define the management strategy used to implement the project.
Project Organization	Describe the project organization including the project team and stakeholders. Include the roles and responsibilities of the team members and stakeholders. An OBS may be developed indicating the responsible personnel, the department or functional area, the specific activities of responsibility and may include the associated budget allocation.
Resource Requirements	An outline of the resource requirements needed to execute the project. In many cases it is possible to define this based on areas of responsibility or technical capability. Identified areas such as engineering, software development, system engineering, etc. should be listed as well as the necessary skill sets and expertise required within each area
Resource Staffing Plan	Describe what resources are required and when they are required. This should be graphical in nature and indicate the time phased resource loading. This is the basis for managing resources and serves to assure that the project is resource loaded properly.
Resource Constraints	Document any known constraints regarding resources. Constraints may be project based, defining specific requirements and limitations within the project objectives, or organizationally based, defining limitations or requirements of the organization to adequately staff the project and meet project requirements and needs.

Staffing Reports	Define the reporting frequency and requirements during execution of the project. Indicate on a time phased basis what resources are required and when.
Staffing Contingency Plans	Describe the process for developing contingency plans providing alternatives should critical resources not be available when required.
Training Requirements	Specialized training may be identified and required for project team members or staffing. These requirements should be defined and planned into the project.

	Project:
	Quality Management Plan
	Date: XX March 2004
	PM/POC:
	Approver: signature
Name & Title	

The following are suggested sections for the Quality Management Plan

Purpose of Quality Management Plan	Describe the purpose of the Quality Management Plan using the following guidelines: The Quality Management Plan uses the organization quality policy and industry standards to describe the processes the project will use to accomplish project quality assurance and quality control. It describes the criteria used to determine acceptable products and the processes used to control quality during the development, deployment and operational phase of the project.
Executive Summary	Approach: Provide an executive level overview of the project: identify the business need or problem, identify the project goals and objectives, and define the management strategy used to implement the project.
Quality Policy	Describe the organizations quality policy or the policy adopted for the project. Quality policy might involve document preparation standards, status reporting standards, levels of communication standards for project events, contracting standards, development and testing standards, etc.
Quality Management Approach	Describe how the project team will implement the quality policy and achieve the project quality standard. Include the quality criteria identified during the quality planning process.
Quality Assurance	Describe the project quality assurance process which include the test and acceptance processes, documentation and operational support transitions, milestone checklist, the requirement verification process, schedule and communication activities, and continuous improvement processes. (see example of a Quality Management Process Model in the Quality Management Plan section)
Quality Control	Define in-process control processes which address quality assurance activity areas. Describe how control information will be collected and how the information will be used to control processes and deliverables. Describe the periodic quality audits and reviews and how variances from acceptable criteria will be reported and resolved.
Quality Change Review and	Describe the organization and process for evaluating and assessing proposed quality changes. Define the authority for accepting and approving changes in

Approval Process	quality, which may include the customer. Note: the change review and approval process should be contained within the Project Integrated Change Control Process and referred to in this section.
Project Team Quality Responsibilities	Describe quality-related responsibilities of the project team including specific tasks such as acceptance test, audit, review and checklist responsibility assignments.

	Project:
	Risk Management Plan
	Date: XX March 2004
	PM/POC:
	Approver: signature
Name & Title	

The following are suggested sections for the Risk Management Plan

Purpose of Risk Management Plan	Describe the purpose of the Risk Management Plan using the following guidelines: The Risk Management Plan describes how risks are identified, tracked, assessed and, if necessary, mitigated. The plan identifies the tools used to capture identified risks, risk categories, assigned owners, calculated probabilities, identified thresholds or triggers for instigating mitigating action and contingency plans. The Risk Management Plan identifies the Risk Management process, responsible managers, the timing of risk assessments and reporting.
Executive Summary	Approach: Provide an executive level overview of the project: identify the business need or problem, identify the project goals and objectives, and define the management strategy used to implement the project.
Risk Identification	During risk identification, the perception of a potential problem is documented in sufficient detail to enable effective assessment of the risk to support subsequent management decisions. Once the risk has been identified and reviewed, the risk is recorded into the risk database. See Risk Inventory and Assessment at form end.
Risk Triggers	Risk triggers are events or performance characteristics that warn of the occurrence of risk events. An example of a risk trigger would be by a supplier missing deliverable dates and delaying related activities and adding cost to project. Risk triggers should be captured on the Risk Control Form.
Risk Analysis	The goal of risk analysis is to ensure that the risks are examined in a structured and systematic manner. The risk owner may work with the risk coordinator to formulate the initial risk assessment. A qualitative risk assessment qualifies the expected impact, probability, and timeframe of a risk. The results of the risk analysis are recorded on a risk identification form. The results are used to determine Risk Management priorities. A quantitative risk analysis is also accomplished where the impact of a risk is ranked against other risk events or in the case or

	performance, the risk is assessed as a percentage of reduction in performance.
Risk Severity	The results of qualitative analysis and quantitative analysis are captured on a impact/probability chart, called the Risk Severity Grid. The grid is used to determine the priority that is assigned each risk and the need to develop containment strategies.
Risk Response Planning	Risk response planning involves identifying the strategy for minimizing the effects of the risk to a level where the risk can be controlled and managed to ensure the project objectives are achieved. Risk reduction strategies include research, watch, mitigate, accept or transfer.
Risk Documentation and Reporting	Create a central repository for risk information and mitigation strategies. This is typically an automated system where risk information is available to appropriate project team members and risk owners. Typical tools include the risk register (the complete risk database) and a monthly risk status report that is part of the Monthly Performance Reporting Process and becomes an input to the Milestone briefing process and the OMB Exhibit 300 process.
Risk Control	Define the risk control process which addresses risks on a periodic basis. Describe how risks are regularly reassessed and the risk database is updated. Describe how the risk triggers are regularly assessed and validated. Insure, on a periodic basis that new risks are being identified, assessed and captured in the database.

In order to successfully address the OMB risk categories for submission and scoring of the OMB Exhibit 300, the following Risk categories must be addressed to discuss plans, milestones and completion dates, and whether to eliminate, mitigate, or manage the risk.

Date Identified	Area of Risk	Description	Probability of Occurrence	Strategy for Mitigation	Current Status
	Schedule				
	Initial Cost				
	Life Cycle Cost				
	Reliability of Systems				
	Capability of agency to manage project				
	Overall risk of project failure				
	Technical Obsolescence				
	Feasibility				
	Dependencies and Interoperability				
	Risk of creating “lock-in” – a monopoly for future procurements				

	Organization and Change Management				
	Business				
	Data/Info				
	Technology				
	Strategic				
	Security				
	Privacy				
	Project Resources				
	Management Complexity				
	Departmental Reorganization				

	Project:
	Risk Identification Log
	Date: XX March 2004
	PM/POC:
	Approver: signature
Name & Title	

WBS Number	Threat Event	Probability	Impact	Strategy	Follow-up Date	Responsible Team Member or Responsible Manager

	Project:
	Risk Impact Matrix
	Date: XX March 2004
	PM/POC:
	Approver: signature
Name & Title	

Risk Impact Matrix

Risk Event Impact	Schedule Slippage	Cost Increase	Performance (Scope and/or Quality)
5 – Very High	> 20%	> 20%	End product fails to meet customer needs
4 – High	10 – 20%	10 – 20%	Reduction in functionality or usability unacceptable to customer
3 – Moderate	5 – 10%	5 – 10%	Major impact in functionality or usability requiring customer approval
2 – Low	< 5%	< 5%	Relatively minor impact in functionality or usability
1 – Very Low	~ 0	~ 0	Very minor impact in functionality or usability

Assess the impact of each identified risk event.

	Project:
	Risk Probability Matrix
	Date: XX March 2004
	PM/POC:
	Approver: signature
Name & Title	

Risk Probability Matrix

Risk Event Probability	Likelihood of Risk Event	Response Strategy Difficulty
5 – Very High	> 80% – Risk event expected to occur	No strategy available to counteract the risk event occurring.
4 – High	60-80% – Risk event more likely to occur	Limited resources or strategies are available that will influence the occurrence of or contain the risk event. A high level of management attention is necessary.
3 – Probable	40-60% – Risk event may or may not to occur	A higher level of management attention is required to develop strategies that will produce an acceptable outcome.
2 – Low	20-40% – Risk event less likely to occur	With attention, normal management strategies should produce an acceptable outcome
1 – Very Low	< 20% – Risk event not expected	Normal management strategies should produce an acceptable outcome.

Assess the probability of occurrence for each identified risk event.

	Project:
	Risk Severity Grid
	Date: XX March 2004
	PM/POC:
	Approver: signature
Name & Title	

PMIS Risk Severity Grid

Impact	5 Very High					
	4 High					
	3 Moderate					
	2 Low					
	1 Very Low					
		1 Very Low	2 Low	3 Probable	4 High	5 Very High
		Probability				

After probability and impact assessment, identify the risk severity from the chart above. Risks are then prioritized based upon the severity of event.

(Red shaded areas represent the greatest risk severity with significant potential impact to the project.)

	Project:
	Risk Control Form
	Date: XX March 2004
	PM/POC:
	Approver: signature
Name & Title	

Risk Control Form

Project: _____		Project Manager: _____		Customer: _____	
Risk Log Number:	Date:	By:	Assigned Owner:		
Brief Description of Risk Event:					
Status:	<input type="radio"/> Draft <input type="radio"/> Open <input type="radio"/> Rejected <input type="radio"/> Closed	Priority Level:	<input type="radio"/> High <input type="radio"/> Medium <input type="radio"/> Low		
Probability:	<input type="radio"/> Very High <input type="radio"/> High <input type="radio"/> Probable <input type="radio"/> Low <input type="radio"/> Very Low	Impact:	<input type="radio"/> Very High <input type="radio"/> High <input type="radio"/> Moderate <input type="radio"/> Low <input type="radio"/> Very Low		
Qualitative Analysis (Risk Severity):					
Quantitative Analysis:					
Activity Number (WBS)	Best Case	Most Likely Case	Worst Case		
Evaluation:					
Containment Strategy:					

	Project:
	Communications Management Plan
	Date: XX March 2004
	PM/POC:
	Approver: signature
Name & Title	

The following are suggested sections for the Communications Management Plan

Purpose of Communications Management Plan	Describe the purpose of the Communications Management Plan using the following guidelines: The Communications Management Plan describes how project information is distributed, reviewed, updated and filed. The plan describes the information product, how it is produced, who produces it, when it is produced and to whom it is distributed.										
Executive Summary	Approach: Provide an executive level overview of the project: identify the business need or problem, identify the project goals and objectives, and define the management strategy used to implement the project.										
Stakeholder Identification	Using the WBS and OBS identify the project stakeholders, when they will be active on the project and all the pertinent information necessary to communicate with them (organization, title, address, phone numbers, email, etc.). Further identify alternates and subordinates that will be assigned to the project and act on behalf of a stakeholder. Provide the stakeholders responsibility to the project including review and approval authority for project documentation.										
Project Reports	Describe the reports to be generated in support of the project. Define the data to be collected, the frequency of collection, the responsible party for collection, compilation and analysis, the report media and format, and the distribution of the report. Some examples of reports include: <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">Project Status</td> <td>Open Issues/Action Items</td> </tr> <tr> <td>Financial Data</td> <td>Quality Assurance</td> </tr> <tr> <td>Cost Variance</td> <td>Resource Utilization/Projections</td> </tr> <tr> <td>Schedule Status and Variance</td> <td>Change Control</td> </tr> <tr> <td>Updated Project Schedules</td> <td></td> </tr> </table>	Project Status	Open Issues/Action Items	Financial Data	Quality Assurance	Cost Variance	Resource Utilization/Projections	Schedule Status and Variance	Change Control	Updated Project Schedules	
Project Status	Open Issues/Action Items										
Financial Data	Quality Assurance										
Cost Variance	Resource Utilization/Projections										
Schedule Status and Variance	Change Control										
Updated Project Schedules											
Project Information Accessibility	Access to project information should be planned. Centralized project files and data may not be advantageous to large projects with varied geographic locations. This section will define the project team requirements, media and locations for project information, including any document management system employed. Also consider document scanning and storage policies within the project office. The plan should also cover document security, the										

	requirement for locked storage, passwording, etc.
--	---

	Project:
	Communications Planning and Document Management Form
	Date: XX March 2004
	PM/POC:
	Approver: signature
	Name & Title

DOCUMENT PREPARATION INFORMATION

PROJECT NAME	PREPARED BY	PROJECT MANAGER	DATE PREPARED	DOCUMENT ID

MANAGING ORGANIZATION INFORMATION

MANAGING ORGANIZATION	CONTACT	ACCOUNT

PRIMARY INTERNAL STAKEHOLDERS	DOCUMENTS (FILE NAME OR CODE) SENT TO PRIMARY INTERNAL LIST	DATE
PRIMARY EXTERNAL STAKEHOLDERS	DOCUMENTS (FILE NAME OR CODE) SENT TO PRIMARY EXTERNAL LIST	DATE
SECONDARY STAKEHOLDERS	DOCUMENTS (FILE NAME OR CODE) SENT TO SECONDARY LIST	DATE

COMMUNICATION CODES		STORAGE CODES	
E-Mail	E-(Date)-(Storage)	Computer File	C
V-Mail	V-(Date)-(Storage)	Central Office File	F
Postal	P-(Date)-(Storage)	PM Office File	M
Verbal	O-(Date)-(Storage)	Deleted/Destroyed	D

EXAMPLE

E091498D	E-mail sent September 14, 1998, was deleted	File description cross-referenced in document control
V012399C	Voice mail sent January 23, 1999, was stored in a computer reference	File description cross-referenced in document control

DOCUMENT CONTROL

Code	Description	SourceName

	Project:
	Cost Management Plan
	Date: XX March 2004
	PM/POC:
	Approver: signature
Name & Title	

The following are suggested sections for the Cost Management Plan:

Purpose of Cost Management Plan	<p>Describe the purpose of the cost management plan using the following guidelines:</p> <p>The cost management plan describes the process for implementing change control over cost estimates and the project time-phased cost baseline. The covers budget preparation and maintenance. It should detail the process for authorizing and expending project funds. The plan should include the steps taken when the performance measurement system identifies major or minor cost vs. budget variances. The plan should cover the timing and distribution of cost and performance reports.</p>
Executive Summary	<p>Approach:</p> <p>Provide an executive level overview of the project: identify the business need or problem, identify the project goals and objectives, and define the management strategy used to implement the project.</p>
Project Budget	<p>Describe the iterative process of preparing high-level conceptual budget estimates during the project initiation phase and evolving to a detailed, time-phased, WBS based budget during the planning phase of the project. Describe the process for baselining the budget to enable performance measurement. Describe how the budget will be maintained and the process that will be followed if budget changes are required. Describe periodic budget reviews and how project stakeholders will be kept informed of their impact on the budget. For OMB Exhibit 300 projects that involve “reimbursement” funds, be sure to describe the amounts and source of the funds, method and frequency of reporting progress towards agreed upon goals (for which the funding is intended to help achieve), mutually agreed upon ways to change the reimbursement (up or down), and mutually agreed upon decision making about disposition of year-end remainders. A senior officer(s) from the organization(s) providing the reimbursement funds should sign this plan, signifying their concurrence and approval of the portion of the plan that deals with the reimbursement funds.</p>
Project (Financial) Cost Maintenance	<p>State who is responsible for maintaining project cost information and generation of cost reporting as well as frequency of reporting. It should</p>

	also state the requirements and methods for providing financial data for the Monthly Status Review Process, the Milestone briefings, and the OMB Exhibit 300 process.
Cost Performance Measures	Describe how performance reporting will be accomplished (i.e., deliverables, activity, contract, departmentally, etc.) and what performance characteristics will be reported. The reporting measures should also include a project overview of total performance to date with project completion projections. The description should include the development of financial, budget and schedule data required for the OMB Exhibit 300 process Earned Value Management System.
Cost Reports	A brief overview of the reporting content and format. Various reports may be used dependent upon the recipients (i.e., management reports, project team reports, contractor performance reports, etc.). At a minimum reports should include cost variances (CV), estimated at completion (EAC) and the cost performance index (CPI). Describe reporting cost data for the Monthly Status Review Process, the Milestone briefings, and the OMB Exhibit 300 process.
Cost Change Review and Approval Process	Describe the organization and process for evaluating and assessing project budget/cost changes. Define the authority for accepting and approving changes in cost. Include the evaluation process to assess the impact of cost changes on project scope, schedule, risk and quality. Note: the cost change review and approval process should be contained within the Integrated Change Control Management Process. Reference to that process should be included within this statement.

	Project:
	Procurement Management Plan
	Date: XX March 2004
	PM/POC:
	Approver: signature
	Name & Title

The following are suggested sections for the Procurement Management Plan

Purpose of Procurement Management Plan	Describe the purpose of the Procurement Management Plan using the following guidelines: The Procurement Management Plan reflects the results of a project alternative analysis and make or buy analysis. It describes the types of contracts appropriate for the procurement, the solicitation and evaluation processes, and team/stakeholder responsibilities relative to the development of procurement documents. It discusses the timing of procurements, describing the dependencies between solicitation preparation, contract award and lead times with other aspects of the project, such as design development or deployment. The procurement plan describes the steps required by the VA IT acquisition approval process to initiate procurement.
Executive Summary	Approach: Provide an executive level overview of the project: identify the business need or problem, identify the project goals and objectives, and define the management strategy used to implement the project.
Required Project Procurements and Timing	Discuss the necessity for planned procurements, including the results of alternative analyses and make or buy analyses. Discuss the best times to initiate the procurement processes to meet the detailed project schedule.
Description of Items/ Services to be acquired	Briefly describe the overall scope of the project. What are the specific items/services/major contract deliverables that will be acquired?
VA IT Acquisition Process	Discuss initiating a project using the VA IT Acquisition process. A flowchart depicting the process is provided in the Procurement section. Describe the required acquisition approvals (e.g., Administration, IRM, and/or A&A). Include the use of the IT Tracker System and the requirement for supporting documentation. Examples of the supporting information include: a requirements analysis, a business case justification, a cost/benefits analysis and a Statement of Work (SOW).

Solicitation Planning	Describe the responsibilities of the project team and stakeholders in developing acquisition requests, SOWs, a solicitation strategy, an evaluation strategy and evaluation criteria.
Period of Performance	Indicate the period of performance in months or years from time of award with options separately indicated. For example: “Three year base period with two one-year options.”
Applicable conditions	<p>Indicate any significant conditions, constraints, or assumptions affecting the acquisition such as the need for:</p> <ul style="list-style-type: none"> ✓ Compatibility with the enterprise architecture, existing or future systems or programs; ✓ Compliance with Section 508, privacy, security, IT investment management, and technical review and change control board requirements; or ✓ Compliance with known cost, schedule or performance constraints. Also include any trade-offs that may need to be made among the various cost, schedule, and performance goals. <p>If this is a system acquisition, describe any considerations given to build-vs.-buy decision, testing and evaluation, implementation, training, and operation and maintenance.</p>
Background/ Recent history of the procurement	If this is the first attempt to acquire the item or service, indicate “Not applicable.” Otherwise, briefly describe the last procurement of the item or service and the results obtained. How have lessons learned from that procurement shaped the strategy for this one?
Estimated obligations required	Include the estimated funds required for each fiscal year and total. Describe the cost model/methodology that was used in developing the estimates.
Proposed contracting vehicle	Describe the contract vehicle(s) that will be used and the different items/services to which they will be applied.
Proposed contract type	Describe the contract types that will be used and the different items/services to which they will be applied.
Performance-based contracting	FAR 7.105 states that “Acquisition plans for service contracts must describe the strategies for implementing performance-based contracting methods or must provide a rationale for not using those methods (see Subpart 37.6).”
Modular contracting techniques	Section 5202 of The Clinger-Cohen Act as implemented in FAR 39.103 addresses the use of modular contract techniques (i.e. the use of one more contracts to acquire information technology systems in successive, interoperable increments). If this project is a major system acquisition and such techniques will not be used, a justification should be provided. If this project is not a major system acquisition and modular techniques were not used, indicate “Not a

	major systems acquisition.”
Potential sources	Indicate the prospective sources for the items or services. Describe how competition will be sought, promoted, and sustained throughout the course of the acquisition. Include consideration of small business, veteran-owned small business, HUBZone small business, small disadvantaged business, and women-owned small businesses. Describe the results of any market research that was conducted as well as any efforts to encourage industry participation such as draft solicitations or pre-solicitation conferences.
Source selection procedures	Describe the source selection procedures for the acquisition, to include the timing for the submission and evaluation of proposals. Identify the major evaluation criteria and why they are needed to identify the proposals that offer the best chances for project success. Describe how technical, past performance, and cost factors will be ranked to determine “best value.” For example, will technical and past performance outweigh cost? Describe whether single or multiple awards will be made.
Contract Administration	Describe who will administer the contract. Describe how the contract will be administered, including roles and responsibilities for inspection, acceptance, validation and verification of performance. Describe how invoices will be paid. Describe the process for changing the contract and controlling the changes. Describe the process for accepting contract deliverables. Describe the interaction between the project team and stakeholders with data systems used to maintain contract data.
Contract Closeout	Describe the formal acceptance of contracts and closure. Describe the alternative means for closing the contract without formal acceptance. Describe the archiving of contract documentation. Describe the use of procurement audits to identify successes and lessons learned.

	Project:
	Project Closeout Report
	Date: XX March 2004
	PM/POC:
	Approver: signature
	Name & Title

The following are suggested sections for the Project Closeout Report:

Purpose of Closeout Report	Describe the purpose of the Closeout Report using the following guidelines: The closeout report insures that personnel, contract, administrative, and financial issues are resolved, that documents are archived, and lessons learned are captured.
Executive Summary	Approach: Provide an executive level overview of the project: identify the business need or problem, identify the project goals and objectives, and define the management strategy used to implement the project.

Administrative Closure

Where the objectives of the project met?	Review the project objectives and indicate if the objectives were met. If there were deviations from the baseline objectives and the final product, describe those here.
How will the project artifacts be archived?	Describe how project documents will be collected and archived for future reference. Documentation to consider: <ul style="list-style-type: none"> ▲ Financial records ▲ Cost and schedule performance reports and records ▲ Quality data ▲ Correspondence ▲ Meeting Notes ▲ Status Reports ▲ Issue and Action Log ▲ Risk Log ▲ Contract Files ▲ Change Requests ▲ Technical documents

	▲ Acceptance records
Lessons Learned	Conduct a lessons learned session to discuss and capture the performance (e.g., what worked well, what didn't work well) from start to finish on the project. Capturing and incorporating lessons learned on future projects are among the most important ways in which an organization gathers information to institutionalize repeatable processes and avoid repeated mistakes.
Plans for Post Implementation Review (PIR)	Describe the plan to conduct the Post Implementation Review (PIR).
Final Customer Acceptance	Describe the achievement of final customer acceptance. Describe the final meeting with customer, who attended and what disciplines were represented (finance, contracts, quality, etc.) Discuss the documents signed. If open issues remain discuss the plan for their resolution.
Financial Records	Discuss the review of invoices, purchase orders, and final cost reporting. Describe where the final cost records are archived.
Final Project Performance Report	Summarize the project's scope management, schedule performance, cost performance, quality achievements and a review of the risk containment performance. Discuss the reasons for cost or schedule variances.

Contract Closure

Resolve any open contract issues	Describe any open contract issues and the plans to obtain closure to the issues.
Collection and audit of contract documents	<p>Contract closure is essentially a collection and audit of the contract documentation. Documentation to be collected includes but is not limited to:</p> <ul style="list-style-type: none"> ▲ Original contracts ▲ Contract changes ▲ Schedules ▲ Performance reports <p>Describe the plan and actions for closing any contracts and associated tasks.</p>

Exhibit 300: Part I: Capital Asset Plan and Business Case (All Assets)				
Date of this Submission				
Agency				
Bureau				
Location in the Budget				
Account Title				
Account Identification Code				
Program Activity				
Name of Investment				
Unique Project (Investment) Identifier: (For IT investments only, see section 53. For all other, use agency ID system.) UPI should be created the same for all investments.				
Investment Initiation Date				
Investment Planned Completion Date				
This Investment is:				
Initial Concept <input type="checkbox"/> Planning <input type="checkbox"/> Full Acquisition <input type="checkbox"/> Steady State <input type="checkbox"/> Mixed Life Cycle <input type="checkbox"/>				
Investment/useful segment is funded:	Incrementally		Fully	
Was this project approved by OMB for previous Year Budget Cycle?	Yes		No	
Did the Executive/Investment Review Committee approve funding for this project this year?	Yes		No	
Did the CFO review the cost goal?	Yes		No	
Did the Procurement Executive review the acquisition strategy?	Yes		No	
Did the Project (Investment) Manager identified in Section 1.D review this exhibit?	Yes		No	
Is this investment included in your agency’s annual performance plan or multiple agency annual performance plans?	Yes		No	
Does this investment support homeland security? If this investment supports homeland security, indicate by corresponding number which homeland security mission area(s) this investment supports? 1 – Intelligence and Warning; 2 – Border and Transportation Security; 3 – Defending Against Catastrophic Threats; 4 – Protecting Critical Infrastructure and Key Assets; 5 – Emergency Preparedness and Response; or 6 – Other.	Yes	—	No	—
Is this investment information technology? (See Section 53 for definition)	Yes		No	
For information technology projects only:				
a. Is this Project (investment) a financial management system? (see section 53.2 for a definition)	Yes		No	
If so, does this project (investment) address a FFMI compliance area?	Yes		No	
If yes, which compliance area?				
b. Does this investment implement electronic transactions or record keeping that is covered by the Government Paperwork Elimination Act (GPEA)?	Yes		No	
If so, is it included in your GPEA plan (and does not yet provide an electronic option)?	Yes		No	
Does the investment already provide an electronic option?	Yes		No	
c. If the investment administers information in identifiable form about members of the public, was a privacy impact assessment submitted via PIA@omb.eop.gov with a unique project (investment) identifier?	Yes		No	
d. Was this investment reviewed as part of the FY 2003 Federal Information Security Management Act review process?	Yes		No	
d.1 If yes, were any weaknesses found?	Yes		No	
d.2. Have the weaknesses been incorporated into the agency’s corrective action plans?	Yes		No	
e. Has this investment been identified as a national critical operation or asset by a Project Matrix review or other agency determination?	Yes		No	
e.1 If no, is this an agency mission critical or essential service, system, operation, or asset (such as those documented in the agency’s COOP Plan), other than those identified as above as national critical infrastructures?	Yes		No	
f. Was this investment included in a Performance Assessment Rating Tool (PART) Review?	Yes		No	
f.1. Does this investment address a weakness found during the PART Review?	Yes		No	

SUMMARY OF SPENDING FOR PROJECT (INVESTMENT) STAGES (In Millions) (Estimates for BY+1 and beyond are for planning purposes only and do not represent budget decisions)									
	PY-1 and Earlier	PY 2003	CY 2004	BY 2005	BY+1 2006	BY+2 2007	BY+3 2008	BY+4& Beyond	Total
Planning:									
Budgetary Resources									
Outlays									
Acquisition :									
Budgetary Resources									
Outlays									
Total, sum of stages:									
Budgetary Resources									
Outlays									
Maintenance:									
Budgetary Resources									
Outlays									
Total, All Stages:									
Budgetary Resources									
Outlays									
Government FTE Costs									

Note: Government FTE Costs shall include government personnel considered direct and indirect labor in support of this investment. This includes the investment management IPT and any other government effort (e.g., programming effort for part of the overall investment, development effort) that contributes to the success of the investment. The costs include the salaries plus the fringe benefits rate of 32.85%. Agencies should reflect estimates of the costs of internal FTE supporting an IT investment, and should at a minimum include the FTE estimates of anyone spending more than 50% of their time supporting this investment. Persons working on more than one investment, whose contributions over all investments would exceed 50% of their overall time, should have their specific time allocated to each investment.

I. A. Investment Description

1. Provide a brief description of this investment and its status through your capital planning and investment control (CPIC) or capital programming “control” review for the current cycle.

2. What assumptions are made about this project and why?
3. Provide any other supporting information derived from research, interviews, and other documentation.

I. B. Justification (All Assets)

In order for IT investments to successfully address support of the President's Management Agenda and justification of the investment, the investment should be collaborative and include industry, multiple agencies, state, local, or tribal governments, use e-business technologies and be governed by citizen needs. If the investment is a steady state investment, then an E-Gov strategy review is underway and includes all of the necessary elements. If appropriate, this investment is fully aligned with one or more of the President's E-Gov initiatives.

1. How does this investment support your agency's mission and strategic goals and objectives?
2. How does it support the strategic goals from the President's Management Agenda?
3. Are there any alternative sources in the public or private sectors that could perform this function?
4. If so, explain why your agency did not select one of these alternatives.
5. Who are the customers for this investment?
6. Who are the stakeholders of this investment?
7. If this is a multi-agency initiative, identify the agencies and organizations affected by this initiative.
- 7.a. If this is a multi-agency initiative, discuss the partnering strategies you are implementing with the participating agencies and organizations.
8. How will this investment reduce costs or improve efficiencies?
9. List all other assets that interface with this asset _____. Have these assets been reengineered as part of this project? Yes/No

I.C. Performance Goals and Measures (All Assets)

In order to successfully address this area of the business case, performance goals must be provided for the agency and be linked to the annual performance plan. The investment must discuss the agency mission and strategic goals, and performance measures must be provided. These goals need to map to the gap in the agency's strategic goals and objectives that this investment is designed to fill. They are the internal and external performance benefits this investment is expected to deliver to the agency (e.g., improve efficiency by 60%, increase citizen participation by 300% a year to achieve an overall citizen participation rate of 75% by FY 2xxx, etc.). The goals must be clearly measurable investment outcomes, and if applicable, investment outputs. They do not include completion date of the module or investment, or general goals, such as, significant, better, improved that do not have a quantitative or qualitative measure.

Agencies must use Table 1 below for reporting performance goals and measures for existing investments that were initiated prior to 2005. The table can be extended to include measures for years beyond FY 2004.

Table 1

Fiscal Year	Strategic Goal(s) Supported	Existing Baseline	Planned Performance Improvement Goal	Actual Performance Improvement Results	Planned Performance Metric	Actual Performance Metric Results
2003						
2003						
2004						
2004						

All IT investments must use Table 2 below for 2005 and beyond and are required to use the FEA Performance Reference Model. PRM Version 1.0, available at www.feapmo.gov, includes detailed guidance about how to incorporate PRM Indicators into the performance goals and measures table below. Please use the table below and the PRM to identify the performance information that pertains to the major IT Investment. Ensure there is a complete tie-in to the strategic goals and objectives described in I.B.1.

Table 2

Fiscal Year	Measurement Area	Measurement Category	Measurement Indicator	Baseline	Planned Improvements to the Baseline	Actual Results
2005						
2005						
2005						
2005						
2006						
2006						
2006						
2006						

I.D. Project Management [All Assets]

The OMB Circular A-11, Part 7, Capital Programming Guide, and the OPM Project Management Guidance “Interpretive Guidance for Project Manager Positions, discuss project management structures, responsibilities, and qualifications that contribute to successful achievement of cost, schedule, and performance goals.

1. Is there a Project Manager assigned to the project? If so, what is his/her name?	Yes		No	
1.A. Identify the members, roles, qualifications, and contact information of the in-house and contract project (investment) managers for this project (investment).				
2. Is there a contracting officer assigned to the project (investment)? If so, what is his/her name?	Yes		No	
3. Is there an Integrated Project Team?	Yes		No	
3.A. If so, list the skill set represented.				
4. Is there a sponsor/owner for this investment?	Yes		No	
4.A. If so, identify the sponsor/process owner by name and title and provide contact information.				

I.E. Alternatives Analysis [All Assets]

In order to successfully address this area of the business case, you must include three viable alternatives that were compared consistently, identify the alternative chosen, and provide benefits and reasons for your choice. Agency must identify all viable alternatives and then select and report details on the top three viable alternatives. Use OMB Circular A-94 for all investments and the Clinger Cohen Act for IT investments for the criteria to be for Benefit/Cost Analysis. Agency must include the minimum criteria to be applied in considering whether to undertake a particular investment, including criteria related to the quantitatively expressed projected net, risk-adjusted return on investment, and specific quantitative and qualitative criteria for comparing and prioritizing alternative investments. For IT investments, agencies should use the Federal Enterprise Architecture (FEA) to identify potential alternatives for partnering or joint solutions that may be used to close the identified performance gap.

1. Describe the alternative solutions you considered for accomplishing the agency strategic goals or for closing the performance gap that this project was expected to address. Describe the results of the feasibility/performance/benefits analysis. Provide comparisons of the returns (financial and other) for each alternative.
 - 1.A. Discuss the market research that was done to identify innovative solutions for this project (e.g., used an RFI to obtain 4 different solutions to evaluate, held open meetings with contractors to discuss project scope, etc.). Also describe what data was used to make estimates: past or current contract prices for similar work, contractor provided estimates from RFIs or meetings, general market publications, etc.

Alternative	Description
Alternative 1	
Alternative 2	
Alternative 3	

2. Summarize the results of your life-cycle cost analysis performed for each investment and the underlying assumptions.

Cost Elements	Alternative 1	Alternative 2	Alternative 3
Element 1			
Element 2			
Element 3			
Element 4			
Element 5			
Total			

3. Which alternative was chosen and why?

3.A. Are there any quantitative benefits that will be achieved through this investment (e.g., systems savings, cost avoidance, stakeholder benefits, etc)? Define the Return on Investment (ROI).

3.B. For alternative selected, provide a financial summary, including Net Present Value by Year and Payback Period Calculations:

YEAR =	FY								

4. What is the date of your cost benefit analysis?

I. F. Risk Inventory and Assessment (All Assets)

In order to successfully address this issue on the business case and capital asset plan, you must have performed a Risk Assessment at initial concept, included the mandatory risk elements defined below and demonstrate active management of the risk throughout the life-cycle of the investment.

For all investments, both IT and non-IT, you must discuss each of the following risks and discuss your plans, with milestones and completion dates, to eliminate, mitigate, or manage the risk. If there is no risk to the investment achieving its goals from a risk category, say this. If there are other risks identified, include them. Risk assessments should be performed at the initial concept stage and then monitored and controlled throughout the life-cycle of the investment, and should include risk information from all stakeholders. Risk assessments for all investments must include 1) schedule, 2) initial costs, 3) life-cycle costs, 4) technical obsolescence, 5) feasibility, 6) reliability of systems, 7) dependencies and interoperability between this investment and others, 8) surety (asset protection) considerations, 9) risk of creating a monopoly for future procurements, 10) capability of agency to manage the investment, and 11) overall risk of project failure.

In addition, for IT investments, risk must be discussed in the following categories 12) Organizational and Change Management, 13) Business, 14) Data/Info, 15) Technology, 16) Strategic, 17) Security, 18) Privacy, and 19) Project Resources. For security risks, identify under the description column the level of risk as high, medium, or basic. What aspect of security determines the level of risk, i.e., the need for confidentiality of information, availability of information or the system, reliability of the information or system? Under the Current Status column, list the milestones remaining to mitigate the risk.

Date Identified	Area of Risk	Description	Probability of Occurrence	Strategy for Mitigation	Current Status

1. What is the date of your Risk Management plan?

I.G. Acquisition Strategy

In order to adequately address this area of the business case and capital asset plan you must employ a strong acquisition strategy that mitigates risk to the Federal government, accommodate Section 508 as needed, and use performance based contracts and (SOWs). If you are not using performance based fixed price contracts, your acquisition strategy should clearly define the risks that prompted use of other than performance based contracts and SOWs. Finally, your implementation of the Acquisition Strategy must be clearly defined.

1. Will you use a single contract or several contracts to accomplish this project?

1A. What is the type of contract/task order if a single contract is used?

1B. If multiple contract/task orders will be used discuss the type, how they relate to each other to reach the project outcomes, and how much each contributes to the achievement of the project cost, schedule and performance goals. Also discuss the contract/task order solicitation or contract provisions that allow the contractor to provide innovative, transformational solutions.

2. For other than firm-fixed price, performance-based contracts, define the risk not sufficiently mitigated in the risk mitigation plan, for that contract/task order, that requires the Government to assume the risk of contract achievement of cost, schedule and performance goals. Explain the amount of risk the government will assume.

3. Will you use financial incentives to motivate contractor performance (e.g. incentive fee, award fee)?

4. Discuss the competition process used for each contract/task order, including the use of RFP's, schedules or other multiple agency contracts, etc.

5. Will you use commercially available or COTS products for this investment?

5A. To what extent will these items be modified to meet the unique requirements of this investment?

5B. What prevented the use of COTS without modification?

6. What is the date of your acquisition plan?

7. How will you ensure Section 508 compliance?

8. Acquisition Costs:

8A. For budget year, what percentage of the total investment is for hardware acquisition?

8B. For budget year, what percentage of the total investment is for software acquisition?

8C. For budget year, what percentage of the total investment is for services acquisition?

I.H. Project (Investment) and Funding Plan

In order to successfully address this section of the business case, you must demonstrate use of an Earned Value Management System (EVMS) that meets ANSI/EIA Standard 748, for both government and contractor costs, for those parts of the investment that require development efforts (e.g., prototypes and testing in the planning phase and development efforts in the acquisition phase) and show how close the investment is to meeting the approved cost, schedule and performance goals. Information on EVMS is available at <http://www.acq.osd.mil/pm>. For those projects in the operations/steady state phase, you must perform an operational analysis as defined in the Capital Programming Guide to demonstrate how close the investment is to achieving the expected cost, schedule and performance goals for this phase. Program status information in this section must include the both the contractor's part of the projects overall costs and milestone requirements as well as the government's costs and milestone requirements to successfully complete the project phase, segment or module being reported.

I.H.1. Description of performance-based management system (PBMS):

Explain the methodology used by the agency to analyze and use the earned value performance data to manage performance. Describe the process you will use or used to verify that the contractor's project management system follows the ANSI/EIA Standard 748-A. If the investment is operational (steady state), define the operational analysis system that will be used. If this is a mixed life-cycle project with both operational and development/modernization/enhancement (DME) system improvement aspects, EVMS must be used on the system improvement aspects of the contract and operational analysis on the operations aspects. Using information consistent with the work breakdown structure (WBS), provide the information requested in all parts of this section.

I.H.2. Original baseline (OMB-approved at project outset):

What are the cost and schedule goals for this phase or segment/module of the investment (e.g., what are the major project milestones or events; when will each occur; and what is the estimated

cost to accomplish each one)? Also identify the funding agency for each milestone or event if this is a multi-agency investment. For operational or steady state projects, complete one line on the chart for each year of this phase. If the project is mixed life-cycle there will be two parts to the chart; one for the O&M portion and one for the developmental portion using EVMS. If this is a multi-agency investment or one of the President's E-Gov initiatives, use the detailed investment plan with milestones on the critical path, to identify agency funding for each module or milestone. (This baseline must be included in all subsequent reports, even when there are OMB-approved baseline changes shown in I.H.3).

Cost and Schedule Goals: Original Baseline for a Phase/Segment/Module of Project (Investment)					
Description of Milestone	Schedule			Planned Cost	Funding Agency
	Start Date	End Date	Duration (in days)		
1.					
2.					
3.					
Completion date:				Total cost estimate at completion:	

I.H.3. Proposed baseline/current baseline (applicable *only* if OMB-approved the changes)

Identify in this section a proposed change to the original or current baseline or an OMB-approved baseline change. What are the new cost and schedule goals for the project (e.g., what are the major investment milestones or events; when will each occur; and what is the estimated cost to accomplish each one)? Also identify the funding agency for each milestone or event if this is a multi-agency investment. If this is a new project in the FY 2005 budget year, this section will be blank for your initial submission.

Cost and Schedule Goals: Proposed _____ or Current (OMB-Approved) _____ Baseline for a Phase/Segment/Module of Investment					
Description of Milestone	Schedule			Planned Cost	Funding Agency
	Start Date	End Date	Duration (in days)		
1.					
2.					
3.					
Completion date:				Total cost estimate at completion:	

I.H.4 Actual performance and variance from OMB-approved baseline (original or current)

A. This section is always filled in to reflect current status of the investment. It compares the OMB approved baseline and actual results for this phase, segment, or module of the project. Show for each major investment milestones or events you planned (scheduled) to accomplish and the cost and what work was actually done and the cost. If the project is in the operational or steady state phase, complete one line on the chart for each year. For these projects, complete paragraphs C, D, and G as appropriate. If this is a new investment in the FY 2005 budget year, this will be blank for your initial submission. OMB may ask for latest information during the budget review process.

Comparison of OMB-Approved Baseline and Actual Outcome for Phase/Segment/Module of a Project (Investment)									
Description of Milestone	OMB-Approved Baseline					Actual Outcome			
	Schedule			Planned Cost	Funding Agency	Schedule		Percent Complete	Actual Cost
	Start Date	End Date	Duration (in days)			Start Date	End Date		
1.									
2.									
3.									
Completion date: OMB-approved baseline:						Estimated completion date:			
Total cost: OMB-approved baseline:						Estimate at completion:			

B. Provide the following project summary information from your EVMS data (as of date):

B.1. Show the budgeted (planned) cost of work scheduled (BCWS): \$ _____

B.2. Show budgeted (planned) cost of work performed (BCWP): \$ _____

B.3. Show the actual cost of work performed (ACWP): \$ _____

B.4. Provide a performance curve graph plotting BCWS, BCWP and ACWP on a monthly basis from inception of this phase or segment/module through the latest report. In addition, plot the ACWP curve to the estimated cost at completion (EAC) value, and provide the following EVMS variance analysis.

PROJECT (Investment) SUMMARY (Cumulative)	Value
Cost Variance = (BCWP-ACWP) =	
Cost Variance % = (CV/BCWP) x 100% =	
Cost Performance Index (CPI) = (BCWP/ACWP) =	

Schedule Variance = (BCWP-BCWS) =	
Schedule Variance % = (SV/BCWS) x 100% =	
Schedule Performance Index (SPI) = (BCWP/BCWS) =	
Two independent Estimates at Completion (EAC) = ACWPcum = (Performance Factor (PF) X (BAC minus BCWPcum)), where $PF_1 = 1/CPI$, and $PF_2 = 1/(CPI \times SPI)$. =	
Variance at Completion (VAC) = (BAC minus EAC) for both EACs above =	
Variance at Completion % = (VAC/BAC) x 100% for both EACs above =	
Estimated Cost to Complete (ETC)=	
Expected Completion Date =	

Definitions for Earned Value Management System:

ACWP – Actual Cost for Work Performed – What you paid.

BAC – Budget At Completion – The baseline (planned) budget for the project.

BCWP – Budgeted Cost for Work Performed – The earned value.

BCWS – Budgeted Cost for Work Scheduled – The planned costs.

CPI – Cost Performance Index – The ratio of the budgeted to actual cost of work performed.

CV – Cost Variance – The difference between planned and actual cost of work performed.

EAC – Estimate At Completion – The latest estimated cost at completion.

ETC – Estimate to Completion – Funds needed to complete the project.

PF – Performance Factor – The cost to earn a dollar of value, or ACWP/BCWP, or 1/CPI.

SPI – Schedule Performance Index – The percent of the project that has been completed.

SV – Schedule Variance – The variance between the actual and planned schedules.

VAC – Variance at Completion – The variance between the baseline and actual budget at completion.

C. If cost and/or schedule variance are a negative 10 percent or more at the time of this report or EAC is projected to be 10 percent or more, explain the reason(s) for the variance(s).

D. Provide performance variance. Explain whether, based on work accomplished to date, you still expect to achieve your performance goals. If not, explain the reasons for the variance.

E. For projects using EVMS, discuss the contractor, government, and at least the two EAC index formulas in I.H.4.B, current estimates at completion. Explain the differences and the IPT's selected EAC for budgeting purposes. This paragraph is not applicable to operations/steady state projects.

F. Discuss the corrective actions that will be taken to correct the variances, the risk associated with the actions, and how close the planned actions will bring the project to the original baseline. Define proposed baseline changes, if necessary.

G. If the project cost, schedule or performance variances are 10% or greater, has the Agency Head concurred in the need to continue the program at the new baseline?

Yes ___ No ___

Exhibit 300: Part II: Additional Business Case Criteria for Information Technology

II. A. Enterprise Architecture

In order to successfully address this are of the business case and capital asset plan you must ensure that the investment is included in the Agency EA and CPIC process, and ensure that the investment is mapped to and supports the Federal Enterprise Architecture. You must also ensure that the business case demonstrates the relationship between the investment and the business, data, and application, and technology layers of the EA.

II.A.1 Business

- A. Is this investment identified in your agency's enterprise architecture? If not, why?
- A.1 Will this investment be consistent with your agency's "to be" modernization blueprint?
- B. Was this investment approved through the EA Review committee at your agency?
- C. What are the major process simplification/reengineering/design projects that are required as part of this IT investment?
- D. What are the major organization restructuring, training, and change management projects that are required?
- E. Please list all the Lines of Business and Sub-Functions from the FEA Business Reference Model that this IT investment supports. The *primary* BRM mapping for this initiative should be identified with the last six digits of the Unique Project (Investment) Identifier in Section 53.8. For a list of the BRM Lines of Business and Sub-Functions, as well as guidance on mapping to the BMR, please see www.feapmo.gov. (Note: the Services for Citizens area and the Mode of Delivery area should be thought of collectively. If you identified your *primary* line of business/sub-function in section 53.8 as a Service for Citizens or a Mode of Delivery, at a minimum you should identify the corresponding Mode of Delivery/Service for Citizens that applies in this section).

Line of Business	Sub-function

II.A.2 Data

- A. What types of data will be used in this project? Examples of data types are health data, geospatial data, natural resource data, etc.
- B. Does the data needed for this project already exist at the Federal, State, or Local level? If so, what are your plans to gain access to that data?
- C. Are there legal reasons why this data cannot be transferred? If so, what are they and did you address them in the barriers and risk sections above?
- D. If this initiative processes spatial data, identify planned investments for spatial data and demonstrate how the agency ensures compliance with the Federal Geographic Data Committee standards required by OMB Circular A-16.
- E. If this activity involves the acquisition, handling or storage of information that will be disseminated to the public or used to support information that will be disseminated to the public, explain how it will comply with your agency's Information Quality guidelines (Section 51.5 requirements)?
- F. Managing business information means maintaining its authenticity, reliability, integrity, and usability and providing for its appropriate disposition. Address how the system will manage the business information (records) that it will contain throughout the information life cycle.

II.A.3 Applications, Components, and Technology

- A. Discuss this major investment in relationship to the Service Component Reference Model Section of the FEA. Include a discussion of the components included in this major IT investment (e.g., Knowledge Management, Content Management, Customer Relationship Management, etc). For detailed guidance regarding components, please refer to <http://www.feapmo.gov> and the SRM Release Document.
- B. Are all of the hardware, applications, components, and web technology requirements for this project included in the Agency EA Technical Reference Model? If not, please explain.
- C. Discuss this major IT investment in relationship to the Technical Reference Model Section of the FEA. Identify each Service Area, Service Category, Service Standard, and Service Specification that collectively describes the technology supporting the major IT investment. For detailed guidance regarding the FEA TRM, please refer to <http://www.feapmo.gov>.
- D. Will the application leverage existing components and/or applications across the Government (i.e., FirstGov, Pay.Gov, etc). If so, please describe.
- E. Financial Management Systems and Projects, as indicated in Part One, must be mapped to the agency's financial management system inventory provided annually to OMB. Please identify the system name(s) and system acronym(s) as reported in the most recent systems inventory update required by Circular A-11 Section 52.4.

II. B. Security and Privacy

In order to successfully address this area of the business case, each question below must be answered at the investment (system/application) level, not at a program or agency level. Simply referring to security plans or other documents is not an acceptable response. For IT investments under development, security planning must proceed in parallel with the development of the system to ensure that IT security requirements and costs for the lifecycle of the investment are identified and validated. All IT investments must have up-to-date security plans and be fully certified and accredited prior to becoming operational. Anything short of a full certification and accreditation indicates that identified IT security weaknesses remain and need to be remedied and is therefore not adequate to ensure funding for the investment. Additionally, to ensure that requests for increased IT security funding are appropriately addressed and prioritized, the agency must identify: 1) current costs; 2) current IT security performance gaps; and 3) how the funding request will close the performance gaps. This information must be provided to OMB through the agencies' plan of action and milestone developed for the system and tied to the IT business case through the unique project (investment) identifier.

Agencies must comply with Section 208 of the E-Government Act and forthcoming OMB implementing guidance and, in appropriate circumstances, conduct a privacy impact assessment that evaluates the privacy risks, alternatives and protective measures implemented at each stage of the information life cycle. Agencies should utilize the guidance provided in OMB Memoranda in conducting the PIA and submit a copy, using the unique project (investment) identifier, to OMB at PIA@omb.eop.gov.

II.B.1. How is security provided and funded for this investment (e.g., by program office or by the CIO through the general support system/network)?

A. What is the total dollar amount allocated to IT security for this investment in FY 2005? Please indicate whether an increase in IT security funding is requested to remediate IT security weaknesses, specifying the amount and a general description of the weakness.

II.B.2 Please describe how the investment (system/application) meets the following security requirements of the Federal Information Security Management Act, OMB policy, and NIST guidelines:

A. Does the investment (system/application) have an up-to-date security plan that meets the requirements of OMB policy and NIST guidelines? What is the date of the plan?

B. Has the investment been certified and accredited (C&A)?

Note: Certification and accreditation refers to a full C&A and does not mean interim authority to operate. Additionally, specify the C&A methodology used (e.g., NIST guidelines) and the date of the last review.

C. Have the management, operational, and technical security controls been tested for effectiveness? When were most recent tests performed?

D. Have all system users been appropriately trained in the past year, including rules of behavior and consequences for violating the rules?

E. How has incident handling capability been incorporated into the system or project, including intrusion detection monitoring and audit log reviews? Are incidents reported to DHS' FedCIRC?

F. Is the system operated by contractors either on-site or at a contractor facility? If yes, does any such contract include specific security requirements required by law and policy? How are contractor security procedures monitored, verified, and validated by the agency?

II.B.3 How does the agency ensure the effective use of security controls and authentication tools to protect privacy for those systems that promote or permit public access?

II.B.4 How does the agency ensure that the handling of personal information is consistent with relevant government-wide and agency policies?

II.B.5 If a Privacy Impact Assessment was conducted, please provide a copy to OMB at PIA@omb.eop.gov.

II. C. Government Paperwork Elimination Act (GPEA)

II.C.1 If this investment supports electronic transactions or record-keeping that is covered by GPEA, briefly describe the transaction or record-keeping functions and how this investment relates to your agency's GPEA plan.

II.C.2 What is the date of electronic conversion from your GPEA plan?

II.C.3 Identify any OMB Paperwork Reduction Act (PRA) control numbers from information collections that are tied to this investment.

Page Left Blank Intentionally

APPENDIX D – OMB EXHIBIT 300

There are many Federal Government statutes that require revision to management practices to achieve greater mission efficiency and effectiveness. Beyond the legislative background, there is extensive guidance from the Federal Chief Information Officer (CIO) Council, the Office of Management and Budget (OMB), the General Accounting Office (GAO), and others in the area of IT investment management. The following links provide some of this guidance:

<http://www.whitehouse.gov/omb/circulars/index-budget.html>

<http://www.cio.gov>

<http://www.gao.gov>

The processes described in this guide are consistent with this guidance.

D.1 OMB Direction

OMB requires agency investment submissions to be justified by rigid cost/benefit analyses. It further requires that full life cycle costing be used; full funding for costs should be appropriated in advance; cost, schedule, and performance goals be clearly identified, achievable and measured using Earned Value Management (EVM); and that risks be identified.

OMB Circulars describing these requirements include:

- ▲ Circular A-11 Part 2, Strategic Plans and Annual Performance Plan
- ▲ Circular A-11 Part 3, Capital Assets
- ▲ Circular A-11 Part 3, Supplement, Capital Programming Guide
- ▲ Circular A-11 Part 7, Planning, Budgeting, Acquisition, and Management of Capital Assets
- ▲ Circular A-94, Benefit-Cost Analysis
- ▲ Circular A-109, Major Systems Acquisitions
- ▲ Circular A-123, Management Accountability and Control
- ▲ Circular A-127, Financial Management Systems
- ▲ Circular A-130, Management of Federal Information Resources

D.2 OMB Exhibit 300

OMB Circular A-11 Part 7 describes the OMB Exhibit 300 as a format to demonstrate to agency management and OMB that it has employed the disciplines of good project management, represented a strong business case for the investment, and met other Administration priorities to define the proposed cost, schedule, and performance goals for the investment if funding approval is to be obtained. Business cases for all major VA IT projects are submitted to OMB by the agency in the OMB Exhibit 300 format. In addition all agency major projects are gathered into a

portfolio and reported as a group to OMB in the Exhibit 53 format. The OMB Exhibit 300 form is included in the Appendix.

The OMB Exhibit 300 is made up of the following sections:

- ▲ **President’s Management Agenda (PMA):** Ensure that your program supports the President’s Management Agenda. A collaborative project that includes multiple agencies, state, local, or tribal governments, uses e-business technologies and one that is governed by citizen needs. For projects in development, provide evidence of attempts to get other agencies involved. The project supports the Federal business Architecture published by OMB. If the project is steady state, show evidence of (or plans for) an E-Government (E-Gov) strategy review. Key is identifying if the project ties to the existing E-Gov initiatives. If this project has no direct relationship to the E-Gov initiatives, show how it supports the 5 PMS areas:

Strategic Management of Human Resources – Link human capital strategies to the VA mission, vision, core values, goals and objectives

Competitive Sourcing – Achieve efficient and effective competition between public and private sources

Improved Financial Performance – Ensure that federal financial systems produce accurate and timely information to support operating, budget, and policy decisions

Expanded Electronic Government – Advance E-Gov strategy by supporting projects that offer performance gains across agency boundaries

Budget and Performance Integration – Treat this seriously, performance goals based on the VA mission should show ROI of investment. Know what the taxpayer is getting for the investment

- ▲ **Performance Goals** – Performance goals are provided for the agency, are linked to the annual performance plan, the project discusses mission and strategic goals, and performance measures are provided. Tie project specific goals to the agency/departments/PMA strategic plans and goals and provide goals by business lines. Include internal and external benefits. Provide measures of the results (business value) of making the investment – not project milestones. The performance goals are meant to be business improvement measures not system goals though system goals are better than no measures.
- ▲ **Program Management** – Program Management is very strong and has resources in place to manage it. Good PM is a well managed project providing a complete schedule, resources in place and members with the appropriate skill sets identified. OMB suggests the following skills be included in the Integrated Project Team: budgetary, financial, capital planning, procurement, users, value management, earned value management, and other staff as appropriate for this project. PM questions focus on governance issues. Indicate if the project is governed by a Capital Planning and Investment Control process. Describe the layers of the program governance structure, describe how IPTs are used, who is on the IPT and their skills, review processes, and how the Project Manager is involved in the preparation and review of the OMB Exhibit 300.

- ▲ **Alternatives Analysis** – Include 3 viable alternatives, alternatives were compared consistently, and an alternative chosen provides benefits and reasons for selection. Cost elements should address the entire life cycle to include government and contractor costs for each stage (i.e., planning, acquisition, and maintenance). All costs should be those you reasonably expect to incur, which means including inflation adjustments. OMB understands the cost benefit analysis does not include inflation, but life cycle cost estimates should include inflation. For steady-state projects, conduct E-Gov review and report decision to keep or change. The OMB Exhibit 300 should demonstrate that either the existing investment is meeting the needs and delivering the expected performance or that the investment is being modernized and replaced consistent with the modernization blueprint. The OMB objective is to force a review of assets annually with decision to keep, change, or drop. Viable alternative examples include doing nothing; upgrading; replacing; and outsourcing. Each alternative should show risks, costs, NPV, and ROI. The alternative with the best NPV should be selected unless a very strong argument is presented. The AA should also attempt to document the assumptions and any raw cost and benefit data.
- ▲ **Life cycle Cost Formulation** – Life cycle costs should reflect formulation that includes all of the required resources and is risk adjusted to accommodate items addressed in the Risk Management area. It appears that the project is planned well enough to come in on budget.
- ▲ **Risk Management** – Risk assessment was performed for all mandatory elements and risk is managed throughout the project. Risk adjustments are an estimated range of costs that take into account probability and potential severity of the identified risk. Another name for risk costs is management Reserve – a term for money one needs to add to the budget to make it risk-adjusted. OMB expects the project cost to have been risk adjusted. Use your own experience for determining the percent of risk associated with the project. Address all 19 risk areas defined by OMB.
- ▲ **Acquisition Strategy** – Strong Acquisition Strategy mitigates risk to the Federal Government, accommodates Section 508 as needed, and contracts and SOWs are performance based. Performance based contracting or fixed priced contracting is preferred. Acquisition Plans 3 years old or less are preferred.
- ▲ **Performance Based Management System** – Agency will use, or uses an Earned Value Management System (EVMS) that meets ANSI/EIA Standard 748 and project is earning the value as planned for costs, schedule, and performance goals. Strive to set measurable, relevant, realistic milestone.
- ▲ **Enterprise Architecture (EA)** – Your project is included in the Agency EA and Capital Planning & Investment Control (CPIC) process. The BC demonstrates business, data, applications, and technology layers of the EA in relationship to your project. If your agency is developing an Enterprise Architecture, describe the project and status. If your project pre-dates the Enterprise Architecture, refer to the architectural work performed during the project development and relating to current efforts by the Federal Enterprise Architecture Program Management Office.
- ▲ **Security and Privacy** – Need to demonstrate that there is an action plan for identified deficiencies. Security & Privacy issues for the project and all questions are answered,

detail is provided about individual project throughout the life cycle to include budgeting for security & privacy. Security costs are to be included. For FY2003, security costs averaged 5%; for FY2004 they were 5%.

D.3 OMB Exhibit 300 Guidance

The OMB Exhibit 300 form is provided at the Appendix. The information below provides amplifying guidance, tips, and references in a sequential order for the sections of the OMB Exhibit 300.

Investment/useful segment is funded.

Check the appropriate box for the phase of the investment/project. Refer to OMB A-11 guidance for related information.

Was this project approved by PMB for previous Year Budget Cycle?

Indicate yes if an OMB Exhibit 300 was previously submitted and approved. If this is a new OMB Exhibit 300 for an existing investment/project provide a brief narrative explanation indicating that funding was approved without an OMB Exhibit 300 or as part of a previous OMB Exhibit 300 that has been split into 2 or more OMB Exhibit 300s.

Did the Executive/Investment Review Committee approve funding for this investment this year?

The Clinger-Cohen Act requires that agencies establish a management review group to approve all major IT investments. The CIO will assure this review in conjunction with the VA Management Council/Budget Review process. The yes block should be checked. Submitting offices should be prepared to describe local office and program office IT investment review/approval processes, however, this information does not need to be provided in this section (but should be described in Section 1.A, project Description).

Did the CFO review the cost goal?

Cost goals will be reviewed as part of the VA Management Review process. Submitted OMB Exhibit 300s should indicate yes.

Did the Procurement Executive review the acquisition strategy?

The acquisition strategy will be reviewed as part of the management review process. Indicate yes. Submitting offices should be prepared to describe local office and program office CFO and procurement review process, however, this information does not need to be provided in this section.

Did the Project Manager identified in Section 1.D review this exhibit?

Indicate yes.

Does the project support homeland security goals and objectives?

Indicate yes and provide an explanation for each of the homeland security mission areas this investment supports.

Is this project information technology?

Review the definitions in Circular A-11 Sections 300.4 and 300.9. All projects submitted should answer yes.

Does this investment address a FFMIA compliance area? If yes, which compliance area?

Review the definitions in circular A-11. OMB considers all financial systems with an annual cost of over \$500,000 to be a major system requiring an OMB Exhibit 300. The Federal Financial Managers integrity Act (FFMIA) establishes requirements for management controls, evaluations, and reports related to the financial integrity of Federal programs.

Does this project implement electronic transactions or record keeping that is covered by the Government Paperwork Elimination Act (GPEA)?

GPEA requires agencies to offer electronic options for public submission of information to the agency by the end of fiscal year 2003. Additional information/references on GPEA are in Section 11.c. of OMB Exhibit 300.

Was a privacy impact assessment performed for this project?

Privacy Impact Assessment (PIA) is a process used to evaluate privacy information systems. The process is designed to guide system owners and developers in assessing information and data privacy issues through project phases. It is used to assist agencies in achieving compliance with several laws and regulations. Refer to www.cio.gov/documents for CIO Council best practices on privacy assessments. Additional information and questions are included in Section 11.B. of OMB Exhibit 300. PIAs are straightforward so the answer to this question should always be yes and a PIA should be completed.

Was this investment reviewed as part of the Federal Information Security Management Act (FISMA) review process?

FISMA and the Government Information Security Reform Act (GISRA) provide a framework for management and evaluation of agency's information assurance program. The Act requires an Agency plan that is reviewed annually and requires that security considerations be applied to the full life cycle of information systems. The annual assessment describes specific weaknesses identified in the review of all existing systems and, therefore the answer to this question should be yes. Consult with the VA cyber security point of contact for assistance on the GISRA process.

Has this investment been identified as a national critical operation or asset by a Project Matrix review or other agency determination?

Project matrix is a Government-wide review to identify critical national security and public health infrastructures that support the Federal Government's operations. If indicating yes to these questions, additional narrative explanation should be provided.

Summary of spending for project (Investment) stages.

This section identifies the required budget authority to fund the investment. Planning includes background activities associated with developing a system; full acquisition includes activities required to build a system; and maintenance includes activities and recurring costs associated with the operations and support of an operating system. Budgetary resources indicate how much funding is required/planned and outlays reflect the amount actually spent. If projections are shown using constant dollars they should reflect the discounting requirements of OMB Circular A-94. Indicate with a note if there is a planned end date for the investment and if there are any changes from previously reported tables. These changes should be clearly explained.

Investment Description

Provide a clear description of the investment/project in this section addressing the listed questions. Include a description of the expected accomplishments or accomplishments to date for an ongoing investment/project. OMB expects that steady state project provide a reasonable level of documentation including addressing the management processes involved from a re-engineering and E-Gov perspective.

Areas to address include: a high-level description of the challenges facing the agency; project background; understanding of the current environment; how work is current done; and what the business problem the investment is intended to address. Include a discussion of any relevant background information. What is the value proposition? What is the value to partner agencies? What is the value to customers/stakeholders? What strategic mission objectives is this initiative advancing? How will this investment reduce costs or improve efficiencies?

The key to addressing this section is to clearly explain, in business terms, why this investment is needed. Be careful not to give 'good IT answers' that explain the proposed technical solutions to be implemented, but instead focus on the value, functionality, and intended business goals of the investment.

What assumptions are made about this investment and why?

Discuss the key/overarching assumptions necessary for the reader to understand the approach; these include scope, linkages/dependencies with other systems or projects, funding strategy, implementation, cost, etc. What are the constraints/risks that stand in the way of successful implementation of this initiative and how will they be mitigated?

Provide any other supporting information derived from research, interviews, and other documentation.

Refer to and include any supporting material that would help support, defend, or fully explain the project/investment. Point to any relevant documents available on the VA website.

How does this investment support your agency's mission and strategic goals and objectives?

Identify the VA mission and strategic goals and objectives that this investment directly or indirectly supports and be as specific as possible on the linkage. Goals and objectives should like to the budget submission and performance plan. It is important that Section 1.B provide a thorough justification of this investment.

How does it support the strategic goals from the President's management Agenda?

Consider using a table that links project initiative goals (see Section 1.C) to agency goals and the PMS goals/objectives/initiatives.

Are there any alternative sources in the public or private sectors that could perform this function?

The identification and consideration of alternatives are an essential part of any business case and expected for all major IT investments (additional questions are asked in Section 1.E). In this section, identify if any alternative public or private source exists for providing the function that is to be obtained through or results from this investment.

Who are the customers for this project?

Identify the categories of individuals or groups and internal/external organizations that will receive services or benefit from the investment. Explain how customer interests and requirements are addressed in the investment activities.

Who are the stakeholders of this project?

Identify the categories of individuals or groups who have a strong interest in the investment. Explain how stakeholder considerations will be addressed or the groups involved. Stakeholders can be internal organizations or external organizations or groups.

If this is a multi-agency initiative identify the agencies and organizations affected by this initiative.

Identify agencies or organizations that are involved in the project and explain the involvement/relationship and benefits.

How will the investment reduce costs or improve efficiencies?

Explain the cost benefit and efficiencies that will be achieved by the investment. Provide specific quantitative examples of the expected improvements. These should link to the goals and

measures in Section 1.C. The response to this section should provide information on the expected benefits of the investment.

List all other assets that interface with this asset. Have these assets been reengineered as part of this project?

OMB expects that all projects, including steady state projects, be continuously reviewed from an E-Gov perspective. It is important that processes supported by the project be reviewed/changed/improved.

Performance Goals and Measures

Identify in this table (or other comparable format) the strategic goals that the investment supports as well as anticipated improvement goals and measures for the investment/project. It is important that accurate baselines be identified and documented. Progress and success of the activity through its life cycle will be measured through this matrix. At least one performance measure needs to be identified for each year.

The Federal Acquisition Streamlining Act requires agencies to establish cost, schedule and measurable performance goals for all major acquisition programs, and achieve, on average, 90 percent of those goals. These answers should be derived from the analysis surrounding the selected alternatives (i.e., the investment you are justifying in the OMB Exhibit 300. This represents a commitment to achieving specific goals for the completion of the acquisition.)

Project Management (Investment Management)

This section requires information on the Project Manager; agency sponsor; and contracting officer assigned to the activity. The Project Manager is the individual who has overall responsibility for managing the project. The sponsor is usually the head (or a very senior manager) in the VA. Often this is an individual who serves on the VA investment review board. Use this section to describe the overall project management approach including use of an Integrated Project team (IPT); collaborative participation by stakeholders, customers, subject matter experts; communications; and reporting relationships, roles and responsibilities.

Alternative Analysis

Major investment decisions need to take into account alternative solutions and an assessment of the potential risks and risk mitigation strategies. These are generally an integral part of a business case for a major system. It is expected that a cost benefit analysis be done to allow decision makers to compare alternative solutions to determine the optimum solution. OMB requires that at least three alternatives be considered, with continuing with the current approach being a viable option. Some generic examples of alternatives include in-house development versus contractor development, in-house operation versus contractor operation, current operational procedures versus new operational procedures, or one technical approach versus another technical approach. Emphasis should be placed on addressing use of Commercial-off-the-shelf (COTS) products in the alternative analysis.

The cost benefit analysis should include comprehensive estimates of the projected benefits and costs for each alternative. Costs, tangible benefits, and intangible benefits (benefits which cannot be valued in dollars) should be included. Intangible benefits should be evaluated and assigned relative numeric values for comparison purposes. Sunk costs (costs incurred in the past) and realized benefits (savings or efficiencies already achieved) should not be considered since past experience is relevant only in helping estimate future benefits and costs. Investments should be initiated or continued only if the projected benefits exceed the projected costs. The level of detail and rigor of a cost benefit analysis should be commensurate with the size, complexity, and cost of a project.

Cost and benefits need to be calculated for each alternative to enable the evaluation and final selection of the best approach. Some required/mandatory systems may not provide total net benefit. In such cases, the lowest cost alternative should be selected. However, if discretionary functions are to be added to a mandatory system, the additional functions should provide benefits to the government. Qualitative factors such as quality and timelines can also be taken into account in the analysis.

Describe the alternatives that were assessed as part of the cost/benefit analysis using the table in Section 1.A or a comparable format. If alternatives were not looked at, provide a complete explanation.

For alternative selected, provide a financial summary, including New Present Value by Year and Payback Period calculations.

Payback is the number of years it takes to recover the investment costs from the discounted net cash flow. Net Present Value is described in OMB Circular A-94 – it is the discounted value (in dollars) of expected net benefit (i.e. benefits minus cost) and is computed by assigning monetary values to benefits and cost, discounting future benefits and cost using the appropriate discount rate, and subtracting the sum total of discounted costs from the sum total of discounted benefits. This approach allows for a more accurate comparison of benefits and cost occurring over a period of time.

Risk Inventory and Assessment

Risk Management is the use of a comprehensive and iterative approach to identify, assess, categorize, mitigate, transfer, and resolve risks throughout the project life cycle. It includes an assessment of the potential outcomes of a project and the likelihood that one or more of the outcomes may be unsuccessful. Major projects are required to have a Risk Management Plan that identifies risks and documents the analysis, assessment, prioritization, and action plan to reduce the identified risks. All 19 risk areas defined by OMB should be addressed. If any are not applicable, still include them and state why it is not applicable. The OMB risk areas are: 1) Schedule; 2) Initial costs; 3) Life cycle costs; 4) Technical obsolescence; 5) Feasibility; 6) Reliability of systems; 7) Dependencies and interoperability between this project and others; 8) Surety (asset protection) considerations; 9) Risk of creating a monopoly for future procurements; 10) Capability of agency to manage the project; 11) Overall risk of project failure; 12) Organizational and change management; 13) Business; 14) data/Info; 15) Technology; 16) Strategic; 17) Security; 18) Privacy; and 19) Project Resources.

Acquisition Strategy

The Acquisition Strategy is the process of deciding which investment/project needs are better satisfied by external sources and the process for acquiring those needs in the most cost effective way. If multiple contracts are used, define the relationships between the contracts. Acquisitions related to major investments should rely on the advice of contracting/procurement officials. The goal of an acquisition strategy is to distribute the risk between the government and a contractor. Contracts based on time and material, cost plus fixed fee, or labor hours are the least preferred and will result in a lower score. OMB believes the use of T&M/Cost Plus contracts reflect a lack of knowledge of what is needed (performance), what it will cost, or how long it will take (schedule). OMB wants everything, including interagency agreements, to be performance based and measurable.

Performance Based Management System

OMB expects that all investments/projects be managed and reported from a performance standpoint. OMB is looking for evidence that an ANSI compliant Earned Value Management System is being used. This type of system allows agencies to demonstrate if the project is meeting the expectations that served as the basis for funding decisions. OMB has developed and expects the tables in this section to be completed over the life cycle for each major investment. OMB Exhibit 300 should be able to show the Budgeted (planned) Cost of Work Scheduled (BCWS), Budgeted (planned) Cost of Work Performed (BCWP), and the Actual Cost of Work Performed (ACWP). When variances occur (+/- 10%), show what the variances are, what the impact to the project is and what the resolution is.

Original Baseline

The Original baseline represents the approved cost, schedule and performance goals from the first time the investment (its planning or any other parts) goes through the Federal budget process. The Original baseline information should never change as the OMB Exhibit 300 is updated. However, if both the agency and OMB approve changes to the baseline, a new baseline is established (new targets and measures that the investment is held to) and is referred to as the Current Baseline.

Enterprise Architecture

The Clinger-Cohen Act requires agencies to have an Enterprise Architecture (EA) that describes the current and future architecture for the agencies. The OMB Exhibit 300 needs to demonstrate how the investment conforms to the enterprise architecture and what the implications are for the business and data layers of the architecture. EA encourages the development of enterprise solutions to support common business functions. Enterprise solutions allow multiple departmental offices to leverage common applications and capabilities. The elimination of duplicative functionality across the agency can save time and money, increase the consistency of data, and streamline a variety of business processes. OMB has directed that funding for new initiatives not be provided unless identified in the agency EA. If the investment does not relate to or link to the EA of the Federal enterprise Architecture Framework, explain why not.

Security and Privacy

It is critical that all security costs be clearly identified for each investment and that the source of funding is fully described. Agencies are required to report security costs and document that security controls have been incorporated into the life cycle planning and funding of the investment. Security costs include products, procedures, and personnel used to provide security controls such as training, inspections and audits, and vulnerability and penetration testing. The government Information Security Reform Act (GISRA) provides a framework for program/project management and evaluation of an agency’s assurance program. GISRA requires agencies to (1) develop and implement an agency-wide information security program that includes an annual system review; (2) ensures the plan is practiced throughout the life cycle of each system; (3) that procedures are in place for an incident response and reporting capability; and (4) that a process is in place to report significant agency deficiencies in policies, or practices, as material weakness under applicable criteria of other laws. OMB policy is provided in OMB Circular A-130.

Government Paperwork Elimination Act (GPEA)

Describing an investment’s relationship to the agency GPEA plan is a way of documenting to OMB that GPEA planning and implementation are an integral part of the agency’s CPIC process and EA, and that the agency is making progress on GPEA compliance.

A sample OMB Exhibit 300 is provided in the Appendix. Please refer to OMB Circular A-11, Section 300 for more specific guidance and direction in completing the OMB Exhibit 300.

Some of these categories are project management artifacts that the PM will prepare for other reporting requirements throughout the project. The major steps of the VA OMB Exhibit 300 fiscal reporting cycle are depicted in Figure D.1 below.

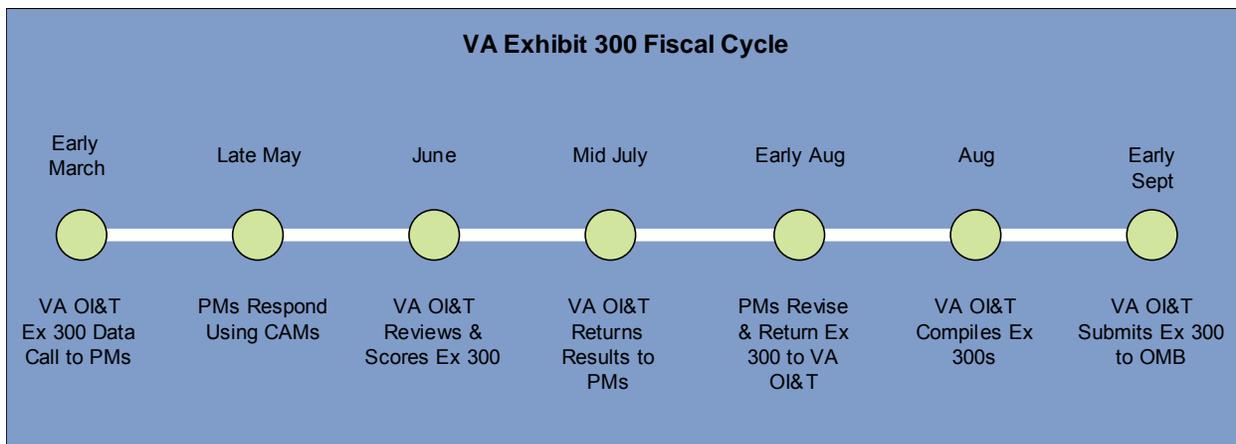


Figure D.1: VA OMB Exhibit 300 Fiscal Cycle

The VA’s Office of Policies, Plans, and Programs is part of the VA OI&T and is responsible for implementing and managing the VA’s OMB Exhibit 300 reporting process. To aid in this process the VA implemented the Capital Asset Management System (CAMS) which manages the VA’s portfolio of capital assets (land, structures, IT and intellectual property with a useful

life of two years). Information is stored, processed and reported out in CAMS using software developed by ProSight, Inc. Based on the fiscal cycle in Figure D.1 above the PMs will input their information in ProSight forms to be reviewed, analyzed and processed by the VA's OI&T.

Figure D.2 provides an overview of CAMS.

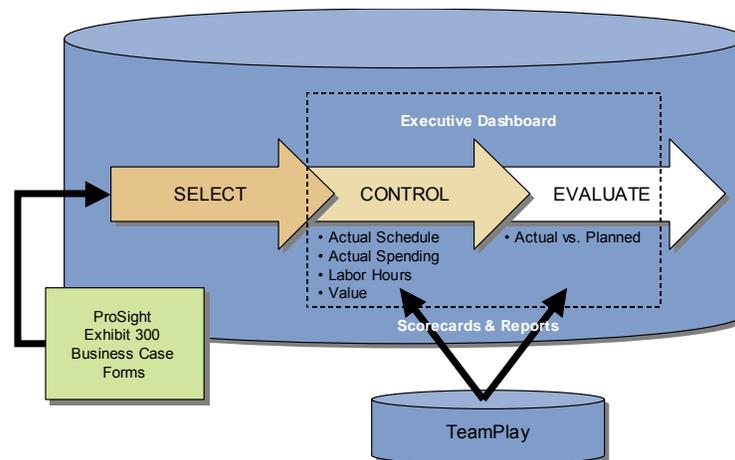


Figure D.2: Capital Asset Management System (CAMS)

D.4 OMB Exhibit 300 Scoring

OMB uses a core set of criteria to score OMB Exhibit 300 business cases and allocate funding to the agency. The criteria are based on categories related to project scope and project management. The information for the categories is provided by VA Project Managers and other VA offices to the VA's Office of Information and Technology (OI&T) using the Capital Asset Management System (CAMS). Some of the outputs from OMB Exhibit 300 business case categories constitute project management documentation that will need updating throughout the project and are used during milestone and status reviews. The OMB Exhibit 300 scored categories areas are:

- ▲ Project Description and Justification
- ▲ Performance Goals
- ▲ Project Management
- ▲ Alternative Analysis
- ▲ Risk Management
- ▲ Acquisition Strategy
- ▲ Performance Based Management
- ▲ Enterprise Architecture
- ▲ Security and Privacy
- ▲ Life cycle Costs Formulation
- ▲ Support of the President's Management Agenda (PMA) Items

OMB’s description of a “5,” the highest score is that the investment is a collaborative project that includes multiple agencies, state, local, or tribal governments, uses e-business technologies and the project is governed by citizen needs. The Project/Investment also supports the Federal Business Architecture published by OMB. If the Project/Investment is a steady state project, then an E-Gov strategy review is underway and includes all of the necessary elements. If appropriate, this project is fully aligned with one or more of the President’s E-Gov initiatives

The overall score is the sum of the 10 sections. An overall score of 4 or 5 is passing (above 31) unless the Security and Privacy score is 2 or below. Projects scoring a 2 are not recommended for funding.

Overall Score Equates to:

5 = 41-50	Strong documented BC
4 = 31-40	Very few weak points within the BC
3 = 21-30	Much work remains to solidify & quantify the BC
2 = 11-20	Significant gaps in the required categories of BC
1 = 1-10	Inadequate in every category of the required BC

D.5 Scoring Criteria

The following is provided as a strategy for improving the scoring of the OMB Exhibit 300. Each OMB Exhibit 300 should be prepared with a goal of achieving an overall score of 4 which required a total of 31 – 40 points from the 10 areas including a score of 4 in Security.

Key points to consistently be mindful of are:

- ▲ Address easy to improve areas
 - Support for President’s Management Agenda (PMA)
 - Program Management
 - Enterprise Architecture
- ▲ Ensure you utilize existing program documentation that OMB requests
 - Performance Goals
 - Security
 - Risks
- ▲ Work to address areas that may require enhancement in your ongoing PM processes
 - Performance based Management System
 - Alternative Analysis
 - Life Cycle Cost Formulation
 - Acquisition Strategy
- ▲ Restructuring Comments – Make it easier for the reader

Eliminate odd numbering schemes in your responses that conflict with current question numbers

Put information in the answer for the appropriate question – many reports have much good information provided within the Project Description but the answer to the appropriate question is blank or weak

Use the resource library attachments for supplements to the OMB Exhibit 300

D.6 How to Score a 5

It is important to complete all areas of the OMB Exhibit 300: leave no question unanswered. The specific OMB scoring criteria for each section follows.

Completeness Scoring Criteria – If no information is provided for a factor, that factor is awarded a score of 0 points.

PROJECT/INVESTMENT DESCRIPTION

5 POINTS: The program description addresses 6 of 6 criteria

1. New or Ongoing program described and CPIC status;
2. Business need, benefits, assumptions, barriers
3. Value proposition, scope, describes what is being replaced, what happens if NOT funded
4. Dependencies, planned or accomplished milestones
5. Reviews discussed CIO/CFO/IRB levels
6. Summary of spending complete; budget/outlays by FY for each phase.

4 POINTS: The program description addresses 5-6 of 6 criteria.

3 POINTS: The program description addresses 3-4 of 6 criteria.

2 POINTS: The program description addresses 1-2 of 6 criteria.

1 POINT: The program description addresses none of 6 criteria.

JUSTIFICATION

5 POINTS: The investment meets 7-8 of 8 justification criteria.

The investment:

1. Supports FEA & Lines of business, VA mission, PMA & E-Gov strategic goals & objectives;
2. Provides greatest capabilities over like initiatives
3. Considered alternatives in public and private sector;
4. Explains why these alternatives were not selected;

5. Identifies customers, stakeholders;
6. Is a Joint or VA-wide initiative & identifies organizations affected;
7. Reduces costs or improves efficiencies; and
8. Lists other assets that interface with this asset and have these assets have been reengineered.

4 POINTS: The investment meets 6-7 of 8 justification criteria

3 POINTS: The investment meets 4-5 of 8 justification criteria

2 POINTS: The investment meets 2-3 of 8 justification criteria

1 POINT: The investment meets 0-1 of 8 justification criteria.

GOVERNMENT PAPERWORK ELIMINATION ACT (GPEA)

5 POINTS: The program meets 4 of the 4 GPEA criteria or GPEA is N/A.

If the program is GPEA related,

1. Included in VA/Component GPEA plan, and
2. Date of the Component GPEA plan is provided.
3. Applicable OMB PRA control numbers provided.

Program's ranking among other GPEA alternatives discussed

4 POINTS: The program meets 3 of the 4 GPEA criteria.

3 POINTS: The program meets 2 of the 4 GPEA criteria.

2 POINTS: The program meets 1 of the 4 GPEA criteria.

1 POINT: The program meets none of the 4 GPEA criteria.

PERFORMANCE GOALS (PG)

5 POINTS: Performance goals are provided & are linked to the annual performance plan & FEA. The program supports specific VA mission areas & strategic goals. Programs planned and actual improvements are described by phase & FY. Programs planned & actual metrics are described. Characteristics of initiative that allows it to reach the intended level of capability are described (policies, technology, data).

4 POINTS: Performance goals are provided for the agency, are linked to the annual performance plan, the program discusses the agency mission and strategic goals, and performance measures are provided yet work remains to strengthen the PG.

- 3 POINTS: Performance goals exist, but linkage to the agency mission and strategic goals is weak.
- 2 POINTS: Performance goals are in their initial stages and are not appropriate for the type of program. Much work remains to strengthen the PG.
- 1 POINT: There is no evidence of PG for this program.

PROGRAM/PROJECT MANAGEMENT (PM)

- 5 POINTS: Program is structured effectively to be successful. Team roles and responsibilities are identified. PM is certified. Team is trained.
- 4 POINTS: Program has some weak points in the area of PM and agency is working to strengthen PM.
- 3 POINTS: Much work remains in order for PM to manage the risks for this program.
- 2 POINTS: There is some understanding of PM for this program but it is very rudimentary.
- 1 POINT: There is no evidence of PM.

ALTERNATIVE ANALYSIS (AA)

- 5 POINTS: AA includes three risk-adjusted alternatives, alternatives were compared consistently. Net Present Value (NPV) & payback are listed for each Alternative. Alternative chosen provides benefits & reasons for being chosen. Market research to identify solution described. Data used to make cost estimates identified. Costs match summary of spending for selected alternative. AA plan is less than 5 yrs old.
- 4 POINTS: AA includes three viable alternatives; however work needs to continue in terms of alternatives chosen and the accompanying analysis.
- 3 POINTS: AA includes less than three alternatives and overall analysis needs strengthening.
- 2 POINTS: AA includes weak AA information overall, significant weaknesses exist.
- 1 POINT: There is no evidence that an AA was performed.

RISK MANAGEMENT (RM)

- 5 POINTS: Risk assessment was performed for all mandatory elements and risk is managed throughout the program life cycle for each program phase. Analysis and date of risk assessment included.
- 4 POINTS: Risk assessment addresses some of the risks, but not all that should be addressed for this program.

- 3 POINTS: Risk management is very weak and does not seem to address or manage most of the risk associated with the program.
- 2 POINTS: Risk assessment was performed at the outset of the program, but does not seem to be part of the program management.
- 1 POINT: There is no evidence of a risk assessment plan or strategy.

ACQUISITION STRATEGY (AS)

- 5 POINTS: Strong Acquisition Strategy (AS) that mitigates risk to the Federal Government, accommodates Section 508 as needed. Implementation of the AS is clearly defined. Discusses the number of contracts, type of contracts, incentive fee/award fee if applicable, competition process & number of competitors, percentage of investments for hardware, software, services for each contract and phase. Date of acquisition strategy is current. Discuss contribution of contract to program cost, schedule and performance. Use performance-based SOWs tying contract payments to accomplishments and provides financial incentives.
- 4 POINTS: Contracts and SOWs are performance based with very few weak points that agency is strengthening and implementation of the AS is clearly defined.
- 3 POINTS: Much work remains to solidify and quantify the AS.
- 2 POINTS: Some parts of the AS are present, but no clear implementation strategy.
- 1 POINT: There is no evidence of an AS.

PERFORMANCED BASED MANAGEMENT SYSTEM (PB)

- 5 POINTS: Agency uses Earned Value Management System (EVMS) or appropriate tool that determines the cost, schedule and performance of a program by comparing planned work with accomplished work in terms of the dollar value assigned to the work. This program uses a WBS.
- 4 POINTS: Agency uses the required EVMS and is within the variance levels for two of the three criteria, and needs work on the third issue.
- 3 POINTS: Agency uses required EVMS but the process within the agency is very new and not fully implemented, or there are weaknesses for this individual program's EVMS information.
- 2 POINTS: Agency seems to re-baseline rather than report variances.
- 1 POINT: There is no evidence of a performance based management system.

ENTERPRISE ARCHITECTURE (EA)

- 5 POINTS: This program is included in the Enterprise Architecture (EA) and Capital Planning & Investment Control (CPIC) process. Business Case demonstrates business, data, application, and technology layers of the EA in relationship to this program. This program supports the Federal Enterprise Architecture (FEA) top 2 layers.
- 4 POINTS: This program is included in the agency EA and CPIC process. Business Case demonstrates weaknesses in the business, data, application, and technology layers of the EA in relationship to this program.
- 3 POINTS: This program is not included in the agency EA and CPIC process. Business Case demonstrates a lack of understanding on the layers of the EA (business, data, application, and technology).
- 2 POINTS: While the agency has an EA Framework, it is not implemented in the agency and does not include this program.
- 1 POINT: There is no evidence of a comprehensive EA in the agency.

SECURITY AND PRIVACY (SE)

- 5 POINTS: Security and privacy issues for the program and all questions are answered, detail is provided about the individual program throughout the life cycle to include budgeting for security. Describes how security is provided and funded. Meets the requirements of Federal Information Security Management Act (FISMA). Program has undergone approved certification and accreditation process, users are trained, incident handling is incorporated into the program, and contractor security requirements are in place. Privacy impact assessment is completed, if applicable. THIS SECTION SHOULD BE COMPLETE. Security Plan is current.
- 4 POINTS: Security and privacy information for the program is provided but there are weaknesses in the information that needs to be corrected. A minimum score of 4 points is required for a project to be successful.
- 3 POINTS: Security and privacy information for the program is provided but fails to answer the minimum requirements.
- 2 POINTS: Security and privacy information points to an overall agency security process with little to no detail at this program level.
- 1 POINT: There is no security or privacy information provided for this program.

LIFE CYCLE COST FORMULATION (LC)

- 5 POINTS: Life cycle (LC) costs seem to reflect formulation that includes all of the required resources and is risk-adjusted to accommodate items addressed in the Risk

Management (RM) plan. It appears that the program is planned well enough to come in on budget. WBS should match summary of spending.

4 POINTS: LC costs seem to reflect formulation of some of the resources and some of the issues as included in the risk-adjusted strategy, but work remains in order to ensure that LC costs are accurately portrayed.

3 POINTS: LC costs seem to reflect formulation of the resources, but are not risk-adjusted based upon the RM plan.

2 POINTS: LC costs seem to include some of the resource criteria and are not risk-adjusted.

1 POINT: LC costs do not seem to reflect a planned formulation process.

SUPPORTS THE PRESIDENT'S MANAGEMENT AGENDA ITEMS (PMA)

5 POINTS: This is a collaborative program that includes multiple agencies, state, local, or tribal governments, uses e-business technologies and the program is governed by citizen needs. Program also supports the Federal Enterprise Architecture (FEA) and Business Reference Model (BRM) published by OMB. If program is a steady state program, then an E-Gov strategy review is underway and includes all of the necessary elements. If appropriate, this program is fully aligned with one or more of the President's E-Gov initiatives.

4 POINTS: This is a collaborative program that includes multiple agencies, state, local, or tribal governments, uses e-business technologies, though work remains to solidify these relationships. Program also supports the FEA published by OMB, though work remains to solidify the linkage. If program is a steady state program, then an E-Gov strategy review is underway, but needs work in order to strengthen the analysis. If appropriate, this program supports one or more of the President's E-Gov initiatives, but is not yet fully aligned.

3 POINTS: This is not a collaborative program, though it could be and much work remains to strengthen the ties to the PMA. If a steady state program and no E-Gov strategy is evident; this program will have a difficult time securing continued or new funding from OMB. If appropriate, this program supports one or more of the President's E-Gov initiatives, but alignment is not demonstrated.

2 POINTS: This is not a collaborative program and it is difficult to ascertain support for the PMA items. If a steady state program, no E-Gov strategy was performed or is planned.

1 POINT: There does not seem to be any link to the PMA items and no E-Gov strategy.

Page Left Blank Intentionally

APPENDIX E – VA GOVERNING ORGANIZATIONS

The following key management organizations have direct governance of the project management process within the VA IT organization. Please note that each Administration has its own project review process that must be completed prior to the project being presented to the Enterprise Information Board (EIB).

E.1 VA Executive Board (VAEB)

- ▲ Chaired by the Secretary
- ▲ Provides direction on Departmental policy, strategic direction, resource allocations and performance in key areas

E.2 Strategic Management Council (SMC)

- ▲ Chaired by the Deputy Secretary
- ▲ Recommends to the Secretary and the VAEB project management policy, strategic direction, resource allocations and performance in key areas
- ▲ Conducts Monthly Performance Reviews (MPR) on OMB 300-level programs and projects

E.3 Office of the Assistant Secretary for Information and Technology (VA Chief Information Officer and Deputy CIO)

- ▲ Provides technical direction and guidance to ensure that information technology (IT) is acquired and IT resources are managed for the Department in a manner that implements the policies and procedures of the Clinger-Cohen Act and the priorities established by the Secretary
- ▲ Oversees the management of VA's enterprise IT architecture; cyber security program; IT capital investment planning, execution and financial management programs; the Department's primary data processing center; wide area data and local area network management and telecommunications program; and office automation support services to VA Central Office customers.

E.4 Office of Policy, Plans, and Programs

- ▲ Develops and manages the VA IT Capital Planning Process in accordance with the Clinger-Cohen Act of 1996 and the OMB Capital Programming Guide
- ▲ Scores and critiques IT project OMB Exhibit 300 documentation for acceptance into the IT Portfolio
- ▲ Prepares and maintains the Department's IT Portfolio, OMB Exhibit 53
- ▲ Manages the VA acquisition review process for all IT investments
- ▲ Oversees and evaluates execution year spend plans for all IT activities across the Department to ensure actual planned expenditures map to budget documentation

- ▲ Manages the implementation of the project management oversight process to include scheduling milestone reviews and coordinating project manager preparation for each milestone review
- ▲ Tracks Milestone Review action items
- ▲ Collects performance data to measure the progress of each IT project and prepares the IT project performance report for each Monthly Performance Review
- ▲ Develops, implements, and oversees the project management training and certification program.

E.5 The Office of the Assistant Secretary for Management

- ▲ Develops and manages VA’s Capital Planning Process and budget submission to OMB
- ▲ Coordinates and prepares the Monthly Performance Review presentation to the Deputy Secretary and SMC

E.6 VA Enterprise Information Board (EIB)

- ▲ Chaired by the Assistant Secretary for Information and Technology (VA Chief Information Officer) and includes the VA Deputy CIO, the Deputy CIOs for Health, Benefits, and Memorial Affairs and representatives from VA’s business and technical communities.
- ▲ Provides a corporate forum for Departmental IT project and program management.
- ▲ Oversees the process of reviewing IT investment proposals for compliance with the VA enterprise architecture.
- ▲ Ensures that the IT planning process addresses sociological change management, cyber and information security, project management, and capital investment as well as VA enterprise architecture concerns.

E.7 Enterprise Project Management Council (EPMC)

- ▲ Reports to the Assistant Secretary for Information and Technology
- ▲ Primarily responsible for defining Department-wide processes and procedures for managing IT projects.
- ▲ Coordinates standards development for IT and non-IT projects

E.8 Veterans Benefits Administration (VBA) Information Technology Investment Board (ITIB)

- ▲ Reports to the VBA Under Secretary for Benefits (USB)
- ▲ Conducts milestone reviews for VBA IT projects
- ▲ Recommends a strategic approach to implementing VBA IT solutions
- ▲ Strengthens the ability of VBA to make sound decisions regarding which IT initiatives will be developed and/or continued

- ▲ Bolsters the ability of VBA to obtain Departmental approval of these IT initiatives (i.e., ensure that approved VBA IT projects fulfill the requirements of the Department of Veterans Affairs Milestone Review Process)
- ▲ Institutes a disciplined process within VBA for evaluating all IT initiatives, including future and ongoing projects.

E.9 Veterans Benefit Administration (VBA) Project Management Office

- ▲ Acts on behalf of the entire VBA community as a corporate base to standardize and mature project management disciplines and as a focal point for cross project interdependencies, and risk management.
- ▲ Reviews VBA project initiatives, in conjunction with the program services and staffs, to ensure that the VA and VBA project management guidelines are utilized.
- ▲ Develops individual project health assessment reports that focus on project cost, schedule and scope for VBA's ITIB and Under Secretary for Benefits (USB).
- ▲ Provides project management mentoring / coaching to VBA project managers throughout the project life cycle.
- ▲ Provides centralized staff support for TeamPlay project management software to the VBA community.
- ▲ Identifies and promotes VBA project management best practices and organizational project management lessons learned
- ▲ Supports project manager training

<http://vbaw.vba.va.gov/vbapmo.htm>

E.10 Veterans Benefits Administration (VBA), Office of Information (OIM), Business Systems Integration and Maintenance Service

- ▲ Maintains project management discipline, in compliance with the VA and VBA project management guidelines and in coordination with the VBA Project Management Office, for information technology systems development and maintenance projects.
- ▲ Leads systems development support efforts, planning, technical requirements definition, design, test, deployment, maintenance, and database administration.
- ▲ Manages the configuration of business applications development efforts.
- ▲ Improves the maturity level of VBA's systems development process.

E.11 Veterans Health Administration (VHA) Project Management Office

- ▲ Develops project management-related procedures and business rules
- ▲ Ensures standardization and compliance across all Office of Information (OI) services and enterprise systems
- ▲ Coordinates the project management marketing, mentoring, and support activities

- ▲ Provides centralized staff support for TeamPlay project management software

<http://vaww.appcl.va.gov/pmo/>

E.12 National Cemetery Administration (NCA)

- ▲ Policy and Planning Service

<http://vaww.vairm.vaco.va.gov/ncamis/planning.htm>

- ▲ Information Systems Services

<http://vaww.vairm.vaco.va.gov/ncamis/infosys.htm>

- ▲ Construction Management

<http://vaww.vairm.vaco.va.gov/ncamis/constructmgt.htm>

APPENDIX F – MONTHLY PERFORMANCE REPORT TEMPLATE

F.1 Monthly Performance Template Instructions

The Office of Information and Technology Monthly Performance Review for the Deputy Secretary covers the projects listed on the OMB Exhibit 53, IT Portfolio. The report is compiled from information provided by the individual project managers on one of three spreadsheets:

- ▲ **Development Performance Metrics** - Projects which have completed Milestone 0, Project Initiation Approval, Milestone I, Prototype Development Approval, or Milestone II, System Development Approval
- ▲ **Sustainment Performance Metrics** – Projects that have completed Milestone III, System Deployment Approval, or Milestone IV, Post Implementation Review
- ▲ **Enterprise Performance Metrics** – OMB 300 initiatives which do not involve the development of an IT system, i.e., they are IT services and the milestone review criteria do not apply to them.

The Development and Sustainment spreadsheets have the same categories and rating criteria, but place different weights on the categories. (See attached spreadsheets) The categories are:

- ▲ Acquisition Requirements
 - Latest Milestone Decision Briefing (MDB)
 - OMB Score on Exhibit 300
 - MDB Conditional Approval compliance deadline anticipated or met
 - Number of Outstanding MDB Action Items
- ▲ Funding
- ▲ Staffing
 - Positions
 - Training
- ▲ Schedule Performance
- ▲ Budget Performance
- ▲ Quality Performance
 - Business Performance Goals as stated in OMB 300
 - Project specific Performance Goals
 - Project specific system Reliability Goals

The Enterprise Program Performance Metric omits the sub-categories related to the milestone reviews under Acquisition Requirements, and those related to system performance and reliability under Quality Performance, since Enterprise initiatives are services and do not have milestone reviews or system specific goals.

SCORING

After selecting the appropriate milestone level (last milestone completed), the Project Manager scores a category by choosing a color from a drop-down menu based on the rating criteria. For Funding, Staffing, Schedule Performance, and Budget Performance, a percentage is calculated, which falls into one of four levels corresponding to the colors green, yellow, orange, or red. Acquisition Requirements has a different set of rating factors for each of its sub-categories. Quality Performance metrics are based on whether a project “met all goals,” “met all thresholds,” or was “below any threshold.” The spreadsheet calculates a numerical value for each category based on the weighting factors. Projects early in the system life cycle are weighed more heavily on Acquisition Requirements and Funding, whereas, projects further along in development are weighed more on Staffing, and Schedule and Budget Performance. Projects at the Milestone IV level have the most weight placed on Quality Performance. The weights for each milestone level are shown to the right of Notes column on the spreadsheets.

The spreadsheet calculates an overall value for the project and assigns a color score. The color scores follow the following criteria:

- ▲ 98+ = green
- ▲ 92 – 97 = yellow
- ▲ 85 – 91 = orange
- ▲ <85 = red

There are some overriding factors that influence the overall score, however. Scores of less than green on the sub-categories of Acquisition Requirements will result in the overall score being that color or a lesser color depending on the color of the remaining categories. A red score in any of the other categories will force the overall score to be red, regardless of numeric value.

The Overall Project Color basically signifies the following:

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 within the threshold limits. The PM is asking for or needs immediate, external assistance.

Orange = Project is out of scope by more than 8%, BUT the Project Manager does have the ability within their authority and resources to bring the criteria within scope. The PM is not asking for external assistance.

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.

Green = Project is on target.

NOTES

For projects that are Red or Orange, the project manager needs to explain why the deviation occurred and what is being done about it. For all projects, notes should be included to indicate:

- ▲ Why a project has changed colors
- ▲ Why a category has changed colors
- ▲ What is being done to correct the problem if a category has not changed colors (other than green)
- ▲ Any other information pertinent to the project of which the CIO should be aware.

Category Descriptions

Acquisition Requirements

Latest Milestone Decision Briefing (MDB) Results

- ▲ Approved = Green
- ▲ Conditional Approval = Yellow
- ▲ Initial Milestone Briefing scheduled within the next 60 days = Orange (this designation no longer applies since all projects have been briefed at least once)
- ▲ Stopped at latest review = Red
- ▲ No briefing has been held = Red (this category no longer applies)

OMB Score on Exhibit 300 (Refers to latest score)

- ▲ Developing initial Exhibit 300 = Green
- ▲ OMB Score of 4 = Green
- ▲ OMB Score of 3 = Yellow
- ▲ OMB Score less than 3 = Red

MDB Conditional Approval Compliance Deadline Anticipated or Met

- ▲ Yes = Green
- ▲ No = Red
- ▲ If a Conditional Approval does not exist, score Green

Number of Outstanding MDB Action Items, i.e., not yet accomplished

- ▲ 0-1 = Green
- ▲ 2-3 = Yellow
- ▲ 4-5 = Orange

- ▲ ≥ 6 = Red

Funding

Development/Modernization/Enhancement or Rollout/Sustainment (depending on the projects milestone phase) compared to the cost estimate included in the Exhibit 300 business case. That is, compare the level of funding the project received in the budget versus the amount estimated/stated in the last version of the Exhibit.

- ▲ $>95\%$ = Green
- ▲ $90\% - 95\%$ = Yellow
- ▲ $85\% - 89\%$ = Orange
- ▲ $<85\%$ = Red

Staffing

Actual End Strength Positions on Board Compared to the Staffing Included in the Exhibit 300 Business Case. Use the staffing “plan” figure compared to the actual staffing, i.e., positions currently filled.

- ▲ $\geq 90\%$ = Green
- ▲ $80\% - 89\%$ = Yellow
- ▲ $70\% - 79\%$ = Orange
- ▲ $<70\%$ = Red

Training

Actual training to date compared to the project team training plan - after Milestone 0 approval. The training plan for the project team would include project management training, technical training, and administrative training.

- ▲ $\geq 90\%$ = Green
- ▲ $80\% - 89\%$ = Yellow
- ▲ $70\% - 79\%$ = Orange
- ▲ $<70\%$ = Red

Schedule Performance

Earned Value Schedule Performance Index (SPI) OR if SPI is not available, then Actual Critical Path percent complete/Planned Critical Path percent complete. The SPI is the percent of the project that has actually been completed. It is calculated as the earned value (EV) divided by the planned value (PV). An example would be that at the end of the report period the project has completed planned activities that were budgeted to cost \$90,000 (EV) and the budgeted cost of the work scheduled for the month (PV) was \$100,000, then the SPI is .90.

- ▲ $>95\%$ = Green
- ▲ $90\% - 95\%$ = Yellow
- ▲ $85\% - 89\%$ = Orange

- ▲ <85% = Red

Budget Performance

Earned Value Cost Performance Index (CPI) OR if CPI is not available, then Actual Expenditures to Date/Spend Plan project to date – The CPI is the ratio of earned value to the actual cost of the work performed. An example would be that as of the report, the fiscal year to date budgeted cost of the work performed was \$100,000 and the actual cost of the work performed was \$100,000. The CPI ratio would be 1.00.

- ▲ >95% = Green
- ▲ 90% – 95% = Yellow
- ▲ 85% - 89% = Orange
- ▲ <85% = Red

Quality Performance

The **goal** is the target in terms of what performance is being measured. A **threshold** is defined as the minimum acceptable in terms of what performance is being measured.

Business Performance Goals as stated in the exhibit 300 – these measures are in the budget exhibit 300 under Part I. Section C. There may be additional or superceding performance goals that stem from the milestone review process.

- ▲ Met all Goals = Green
- ▲ Met all Thresholds = Yellow
- ▲ Below any Threshold = Red

Project specific system Performance Goals (technical – response time, etc.) – projects in development may use prototype testing to determine this measure.

- ▲ Met all Goals = Green
- ▲ Met all Thresholds = Yellow
- ▲ Below any Threshold = Red

Project specific Reliability Goals (technical – uptime, MTBF, etc.) – projects in development may use prototype testing to determine this measure. MTBF is mean time between failures.

- ▲ Met all Goals = Green
- ▲ Met all Thresholds = Yellow
- ▲ Below any Threshold = Red

F.2 Individual Project Template - Development

INDIVIDUAL PROJECT TEMPLATE-DEVELOPMENT			Milestone Completed:	0-1	Weighting Factor by Milestone		
February-03			Score	Weighting Factor	Weighted Score per category	Weighted Score	Notes
Measurement	Metric	Ratings					
Submittal of approval documentation on a timely basis (Master Schedule)	OMB Circulars (300, A11)	G - Met requirements-95% Y - Met requirements, minor revisions-85% O - Require substantive revisions-75% R - Require major effort-65%	95	5%	7.25		Passback required no changes
	VA Approval Authority Results from most recent Milestone Decision Briefing	G - Met requirements-95% Y - Met requirements, minor revisions-85% O - Require substantive revisions-75% R - Require major effort-65%	50	5%			Internal VBA Review conducted. VA Milestone Review to be scheduled.
Project Budget	Projected funding requirement vs. actual funding approved Spend Commitments / Spend Plan	G - 95% - 100% Y - 87.5% - 94% O - 80% - 87.4% R - < 80%	61	5%	3.05		
Human Capital - Staffing Plan and Current Level	Budget for Authorized Positions vs Positions Authorized	G - 90% - 100% Y - 80% - 89% O - 70% - 79% R - < 70%	100	5%	10.00		
	Authorized Positions Filled	G - 90% - 100% Y - 80% - 89% O - 70% - 79% R - < 70%	100	5%			
Master Schedule - Critical Path	Schedule Variance	G - 90% - 100% Y - 80% - 89% O - 70% - 79% R - < 70%	84	5%	4.20		
Earned Value	Cost Variance	G - 90% - 100% Y - 80% - 89% O - 70% - 79% R - < 70%	90	5%	4.50		
Performance vs. Goal	Performance Variance	G - 90% - 100% Y - 80 - 89% O - 70% - 79% R - < 70%	66.6	15%	19.74		
Reliability vs. Goal	Reliability Variance	G - 90% - 100% Y - 80% - 89% O - 70% - 79% R - < 70%	65	15%			
Sustainment Funding Requirement and Budget	Sustainment Budget / Requirement TCO Reduction Actual / Budget	G - 90% - 100% Y - 80% - 89% O - 70% - 79% R - < 70%	85	35%	29.75		
TBD	TBD	TBD	TBD	0%	0.00		
TBD	TBD	TBD	TBD	0%	0.00		
			Overall Status	100%	78.49		

F.3 Individual Project Template – Sustainment

VA Project / Program Name: INDIVIDUAL PROJECT TEMPLATE-SUSTAINMENT				Milestone Completed:	IV	Weighting Factor by Milestone	
Reporting Month / Year: February-03				Score	Weighting Factor	Weighted Score per category	Weighted Score
Category	Measurement	Metric	Ratings	Score	Weighting Factor	Weighted Score per category	Weighted Score
Acquisition Documentation	Submission of approval documentation on a timely basis (Master Schedule)	OMB Circulars (300, A11)	G - Met requirements-95% Y - Met requirements, minor revisions-85% O - Require substantive revisions-75% R - Require major effort-65%	95	5%	7.25	
		VA Approval Authority Results from most recent Milestone Decision Briefing	G - Met requirements-95% Y - Met requirements, minor revisions-85% O - Require substantive revisions-75% R - Require major effort-65%	50	5%		
Funding	Project Budget	Projected funding requirement vs. actual funding approved / Spend Commitments / Spend Plan	G - 95% - 100% Y - 87.5% - 94% O - 80% - 87.4% R - < 80%	61	5%	3.05	
Staffing Inventory of skillsets and VA FTEE counts to meet requirements (FY03, projected for FY04)	Human Capital - Staffing Plan and Current Level	Budget for Authorized Positions vs Positions Authorized	G - 90% - 100% Y - 80% - 89% O - 70% - 79% R - < 70%	100	5%	10.00	
		Authorized Positions Filled	G - 90% - 100% Y - 80% - 89% O - 70% - 79% R - < 70%	100	5%		
Schedule Performance Completed deliverables by the deliverable due date	Master Schedule - Critical Path	Schedule Variance	G - 90% - 100% Y - 80% - 89% O - 70% - 79% R - < 70%	84	5%	4.20	
Cost Performance Completed the deliverables expected for spending to date	Earned Value	Cost Variance	G - 90% - 100% Y - 80% - 89% O - 70% - 79% R - < 70%	90	5%	4.50	
Technical Performance Reliability and Performance compared to Goal and Threshold	Performance vs. Goal	Performance Variance	G - 90% - 100% Y - 80 - 89% O - 70% - 79% R - < 70%	66.6	15%	19.74	
	Reliability vs. Goal	Reliability Variance	G - 90% - 100% Y - 80% - 89% O - 70% - 79% R - < 70%	65	15%		
Sustainment Operational budget, staffing, training, and TCO reduction plans for on-going production operations, maintenance, and enhancements	Sustainment Funding Requirement and Budget	Sustainment Budget / Requirement TCO Reduction Actual / Budget	G - 90% - 100% Y - 80% - 89% O - 70% - 79% R - < 70%	85	35%	29.75	
User Satisfaction	TBD	TBD	TBD	TBD	0%	0.00	
Customer Satisfaction	TBD	TBD	TBD	TBD	0%	0.00	
Notes				Overall Status	100%	78.49	

F.4 Weighting Factors – Development

Category	Ratings	Scoring				Milestone Decision Briefing Phase		
		G	Y	O	R	Planning (0 - I)	Prototype (I - II)	Acquisition (II - III)
Acquisition Requirements						70%	35%	25%
Latest Milestone Decision Briefing (MDB) results	Approved = Green (100) Approved with Actions = Yellow (90) Conditional Approval = Orange (75) Stopped at Latest Review = Red (0) No briefing has been held = Red (0)	100	90	75	0	50%	25%	25%
OMB Score on Exhibit 300	4 = Green 3 = Yellow < 3 = Red	100	80	0	0	50%	25%	25%
MDB Conditional Approval compliance deadline met	Yes = Green No = Red	100	0	0	0		25%	25%
Number of Outstanding Milestone Decision Briefing Action Items	0 - 1 = Green 2 - 3 = Yellow 4 - 5 = Orange >= 6 = Red	100	90	80	0		25%	25%
Funding						30%	25%	25%
DME - Development, Maintenance, Enhancement compared to cost estimate included in the Exhibit 300 business case	> 95% = Green 90% - 95% = Yellow 85% - 89% = Orange < 85% = Red	100	90	80	0	100%	100%	100%
Staffing							10%	10%
Budgeted End Strength Positions compared to the staffing included in the Exhibit 300 business case	>= 90% = Green 80% - 89% = Yellow 70% - 79% = Orange < 70% = Red	100	90	80	0		50%	50%
Training - Actual to date compared to the project team training plan	>= 90% = Green 80% - 89% = Yellow 70% - 79% = Orange < 70% = Red	100	90	80	0		50%	50%
Schedule Performance							10%	15%
Earned Value Schedule Performance Index (SPI) OR -- if SPI not available -- then Actual Critical Path percent complete / Planned Critical Path percent complete	> .95 = Green .9 - .95 = Yellow .85 - .89 = Orange < .85 = Red	100	90	80	0		100%	100%
Budget Performance							10%	15%
Obligations compared to Spend Plan	> 95% = Green 90% - 95% = Yellow 85% - 89% = Orange < 85% = Red	100	90	80	0		50%	50%
Earned Value Cost Performance Index (CPI) OR -- if CPI not available -- then Spend Plan project to date / Actual Expenditures project to date	> .95 = Green .9 - .95 = Yellow .85 - .89 = Orange < .85 = Red	100	90	80	0		50%	50%
Quality Performance - with Customer Signoff in advance							10%	10%
Business Performance Goals as stated in the Exhibit 300	> 95% Goal = Green 90% - 95% Goal = Yellow 85% - 89% Goal = Orange < 85% Goal = Red	100	90	80	0		50%	50%
Project specific system Performance Goals	> 95% Goal = Green 90% - 95% Goal = Yellow 85% - 89% Goal = Orange < 85% Goal = Red	100	90	80	0		25%	25%
Project specific system Reliability Goals	> 95% Goal = Green 90% - 95% Goal = Yellow 85% - 89% Goal = Orange < 85% Goal = Red	100	90	80	0		25%	25%

F.5 Weighting Factors – Sustainment

Category	Ratings	Scoring				Milestone Decision Briefing Phase	
		G	Y	O	R	Deployment (III - IV)	Production (Post IV)
Funding						20%	25%
SS - Sustainment funding compared to cost estimate included in the Exhibit 300 business case	> 95% = Green 90% - 95% = Yellow 85% - 89% = Orange < 85% = Red	100	90	80	0	100%	100%
Staffing						20%	25%
Budgeted End Strength Positions compared to the system support staffing included in the Exhibit 300 business case	>= 90% = Green 80% - 89% = Yellow 70% - 79% = Orange < 70% = Red	100	90	80	0	50%	50%
Training - Actual to date compared to the support team training plan	>= 90% = Green 80% - 89% = Yellow 70% - 79% = Orange < 70% = Red	100	90	80	0	50%	50%
Schedule Performance						20%	0%
Deployment Earned Value Schedule Performance Index (SPI) OR -- if SPI not available -- then Deployment Critical Path percent complete / Planned Deployment Critical Path percent complete	> .95 = Green .9 - .95 = Yellow .85 - .89 = Orange < .85 = Red	100	90	80	0	100%	100%
Budget Performance						20%	25%
Obligations compared to Spend Plan	> 95% = Green 90% - 95% = Yellow 85% - 89% = Orange < 85% = Red	100	90	80	0	50%	50%
Earned Value Cost Performance Index (CPI) OR -- if CPI not available -- then Spend Plan year to date / Actual Expenditures year to date	> .95 = Green .9 - .95 = Yellow .85 - .89 = Orange < .85 = Red	100	90	80	0	50%	50%
Quality Performance - with Customer Signoff in advance						20%	25%
Business Performance Goals as stated in the Exhibit 300	> 95% Goal = Green 90% - 95% Goal = Yellow 85% - 89% Goal = Orange < 85% Goal = Red	100	90	80	0	50%	50%
System specific operational Performance Goals	> 95% Goal = Green 90% - 95% Goal = Yellow 85% - 89% Goal = Orange < 85% Goal = Red	100	90	80	0	25%	25%
System specific operational Reliability Goals	> 95% Goal = Green 90% - 95% Goal = Yellow 85% - 89% Goal = Orange < 85% Goal = Red	100	90	80	0	25%	25%
Totals						100%	100%

Page Left Blank Intentionally

APPENDIX G – MILESTONE REVIEW BRIEFING TEMPLATES & INSTRUCTIONS

G.1 Project Decision Memo

The project decision memo is signed by the VA Assistant Secretary for Information and Technology (005) for information technology projects and contains direction that results from Milestone briefings to the Executive Information Board (EIB).

The following is the Project Decision Memo template.



DEPARTMENT OF VETERANS AFFAIRS

PROJECT DECISION MEMORANDUM

Date:

From: Acting Assistant Secretary for Information and Technology (005)

Subj: Milestone x Review – *project name goes here*
(EDMS #xxxxxx)

To:

1. BACKGROUND:

2. DECISION:

3. Please provide the IT Oversight and Review Service (005P3) with a brief status report and planned completion date for the action item within a week of issue of this memorandum. In addition, notify the Service when the action item is completed so that your milestone schedule can be updated. If you have questions concerning this review, please contact me at 273-8842, or have your project representative contact Valerie Gray Durkin, IT Oversight and Review Service (005P3), at 273-8143.

Edward F. Meagher

Attachment

G.2 Milestone 0 Briefing Instructions

Introduction

At Milestone 0 the business owner or project sponsor must address the basic areas necessary to warrant project approval. This Milestone does not presume any significant prior investment in analysis (either business or technical), or concept or requirements definition or design; rather, it seeks answers to basic questions even before committing to that level of investment. The business owner or project sponsor must have a clear understanding of the problem that needs to be solved and how solving that problem supports a strategic objective of the VA. Based on a successful Milestone 0 review, the business owner or project sponsor will be authorized to expend the funds necessary to establish the project's business case and prepare for the project's Milestone I review.

Slide 3 - Business Problem or Opportunity and Project Description

Explain the business problem or opportunity that this project is intended to address. How will this project solve the problem or address the opportunity? In addition, provide a high-level description of the project, including the products and/or services that the project will provide. At this stage, the description should use non-technical language.

Slide 4 - Project Manager

At Milestone 0, there may not be a Project Manager (PM) assigned to the project. If this is the case, the business owner or project sponsor must present a candidate PM or short-list of candidate PMs and their qualifications.

Slide 5 - Benefits

Identify and clearly articulate the project's benefits, both qualitative and quantitative. **Limit your discussion to two slides.** Below are a few of the benefit categories you may wish to address:

Improves services to customers (e.g., improving ability to deliver, access to services and access to information) – Include any benefits that are gained by the customers. For example, the project increases the number of people reached (e.g., customers can conduct business by telephone, e-mail, or Internet in addition to existing mail services) or internal customers gain direct access to resources or information so they can perform tasks more efficiently. Improving services to customers could also include improving access to information (e.g., veterans can obtain information and services via the Internet or telephone.)

Improves accuracy – Include any benefits associated with improving accuracy, such as reducing manual processes or improvements in productivity by reducing time spent on error correction.

Captures future opportunities – Projects that may cause additional gains in the future. For example, an investment in a server for one aspect of a project may also have the capacity to support additional future projects. This approach may be particularly relevant for infrastructure projects and pilot projects.

Reduces risk – Investments that contribute to the reduction of risk. Examples include back-up systems that reduce the risk of data loss or applications that improve the timely delivery of critical information or services.

Eliminates duplicate assets – Projects that replace multiple, non-compatible, stand-alone systems.

Improves reliability – For example, the new system or enhancement that offers a better performance record with less downtime than the legacy process or system.

Reduces manual operations – Systems that automate manual processes, thereby freeing staff members to perform other functions, which reduce FTE requirements. An example would be systems that allow functions to be performed by lower level staff members.

Improves efficiency – Assets that improve access to information or tools that decrease the amount of time required to perform functions. For example, a system may provide faster or more accurate aggregation and analyses of data.

Other – Any other benefits directly related to the IT project, but not captured in one of the given categories, such as savings.

Slide 6 - VA Mission Support and Critical Success Factors

Describe how your project supports VA’s Strategic Goals and Objectives. Also provide a brief description of the critical success factors for this project. A critical success factor outlines a fundamental state or event necessary to achieve a specific goal or objective. Your critical success factors should be well defined and quantifiable.

Slide 7 - Lines of Business Impact

Listed below are the VA’s lines of business and their associated sub-functions. From the list below, include in the presentation the line(s) of business and sub-function(s) that your project will support. For each applicable sub-function, indicate the level of support (low, medium or high) provided by this project. Return this list to 005P when completed.

Finance & Accounting

- General Ledger Processing
- Payment Processing
- Receivables Processing
- Financial Sys Setup, Ops & Maint
- External Reports Processing
- Budget Processing

Acquisition & Material Mgmt

- Acquisition Management
- Material Management
- Financial Management

Contact Management

- Fixed Asset Processing
- Project Cost Accounting Processing
- Travel Management
- Grants
- Supplier Management

Human Resources

- Human Resources Management
- Diversity Mgmt & Equal Employ Opportunities
- Resolution Management
- Human Resources Administration

Medical Education

- Graduate Medical Education
- Associated & Allied Health Education

Medical Research

- Medical Research Service
- Rehabilitation R&D Service
- Health Services R&D Service
- Cooperative Studies Program

Information Technology

- Cyber Security
- Network Communication
- Data Center / COOP
- Information Technology Management

Pension

- Eligibility Determination
- Account Maintenance
- Program Integrity
- Appeals
- Outreach
- Customer Service
- Program Management

Insurance

- Eligibility Determination
- Account Maintenance
- Program Integrity
- Appeals
- Outreach
- Customer Service
- Program Evaluation
- Program Management

Loan Guaranty

- Eligibility Determination
- Loan Processing
- Account Maintenance

- Initiate Contact
- Service Contact
- Assure Quality

Memorial & Burial

- Provide Burial Space
- Provide Memorials
- Maintain National Cemeteries

Medical Care

- Beneficiary / Member Management
- Healthcare Delivery Management
- Health Data / Process Mgmt / Collaboration
- National Emerg Healthcare Mgmt
- Financial Management
- Business Management

Registration & Eligibility

- Medical Research Service
- Eligibility Determination
- Benefit Assessment

Compensation

- Eligibility Determination
- Account Maintenance
- Program Integrity
- Appeals
- Outreach
- Customer Service
- Program Management

Vocational Rehab & Employment

- Eligibility Determination
- Account Maintenance
- Program Integrity
- Appeals
- Outreach
- Customer Service
- External Service Provider Approval
- Program Management

Education

- Eligibility Determination
- Account Maintenance
- Program Integrity

- | | |
|---|---|
| <input type="checkbox"/> Program Integrity | <input type="checkbox"/> Appeals |
| <input type="checkbox"/> Appeals | <input type="checkbox"/> Outreach |
| <input type="checkbox"/> Outreach | <input type="checkbox"/> Education/Training Prgm Approval |
| <input type="checkbox"/> Program Participant Approval | <input type="checkbox"/> Program Management |
| <input type="checkbox"/> Program Management | <input type="checkbox"/> Customer Service |
| <input type="checkbox"/> Customer Service | |
| <input type="checkbox"/> Property Management | |

Training & Education

- Learning & Content Management
- Managing Employee Development
- Learning Delivery
- Personal Information & Tracking
- Training Cost Management

Slide 8 – Assumptions, Constraints and Dependencies

Examples of Assumptions:

- ▲ Historic trends in the growth of Veteran medical care needs will continue
- ▲ Congress will not change a law relevant to your proposed project
- ▲ Deployment of other systems within VA will not change the data requirements
- ▲ System X will continue to be VA's only financial management system.

Examples of Constraints:

- ▲ # of customer requests that can be addressed
- ▲ # of programmers available to do technical work
- ▲ # of users that the system can support
- ▲ A strategic change requires a new direction for the project; the timeline & budget requirements are unknown.

Examples of Dependencies:

- ▲ The proposed system is dependent on 3 other systems (X, Y, and Z) for data
- ▲ The proposed system is dependent on VA's financial management system to make payments
- ▲ The proposed system is dependent on the VA network for connectivity, networking infrastructure, security, etc.
- ▲ The proposed system is dependent on an offsite backup facility for disaster recovery

Slide 9 - Sourcing Strategy

Describe any market research you have conducted or plan to conduct. Also, do you anticipate using a contractor for any portion of this project?

Slide 10 - Preliminary Project Schedule and Costs

This table collects a preliminary schedule of your project's activities and their associated costs. For the three development categories, enter your best estimate start and end dates along with their associated costs. These development categories map to steps 1-4 of the VA integrated process flow for new IT projects. In the maintenance section, enter your estimate of costs for maintenance activities for four years following implementation.

Slide 11 - Preliminary Risk Assessment

Provide a brief description of your project's risks.

Risk categories:

Project Resources/Financial: Risk associated with “cost creep,” lifecycle costs, a small number of vendors without cost controls, or poor acquisition planning.

Technical/Technology: Risk associated with immaturity of commercially available technology, reliance on a small number of vendors, or risk of technical problems/failures with applications and their ability to provide planned and desired technical functionality.

Business/Operational: Risk that business goals of the program or project will not be achieved, risk that the proposed alternative fails to result in process efficiencies and streamlining, or risk that the program effectiveness targeted by the project will not be achieved.

Organizational and Change Management: Risk associated with organizational/agency/government-wide cultural resistance to change; risk associated with bypassing, lack of use or improper use or adherence to new systems and processes due to organizational structure and culture; or inadequate training planning.

Data/Information: Risk associated with the loss/misuse of data or information, risk of increased burden on citizens and businesses due to data collection requirements if the associated business processes or the project require access to data from other sources (federal, state &/or local agencies).

Security: Risk associated with the security/vulnerability of systems, Web sites, information and networks; risk of intrusions and connectivity to other (vulnerable) systems; or risk associated with the misuse (criminal/fraudulent) of information.

Strategic: Risk associated with strategic/government-wide goals (i.e. President's Management Agenda and e-Gov project goals.) The risk that the proposed alternative fails to result in the achievement of those goals or in making contributions to them.

Privacy: Risk associated with the vulnerability of information collected on individuals, or risk of vulnerability of proprietary information on businesses. (*Note: It is important to note the distinction between Security risk and Privacy risk. Security risk applies to a system's*

vulnerabilities, both from a technical standpoint and from a business/operational standpoint (based on the protocols and procedures put in place). Privacy risk applies to the risk of misuse, theft or unauthorized access to personal information contained or processed by a system. Security risk covers vulnerabilities of the information processed by a system and, more broadly, the technical vulnerabilities of the system itself and the potential for misuse of the system, regardless of the nature of the data it contains or processes.)

Slide 12 – Decision Requested

G.3 Milestone 0 Review Template



Milestone 0 Review Template

Concept Definition
Outcome: Project Initiation Approval

The Department of Veterans Affairs IT systems development life cycle management process is structured into discrete, logical steps separated by major decision points (called milestones). These milestones provide the basis for comprehensive management, progressive decision making, and authorization of funding for each step in the process.

1



Project Name

2



Sourcing Strategy

Describe any market research conducted/expected to be conducted.

Will you use contractor services in the development of this project?

9



Preliminary Project Schedule and Costs

Development Schedule			
Task:	Planned Start Date	Planned End Date	Planned Cost
Concept Definition and Development (Steps 0-1):			
System Design and Prototype (Step 2):			
System Devel. & Testing (Step 3):			
System Deployment (Step 4):			
Total Development Cost			\$0.00
Maintenance Schedule (Step 5)			
Year 1:			
Year 2:			
Year 3:			
Year 4:			
Total Maintenance Cost			\$0.00

10

 Preliminary Risk Assessment

Provide brief descriptions of potential risks as they pertain to your project. (Refer to the instructions document for risk categories.)

11

 Decision Requested

12

G.4 Milestone I Briefing Instructions

Introduction

At Milestone I the Project Manager (PM) must address areas necessary to warrant approving the commitment of resources to a prototype or pilot effort. At Milestone I, the PM must demonstrate a well-founded business case for the effort. Prototype efforts are encouraged within VA in order to speed time to market and to increase the likelihood that the delivered product will fit the end user's true needs.

Slide 3 - Business Problem or Opportunity and Project Description

Explain the business problem or opportunity that this project is intended to address. How will this project solve the problem or address the opportunity? In addition, provide a high-level description of the project, including the products and/or services that the project will provide.

Slide 4 - Concept of Operations Narrative

A concept of operations is an overview of the support concept for the new system, including, as applicable, support agencies and facilities; equipment, support software; repair/replacement criteria; maintenance levels and cycles; and storage distribution and supply methods. **Limit your concept of operations narrative to one slide only.**

Below is an example of the concept of operations narrative for the AAIP (Enterprise Authorization and Authentication Project):

AAIP will establish an enterprise authentication and authorization infrastructure for VA employees, enabling the following:

- Enterprise, technology agnostic, strong authentication (for events required to be authenticated) solution. Target solution will be in the form of a Public Key Infrastructure (PKI). Working closely with the Federal PKI Steering and Working Groups to ensure all VA policy requirements are captured
- Core identity management/authorization infrastructure capable of supporting enterprise access control decisions, user provisioning and identity management. This component also includes the directory services portion of the infrastructure, demonstrate the ability to plug in various technologies and solutions for authentication
- A OneVA ID Card distributed to all VA personnel and designated contractors. Multi-function token to carry digital credentials and permit system and facility access.

Below is an example of the concept of operations narrative for the Enterprise Cyber Security Infrastructure Project (ECSIP):

- ECSIP will procure and install cyber security systems to protect external gateway connections and critical information repositories located at the VA’s data centers
- Other internal connections will be protected once the above is complete
- All existing legacy external connections will migrate to an ECSIP configured gateway by 30 SEP 04
- Security Operations Centers (SOCs) will centrally and remotely configure, manage and monitor all VA installed cyber security systems
- Local IT staff will provide “hands-on” support of installed cyber security systems

Below is an example of the concept of operations narrative for the Patient Financial Services System (PFSS):

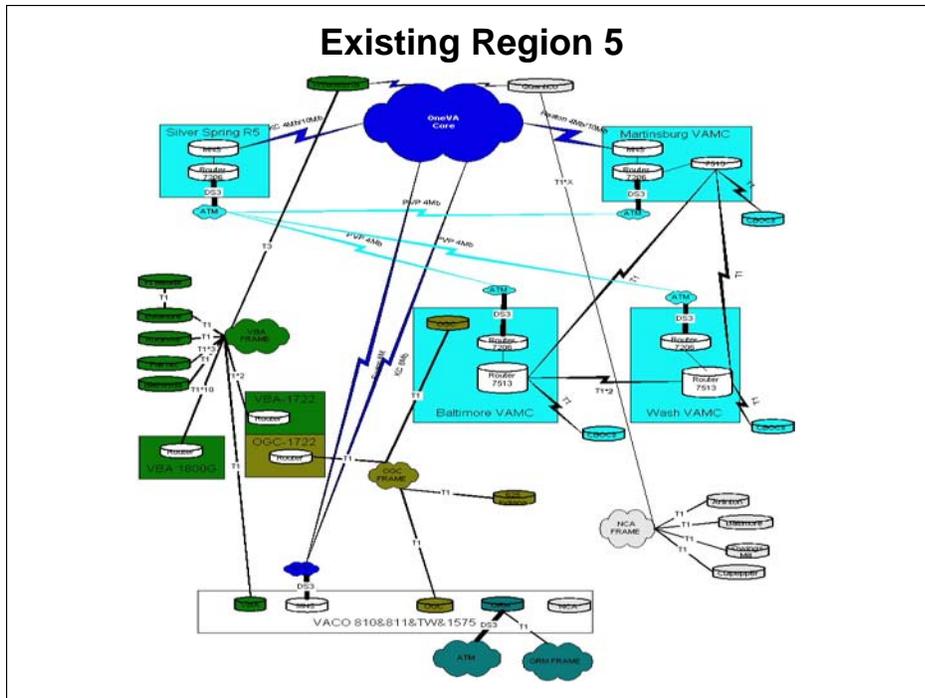
Patient Financial Services System (PFSS) will create a comprehensive business solution utilizing improved business practices, commercial software and enhanced VA clinical applications. The future state includes:

- Use of commercial (COTS) health information systems to provide patient management and patient financial services (billing & accounts receivable) functionality.
- PFSS will support 1st party and 3rd party billing.
- Modification of VistA clinical applications to increase charge capture and support the integration of COTS software.
- Business process reengineering to improve revenue cycle effectiveness and results.
- Consolidation of revenue cycle functions at the VISN level.
- Systems integration between COTS software and VistA applications using HL7 and Vitria interface engine. Specific patient management functions will be performed by the COTS patient management application. VistA Integrated Billing and Accounts Receivable will be replaced by COTS.
- HIPAA compliant transactions. Existing EDI capability (ANSI X12 837) and future electronic remittance (ANSI X12 835) will be used with PFSS.

Slides 5 - Concept of Operations Diagram – Current State

The concept of operations diagrams should compare the current state versus a target state. Below is the current state diagram from the Telecommunications Modernization (TMP) project.

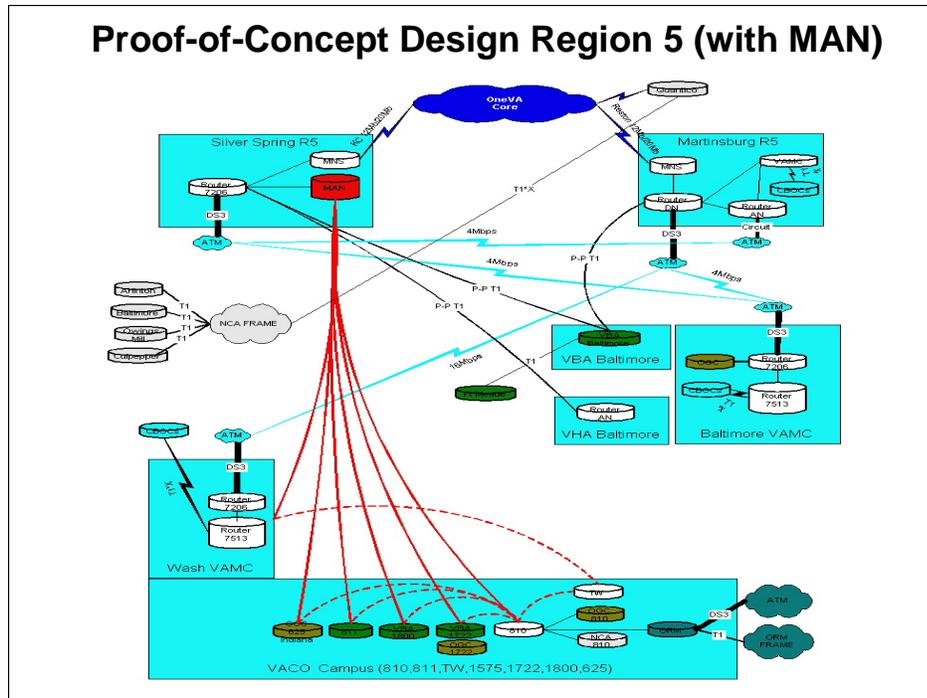
Current State:



Slides 6 - Concept of Operations Diagram – Target State

The concept of operations diagrams should compare the current state versus a target state. Below is the target state diagram from the Telecommunications Modernization (TMP) project.

Target State:



Slide 7 - Product Requirements

Provide a brief, high-level description of the product’s functional requirements, in a non-technical manner. Indicate what the system will be able to do and the functions it will perform. **Limit your response to two slides maximum.**

Below is an example of the requirements for the Patient Financial Services System (PFSS):

- Integrate with and adhere to standards set forth by the ‘One VA’ enterprise architecture.
- Comply with VA and industry regulatory requirements such as:
 - HIPAA
 - Section 508 of the Americans with Disabilities Act
 - Certification through the Office of Cyber Security (OCS)
- Patient Management functionality similar to private sector, including:
 - Creation and use of patient account
 - Management of insurance information
 - Integration with scheduling, registration and enterprise level demographics.
- Use of service master and charge description master to more effectively manage charges and automate billing.
- Use of electronic insurance verification software.
- Support professional and institutional billing for all billable services in VA.
- Support VA unique data elements and billing rules.
- Messaging events initiated by VistA and sent to COTS billing.
- Streamline business processes to improve throughput and minimize manual intervention.
- Adopt private sector best practices.

Below is an example of the requirements for the AAIP (Enterprise Authorization and Authentication Project):

General:

- Solution(s) must address IG’s findings of “material weakness”
- Requirements tracked via requirements traceability matrix
- User acceptance and reliability consistent with VA business requirements without compromising minimum security/assurance criteria
- Solution(s) must address VA requirements for confidentiality, integrity and authenticity
- Solution(s) must address regulatory requirements such as HIPAA, GLBA, E-Government Act, Section 508, the E-Sign Act, and conform to OMB guidance, including consideration of NIST documents and Common Criteria
- Solution(s) must have predictable life cycle costs and conform with acquisition requirements and timelines

Authentication:

- Solution(s) must be able to integrate into the standards based ONE VA enterprise architecture
- Solution must be authentication solution agnostic, with consideration given to minimizing the number of authentication alternatives
- Solution must provide strong authentication to systems/ applications where required
- Authentication credentials must be capable of being stored on secure token and accessed when required
- Solution must fulfill all regulatory requirements (such as HIPAA) using industry standards based approaches, such as those put forth by standards bodies (such as ASTM)

Authorization:

- Solution(s) must be able to integrate into the standards based One VA enterprise architecture
- Solution must be authorization technology agnostic, with consideration given to minimize the number of authorization technologies required to provide an enterprise solution
- Solution must fulfill all regulatory requirements (such as HIPAA) using industry standards based approaches, such as those put forth by standards bodies (such as ASTM)
- Solution must be capable of providing granularity such that data owners have the ability to control access down to the object level as necessary to address requirements

If your product requirements change between the Milestone I and II reviews, you must complete a Requirements Change Request Form before your next milestone review. On the form, be sure to describe the impact of the requirements change on all relevant aspects of the project.

Changes in product requirements often result in a change to the project’s costs and schedule. If the cost or schedule changes as a result of the requirements change, and meets the established thresholds, you must complete a Baseline Change Request Form also. See the instruction under slide 15 – Project Schedule, for more information.

Contact Matt Hix at 273.9622 for the Requirements Change Request Form.

Send your completed Requirements Change Request Form to the 005P mailbox at vaco005p3.mailbox@mail.va.gov as soon as you identify the need to change a product requirement.

Slide 8 - Benefits

Identify and clearly articulate the project's benefits, both qualitative and quantitative. Be sure to address any changes to your benefits as a result of the system prototyping. **Limit your discussion to two slides.** Below are a few of the benefit categories you may wish to address:

Improves services to customers (e.g., improving ability to deliver, access to services and access to information) – Include any benefits that are gained by the customers. For example, the project increases the number of people reached (e.g., customers can conduct business by telephone, e-mail, or Internet in addition to existing mail services) or internal customers gain direct access to resources or information so they can perform tasks more efficiently. Improving services to customers could also include improving access to information (e.g., veterans can obtain information and services via the Internet or telephone.)

Improves accuracy – Include any benefits associated with improving accuracy, such as reducing manual processes or improvements in productivity by reducing time spent on error correction.

Captures future opportunities – Projects that may cause additional gains in the future. For example, an investment in a server for one aspect of a project may also have the capacity to support additional future projects. This approach may be particularly relevant for infrastructure projects and pilot projects.

Reduces risk – Investments that contribute to the reduction of risk. Examples include back-up systems that reduce the risk of data loss or applications that improve the timely delivery of critical information or services.

Eliminates duplicate assets – Projects that replace multiple, non-compatible, stand-alone systems.

Improves reliability – For example, the new system or enhancement that offers a better performance record with less downtime than the legacy process or system.

Reduces manual operations – Systems that automate manual processes, thereby freeing staff members to perform other functions, which reduce FTE requirements. An example would be systems that allow functions to be performed by lower level staff members.

Improves efficiency – Assets that improve access to information or tools that decrease the amount of time required to perform functions. For example, a system may provide faster or more accurate aggregation and analyses of data.

Other – Any other benefits directly related to the IT project, but not captured in one of the given categories, such as savings.

Slide 9 – Milestone I Architecture, Cyber Security, and Operations Requirements.

You will work with the Enterprise Architecture, Cyber Security, and Operations groups to determine your compliance with their respective Milestone I requirements. For each column of the Zachman framework, the EA group will score your compliance. You may wish to provide an explanation in a backup slide if you do not show “all green.”

Slide 10 - Lines of Business Impact

When you begin work on your Milestone I presentation, contact 005P for assistance in producing the Lines of Business Impact diagram.

Slide 11 - Acquisition Activities

Provide an overview of the acquisitions activities you have undertaken. In your overview, you may wish to address the following issues:

- ▲ Describe the market research conducted.
- ▲ How was/will competition be used to select vendors?
- ▲ How many contracts will be used, and if more than one, then how do they relate to one another?
- ▲ What type of contract(s) will be used (e.g. fixed price, cost reimbursement)?
- ▲ What type of financial or performance-based contracting incentives will be used (e.g. incentive fees)?
- ▲ When do the contract resources need to be available to start working in order to meet your schedule as indicated in your detailed project schedule?
- ▲ How can you use small, disadvantaged, or veteran-owned businesses in developing or implementing your project?

Slides 12-14 - Alternatives Analysis

Description Table:

Describe the alternative solutions you considered for accomplishing the agency strategic goals or for closing the performance gap that this project was expected to address. You can use the descriptions provided on the OMB Exhibit 300 alternatives analysis section to complete this table.

Lifecycle Cost Table:

Provide the costs associated with the three alternatives considered for your project. The cost categories should be chosen from among the categories provided on slide 11. For more

information on the cost categories, see the instructions below for slide 14 – Lifecycle Obligations.

For each alternative, also provide the forecasted start date and implementation date. Due to the specific details of each alternative, they might not all share a common schedule. If an alternative’s schedule was a factor in your decision, please discuss this on slide 12 – Chosen Alternative.

Chosen Alternative:

Provide a brief discussion of the chosen alternative and the reasons for the choice. **Discuss how the different alternatives’ schedules, costs, performance, functionality and drawbacks weighed into your decision.**

Slide 15 - Project Schedule

The project schedule worksheet is a further decomposition and refinement of the preliminary Milestone 0 schedule. For the development activities, type the name of the activity in the “Activity #” cells and provide planned start and end dates, as well as your planned costs for each activity. If you wish to identify more than three activities under each of the Step headings, contact 005P for assistance.

Due to the nature of your specific project, your activities may not fall neatly into the four IT system development categories shown on the worksheet. If this is the case, contact 005P for assistance.

For the maintenance schedule, provide your planned maintenance costs for a four-year period following the implementation of the system. For “Year 1” the planned start date should be the date that the system is implemented and maintenance costs are first incurred.

The schedule provided here should correspond to the schedule provided in the Exhibit 300, although the level of detail provided may not be the same. This schedule will be the basis for earned value calculations. When you begin work towards the completion of the identified activities, you will report your progress on this worksheet. In other words, your project schedule, or baseline, will be considered frozen at this point in time. In the future you will need to follow a change control process and submit a baseline change request form in order to modify your project baseline.

Baseline Change Control:

If after your Milestone I review you wish to change your project schedule baseline, you may be required to complete a Baseline Change Request Form.

This form provides a means to relay which activities have changed and the rationale behind the request for re-baselining. The Baseline Change Request Form must be completed and approved prior to changing the baseline.

You must complete a Baseline Change Request Form for any change that *reduces* the cost or duration of an activity by 10% or more, or *increases* the cost or duration of an activity by 5% or more.

Until the baseline change is approved, you must report actual cost and schedule information against your baseline from Milestone I.

Contact Matt Hix at 273.9622 for the Baseline Change Request Form and send the completed form to the 005P mailbox at vaco005p3.mailbox@mail.va.gov **as soon as you identify the need to change your baseline.**

General guidance for re-baselining is provided below.

- ▲ General cost overruns and schedule slippages are **NOT** sufficient reasons to re-baseline.
- ▲ As long as there is no change in scope, a project manager is able to further decompose activities that were previously recorded at a higher level. This **DOES NOT** constitute a re-baselining but is considered an update.
- ▲ Requested changes during the FY to cost and/or schedule to achieve the original scope. This **DOES** constitute a re-baselining.
- ▲ Reductions in funding **ARE** an acceptable reason to re-baseline. This should be accompanied by an explanation of how the funding cuts impact the original scope of the project.
- ▲ *When a project moves from one life cycle phase to another, a baseline change request is required. For example, when a project moves out of the system design and prototype phase to system development and testing and, as a result, has new and more detailed information.*

At the time of your Milestone I review, you should have begun work against certain activities under Step 1: Concept Definition and Development. In order to show the progress you have made, as well as to determine earned value calculations, enter actual schedule and cost information into the project schedule worksheet.

Column Descriptions:

Planned Start Date – Planned End Date – These columns contain the planned start and completion dates in the form mm/dd/yy. Ensure that the dates seem reasonable given the nature of the work to be accomplished for each milestone.

Planned Cost (Budgeted Cost of Work Scheduled/BCWS, Planned Value) – This column contains the total planned cost for the milestone. It is also called the planned value or the budgeted cost of work scheduled for the milestone. This data should be entered *in '000s*. The cost estimates for these milestones must capture all foreseeable development costs expected for a project. Total development costs are calculated automatically at the bottom of the column.

Planned % Complete - The percentage figure is automatically calculated through a formula based on the current analysis date. Based on the start and end dates you provide, this column calculates the percentage of work that should be completed as of the analysis date, assuming that the costs of the activity are incurred uniformly. If the costs are not incurred uniformly, then you should break down the activity into smaller activities. These values are used to calculate the schedule variance.

Planned Value at Analysis Date – This column indicates the value of each activity that should have been completed from the start date through the analysis date. This value is automatically calculated based on the activity cost and the planned percentage of the activity completed.

Actual/Forecast Start Date – For activities that have already begun, provide the actual date on which the activity started in the form of mm/dd/yy. If the milestone should have started as of the analysis date, but has not yet begun, enter a more accurate forecasted start date. Accordingly, for future milestones, the column captures forecasted start dates for all milestones. Forecasted start dates may differ from planned dates based on actual project circumstances.

Actual/Forecast End Date – For activities that have already been completed, provide the actual date on which the activity ended in the form of mm/dd/yy. If the milestone should have been completed as of the analysis date, but has not yet ended, provide a more accurate forecasted completion date. Accordingly, for future milestones, this column captures forecasted completion dates for all milestones. Forecasted completion dates may differ from planned dates based on actual project circumstances.

Actual Cost (Actual Cost of Work Performed/ACWP) – Enter the actual costs incurred as of the analysis date for each activity. If an activity has not yet begun, enter 0 for the cost. The worksheet will use this value to determine the cost variance for the project.

% of Activity Completed – Provide an estimated completion percentage, **as of the analysis date**, for each activity. If an activity has not yet begun, enter 0% for the completion percentage. This percentage will be used to determine cost variances, so be as accurate as possible with your estimates.

PM (Project Manager) Estimate of Remaining Work – Provide an estimate of the total cost of work to complete this activity, from this point in time forward.

Estimate at Completion – This value is automatically calculated. The value represents the total amount of actual funding that is required for the milestone. The estimate is calculated as the sum of the “Actual Cost” and the “PM Estimate of Remaining Work”.

Earned Value (Budgeted Cost of Work Performed/BCWP, or Earned Value) – This is the value of work actually accomplished based on the original budget to complete the work. This figure will be automatically calculated based on the "% of Activity Completed" and the "Planned Cost."

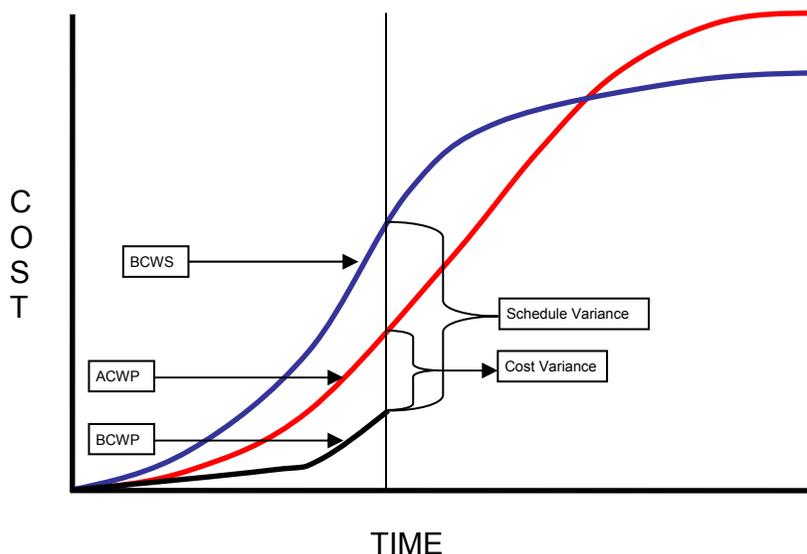
% Cost Variance – Automatically calculated.

% Schedule Variance – Automatically calculated.

Analysis Date – The analysis date is used to calculate earned value information for your project.

The TeamPlay software will allow you to track your project schedule and costs using earned value, as well as produce a graphic similar to the one shown below. The graphic should plot your project's cumulative planned value, earned value, and actual costs on a monthly basis. All project managers are now required to report earned value information for the monthly performance reports. You must report actual costs and percentage complete for your activities on a monthly basis for the Earned Value Graph to show the necessary detail.

If you are unable to use the TeamPlay software to track your project, contact Matt Hix (005P) at 273-9622 for assistance in creating the earned value graph. The graphic will look similar to the one shown below.



Slide 16 - Lifecycle Obligations

In this table, you will be distributing your total project obligations into different categories. Please note that you should be providing the dollars obligated to each cost category for a given fiscal year, not the actual dollars expended. A project manager can obligate a certain amount of funds in a given fiscal year, but those funds might be expended over multiple fiscal years. While the project schedule is in terms of actual expenses, this table is obligations-based.

All figures provided on the worksheet should be adjusted for inflation.

Please complete the remainder of the spreadsheet using the definitions and comments below. The worksheet cells with the gray pattern are protected and will calculate automatically.

Savings – Provide any quantified reductions in obligations or benefits gained through the project. Savings can be achieved in a number of ways, including through the replacement of legacy systems, or through reductions in the obligations to support business operations.

Total Budget Authority – This represents the project’s total obligations (including FTE) that were determined based on project plans, potentially adjusted to reflect actual project costs and activities. This line item should be used as a guide to complete the allocation of the required obligations across the cost categories and should match the “**Total Obligations / Funding Requirements**” line towards the bottom of the table.

Hardware – Provide obligated funds supporting the purchase and lease expenditures for servers, client computers (e.g., desktops and laptops), peripherals, and network components.

Software – Provide obligated funds supporting the acquisition and maintenance expenditures for software. Include in this category all system software packages and off-the-shelf software.

Contractor Services – Provide the total obligated funds for contractor labor hours associated with the project. These include development, testing, maintenance and administration obligations, as well as feasibility studies, independent verification and validation, etc. Also included are custom software development obligations. These funds do **not** include contractor support provided for training and IT security efforts. Contractor support obligations associated with training and IT security should be captured in those line items.

Training – Provide the obligated funds for training associated with the investment or undertaking. Include in this category the obligated funds for developing the training materials as well as providing the training.

Security – Provide the obligated funds for security, including the funds for IT security planning and mitigation for the project. All obligations associated with security that may be incorporated into the elements such as hardware, software, contractor services, or training should be separated out and included here as security obligations.

Telecommunications – Provide any obligated funds associated with telecommunications, including dedicated and switched data circuits, and LAN/WAN connectivity costs.

Other – Provide any other obligated funds for IT directly related to the project, but not captured in one of the above categories. Replace “Other” in the table with a descriptive name of the funds.

Subtotal Obligations (Calculated) - The line item automatically calculates the subtotal of all the obligation categories for each fiscal year.

Department FTE Amount (Existing) – Of the total Department FTE funds for this project, enter the total funds for those FTEs that are currently on staff and will be assigned to this project. This number should be the dollar amount, not the number of FTE.

Department FTE Amount (Additional Required) – Of the total Department FTE funds for this project, enter the total funds of those FTEs that must be hired in order to successfully complete this project. This number should be the dollar amount, not the number of FTE.

Total Obligations / Funding Requirements (Calculated) – Total obligations, including FTE, are calculated automatically.

Net Savings (Calculated) – Net Savings is automatically calculated to provide the difference between obligations and savings. Typically, in the public sector this value will be negative as performance improvements are the main advantages to be gained by undertaking IT projects.

Discount Factor (Pre-populated) – The discount is specified by the OMB Circular A-94 and is used to calculate the net present value of a cash flow, e.g., savings, hardware and software obligations.

Net Present Value (Calculated) – Net Present Value calculates an investment's return taking into consideration the time value of money. The line item is automatically calculated by multiplying the net savings by the discount factor for each fiscal year.

Slide 17 - Risk Management

From the list of risk categories in the Exhibit 300, place the name of each risk in the risk matrix, based upon your estimation of the probability of the risk's occurrence and the potential impact if the risk does occur.

Slide 18 - Performance Measures

Provide the most current performance measures from your project's Exhibit 300. Provide actual results for fiscal years 2002 and 2003 and proposed measures through fiscal year 2007. You should have at least two performance measures for each fiscal year.

For assistance in developing performance measures, consult the Federal Enterprise Architecture's Performance Reference Model at <http://www.feapmo.gov/feaprm2.asp>.

Slide 19 - Deployment Strategy

Describe your plan to implement your project or system. **Limit your deployment strategy to one slide.**

Your plans for system deployment should also be recorded as activities on your project schedule.

Below is an example of the deployment strategy for the Pharmacy Re-engineering effort:

Fielding Strategy

- Solution will capitalize on HDR testing and roll-out. We anticipate layering on HDR and Healthe Vet/Vista design, following the same sequence. During Phase II of HDR, re-engineered Healthe Vet/Vista will begin using the HDR as its source for patient medical data. Phase II is projected to be completed before the end of FY 2005.
- Pharmacy Re-engineering will employ a time-phased controlled roll out,
- Communication to field staff of project goals, progress and status will be thorough and often,
- Current applications will be supported concurrent to re-engineering,
- Solution also capitalizes on commercial database (Oracle) capabilities – Centralized drug file maintenance will enhance time management and resource utilization of Pharmacy Automated Data Processing Application Coordinators (ADPACs)
 - Master price files
 - Dispensing unit standardization
- Re-engineered Pharmacy will be layered on HDR. A component of Healthe Vet/Vista will display the data thus presentation will be familiar to VA staff.

Below is an example of the deployment strategy for the Patient Financial Services System (PFSS):

Fielding Strategy

- Implement a Laboratory Demo – Alpha
- Beta Testing
- Demonstrate in VA Medical Center (Dayton or Cleveland)
- Deploy throughout VISN, sequentially
- Deploy Nationally, sequentially

Slide 20 - Operational Support Strategy

Describe your plans to provide training, helpdesk support, documentation, and other services, products, or activities necessary to support the operation of the system. **Limit your operational support strategy to one slide.**

Below is an example of the operational support strategy for the Pharmacy Re-engineering effort:

Operational Support Strategy

- The project scope of 13 software modules being re-engineered, as well as incorporation of COTS products such as a commercial drug file, results in expectation that this will be a major training and implementation effort. The project team will be actively involved in the phased roll out, and will provide on site support at Alpha and Beta sites, as well as supplement support of the full roll out.
- Operational Support will take advantage of Best Practice Tools for issue management and resolution, including use of TeamPlay tool.

Anticipated Training Tools for field staff include:

- National Satellite Broadcasts, Teleconference Calls, and Conferences
 - Web based training tools
 - Reference and Inter-Active Discs/ CD-ROMS
 - Train-the-Trainer
 - On site face to face
 - Applicable project documentation, or reference sites for IT field support staff.
- Metrics will be established for evaluation of success in end-user acceptability, as well as field training. Measurement will be accomplished by standard industry approach, including testing for competency in use and support of the new application and system functionality, and utilization of Scantron's Web based metrics measurement tool, eListen.
 - Training will be done with a phased approach that facilitates continual building of skills as well as feed-back for measuring success of applications, training methods, metrics and materials.

Below is an example of the operational support strategy for the Patient Financial Services System (PFSS):

Operational Support Strategy

- Tiered helpdesk support will be provided by local IRM, national VistA support and vendor support.
- Technical and user training will be provided by integrator.
- Training related to business process changes will be provided by the VHA CBO (coordinated with the VA Employee Education Service).
- Anticipated Training Tools for field staff include:
 - National Satellite Broadcasts, & Teleconference Calls
 - Help Desk capabilities (through VHA or COTS product staff)
 - Reference and Inter-Active Discs/ CD-ROMS
 - Web-based Training
 - VISN and Medical Center Train-the-Trainer
 - On site face to face
- Applicable user project documentation will be provided electronically and hardcopy.

Slide 21– Decision Requested

G.5 Milestone I Review Templates



Milestone I Review Template

Concept Development
Outcome: Prototype Development Approval

The Department of Veterans Affairs IT systems development life cycle management process is structured into discrete, logical steps separated by major decision points (called milestones). These milestones provide the basis for comprehensive management, progressive decision making, and authorization of funding for each step in the process.

1



Project Name

Project Manager Information
(Name, Phone, e-mail, sponsoring office)

2

	Business Problem or Opportunity and Project Description
<p>Explain the business problem or opportunity that this project is intended to address. How will this project solve the problem or address the opportunity? (What is this project's mission?)</p>	
<p>In non-technical language, provide a high-level description of your project, including the products and/or services that the project will provide.</p>	
<p>3</p>	

	Concept of Operations Narrative
<p>In the space below, provide a brief narrative describing your concept of operations.</p>	
<p>4</p>	



Concept of Operations Diagram – Current State

Provide a high-level graphical depiction of the current state.

5



Concept of Operations Diagram – Target State

Provide a high-level graphical depiction of the target state.

6

	<h3>Product Requirements</h3>
<p>Describe the product's functional requirements in a non-technical manner. What will the system be able to do and what are the functions it will perform?</p>	
<p>7</p>	

	<h3>Project Benefits</h3>
<p>Describe the project's benefits, both qualitative and quantitative. (Refer to the instructions document for benefit categories.)</p>	
<p>8</p>	



Milestone I Architecture, Cyber Security and Operations Requirements

Enterprise Architecture Requirements:					
Data	Function	Network	People	Time	Motivation
R,Y,G	R,Y,G	R,Y,G	R,Y,G	R,Y,G	R,Y,G

Cyber Security Requirements:
 R,Y,G

Operations and Telecommunications Requirements:
 R,Y,G

9



Lines of Business Impact

Identify the VA lines of business and sub-functions that this initiative will support. (See instructions for more information.)

10



Alternatives Analysis, cont. Lifecycle Costs

Cost Elements:	Alternative 1	Alternative 2	Alternative 3
Hardware			
Software			
Contractor Services			
Training			
Security			
Telecommunications			
Other			
Total Cost:	\$0.00	\$0.00	\$0.00
Start Date			
Implementation Date			

13



Chosen Alternative

Which alternative was chosen and why?

14



Project Schedule

Task	Planned Start Date	Planned End Date	Planned Cost	Planned % Complete	Planned Value at Analysis Date	Actual/Forecast Start Date	Actual/Forecast End Date	Actual Cost	% of Activity Completed	PM Estimate of Remaining Work	Estimate at Completion	Earned Value	% Cost Variance	% Schedule Variance
Development Schedule														
Concept Dev. and Devt. (Steps 0-1):														
Activity 1	10/1/02	9/30/07	340.0	21.04%	71.84	10/1/02	9/30/10	172.40	12.00%			\$40.80	-322.95%	-42.97%
Activity 2	10/1/02	12/1/03	187.1	80.14%	189.18	10/1/02	9/30/10	87.80	85.00%			\$189.08	44.07%	-5.20%
Activity 3	12/1/02	12/30/03	108.7	81.98%	89.11	12/1/02	9/30/10	497.80	60.00%			\$56.22	-463.26%	-26.81%
System Design & Prototyping (Step 2)														
Activity 1				0.00%	0.00							\$0.00	0.00%	0.00%
Activity 2				0.00%	0.00							\$0.00	0.00%	0.00%
Activity 3				0.00%	0.00							\$0.00	0.00%	0.00%
System Devt. & Testing (Step 3)														
Activity 1				0.00%	0.00							\$0.00	0.00%	0.00%
Activity 2				0.00%	0.00							\$0.00	0.00%	0.00%
Activity 3				0.00%	0.00							\$0.00	0.00%	0.00%
System Deployment (Step 4)														
Activity 1				0.00%	0.00							\$0.00	0.00%	0.00%
Activity 2				0.00%	0.00							\$0.00	0.00%	0.00%
Activity 3				0.00%	0.00							\$0.00	0.00%	0.00%
Total Development Cost			696.40		329.85			758.00		0.00	0.00	\$205.57	-186.43%	-19.49%
Maintenance Schedule (Step 5)														
Year 1				0.00%	0.00							\$0.00	0.00%	0.00%
Year 2				0.00%	0.00							\$0.00	0.00%	0.00%
Year 3				0.00%	0.00							\$0.00	0.00%	0.00%
Year 4				0.00%	0.00							\$0.00	0.00%	0.00%
Total Maintenance Cost			0.00		0.00			0.00		0.00	0.00	\$0.00	0.00%	0.00%
Project Totals:			696.40		329.85			758.00		0.00	0.00	\$205.57	-186.43%	-19.49%
Analysis Date:	10/20/03													



Lifecycle Obligations

	2003	2004	2005	2006	2007	2008	2009	Total
Savings								0.0
Total Budget Authority	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Obligations:								
Hardware								0.0
Software								0.0
Contractor Services								0.0
Training								0.0
Security								0.0
Telecommunications								0.0
Other								0.0
Subtotal Obligations:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Department FTE Amount (Existing)								0.0
Department FTE Amount (Additional Required)								0.0
Total Obligations / Funding Requirement	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net Savings (Savings - Obligations)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Discount Factor		1.000	0.9653	0.9317	0.8993	0.8681	0.8379	
Net Present Value		0.0	0.0	0.0	0.0	0.0	0.0	0.0



Risk Management

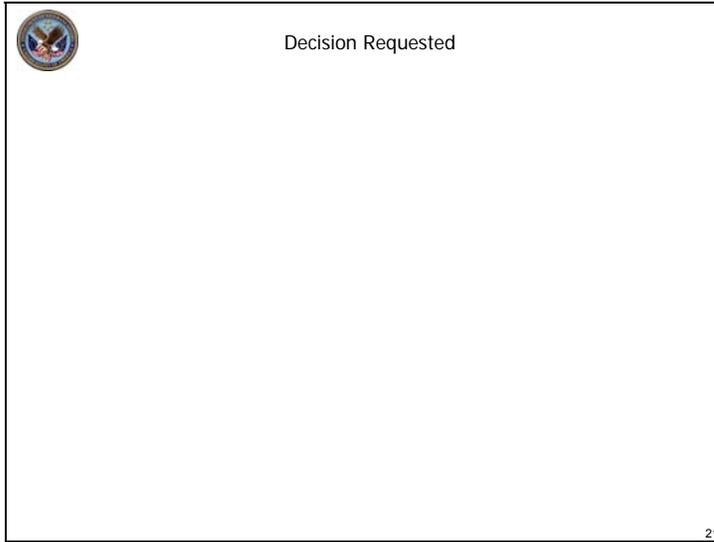
Risk Management				
		Impact		
		Low	Medium	High
Probability of Occurrence	High	Schedule Investment Management Capability Project Resources	Initial Costs Overall Project Failure	Life-cycle Costs Organizational and Change Mgmt.
	Medium	Technical Obsolescence Business	Feasibility Data/Info	Reliability of Systems Technology
	Low	Dependencies and Interoperability Strategic	Surety Considerations Security	Procurement Monopoly Privacy

17



Performance Measures

18



A rectangular slide template with a black border. In the top-left corner, there is a circular seal of the Department of Veterans Affairs. The text "Decision Requested" is centered in the upper portion of the slide. The number "21" is located in the bottom-right corner of the slide.

G.6 Milestone II Briefing Instructions

Introduction

At Milestone II the Project Manager (PM) must address a basic set of question necessary to warrant approval to develop and test the system. In this review, the PM will provide the results of the system prototype and request permission to move into system development and testing.

Slide 3 - Business Problem or Opportunity and Project Description

Explain the business problem or opportunity that this project is intended to address. How will this project solve the problem or address the opportunity? In addition, provide a high-level description of the project, including the products and/or services that the project will provide.

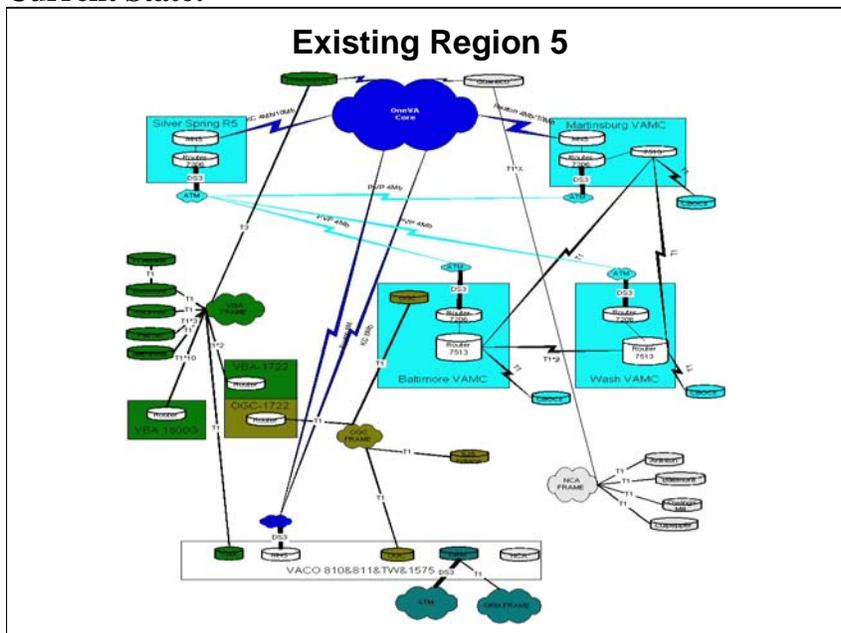
Slide 4 - Concept of Operations Narrative

A concept of operations is an overview of the support concept for the new system, including, as applicable, support agencies and facilities; equipment, support software; repair/replacement criteria; maintenance levels and cycles; and storage distribution and supply methods. **Limit your concept of operations narrative to one slide only.**

Slides 5 - Concept of Operations Diagram – Current State

The concept of operations diagrams should compare the current state versus a target state. Below is the current state diagram from the Telecommunications Modernization (TMP) project. The concept of operations current state diagram presented here should be the same as that provided at Milestone I.

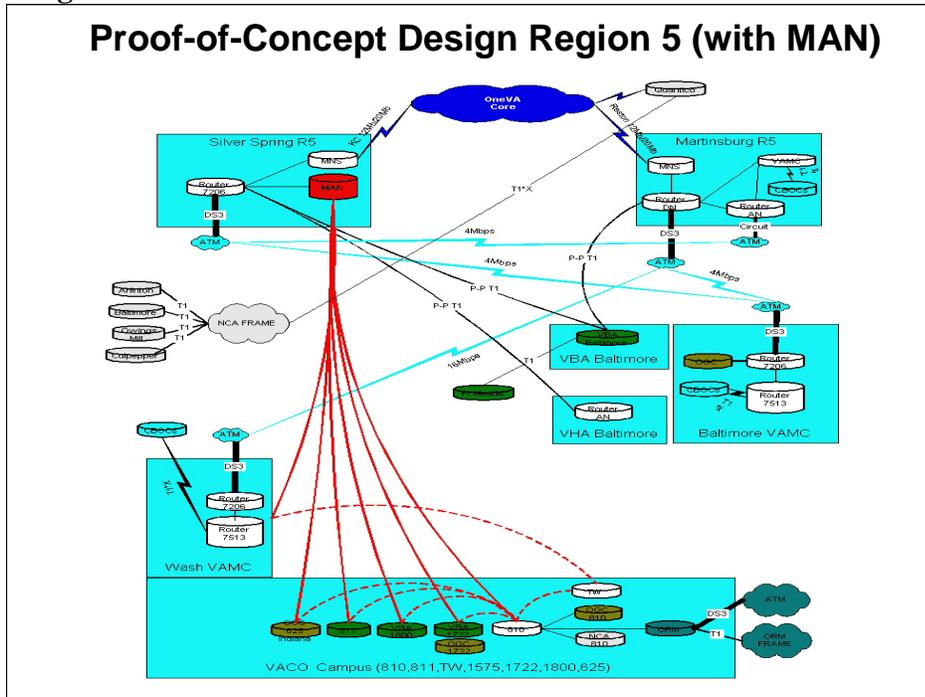
Current State:



Slides 6 - Concept of Operations Diagram – Target State

The concept of operations diagrams should compare the current state versus a target state. Below is the target state diagram from the Telecommunications Modernization (TMP) project. The concept of operation target state diagram presented here should be the same as that provided at Milestone I.

Target State:



Slide 7 - Prototype Results

Provide a description of lessons learned as a result of your prototype efforts. Be sure to highlight how the results of your prototype activities will impact the development of the system. You may wish to discuss any scope, risk, cost, or schedule changes that you anticipate as a result of the prototype. The following slides will also highlight how the project has changed as a result of the system prototype.

Slide 8 - Concept of Operations Diagram – Target State (Updated)

If your target state concept of operations diagram has changed as a result of system development and testing, provide an updated diagram.

Slide 9 - Project Schedule

Project managers of Exhibit 300 projects at VA are required to use the TeamPlay software for managing their projects. If you are currently using TeamPlay, you can enter your project's

activities and report their progress on the worksheet shown in the presentation template. If your project schedule in TeamPlay is very detailed, you can “roll up” activities into larger ones. As a result, your project’s activities in TeamPlay, those you report on the Exhibit 300, and those shown on this project schedule will not necessarily be at the same level. However, the total cost and overall schedule of the activities must be the same.

Baseline Change Control:

If you wish to change your project schedule baseline from Milestone I, or if you wish to change your baseline between the Milestone II and III reviews, you may be required to complete a Baseline Change Request Form.

This form provides a means to relay which activities have changed and the rationale behind the request for re-baselining. The Baseline Change Request Form must be completed and approved prior to changing the baseline.

You must complete a Baseline Change Request Form for any change that *reduces* the cost or duration of an activity by 10% or more, or *increases* the cost or duration of an activity by 5% or more.

Until the baseline change is approved, you must report actual cost and schedule information against your baseline from Milestone I.

Contact Matt Hix at 273.9622 for the Baseline Change Request Form and send the completed form to the 005P mailbox at vaco005p3.mailbox@mail.va.gov as soon as you identify the need to change your baseline.

General guidance for re-baselining is provided below.

- ▲ General cost overruns and schedule slippages are **NOT** sufficient reasons to re-baseline.
- ▲ As long as there is no change in scope, a project manager is able to further decompose activities that were previously recorded at a higher level. This **DOES NOT** constitute a re-baselining but is considered an update.
- ▲ Requested changes during the FY to cost and/or schedule to achieve the original scope. This **DOES** constitute a re-baselining.
- ▲ Reductions in funding **ARE** an acceptable reason to re-baseline. This should be accompanied by an explanation of how the funding cuts impact the original scope of the project.
- ▲ *When a project moves from one life cycle phase to another, a baseline change request is required. For example, when a project moves out of the system design and prototype phase to system development and testing and, as a result, has new and more detailed information.*

At the time of your Milestone II review, you should have begun work against the activities under Step 2: System Design and Prototype, as specified in your project schedule at Milestones I. In

order to show the progress you have made, as well as to determine earned value calculations, enter actual schedule and cost information into the project schedule worksheet. The information contained in the Task, Planned Start Date, Planned End Date, and Planned Cost columns should be the same as that provided in Milestone I, unless you have an approved baseline change.

Column Descriptions:

Planned Start Date – Planned End Date – These columns contain the planned start and completion dates in the form mm/dd/yy. Ensure that the dates seem reasonable given the nature of the work to be accomplished for each milestone.

Planned Cost (Budgeted Cost of Work Scheduled/BCWS, Planned Value) – This column contains the total planned cost for the milestone. It is also called the planned value or the budgeted cost of work scheduled for the milestone. This data should be entered *in '000s*. The cost estimates for these milestones must capture all foreseeable development costs expected for a project. Total development costs are calculated automatically at the bottom of the column.

Planned % Complete - The percentage figure is automatically calculated through a formula based on the current analysis date. Based on the start and end dates you provide, this column calculates the percentage of work that should be completed as of the analysis date, assuming that the costs of the activity are incurred uniformly. If the costs are not incurred uniformly, then you should break down the activity into smaller activities. These values are used to calculate the schedule variance.

Planned Value at Analysis Date – This column indicates the value of each activity that should have been completed from the start date through the analysis date. This value is automatically calculated based on the activity cost and the planned percentage of the activity completed.

Actual/Forecast Start Date – For activities that have already begun, provide the actual date on which the activity started in the form of mm/dd/yy. If the milestone should have started as of the analysis date, but has not yet begun, enter a more accurate forecasted start date. Accordingly, for future milestones, the column captures forecasted start dates for all milestones. Forecasted start dates may differ from planned dates based on actual project circumstances.

Actual/Forecast End Date – For activities that have already been completed, provide the actual date on which the activity ended in the form of mm/dd/yy. If the milestone should have been completed as of the analysis date, but has not yet ended, provide a more accurate forecasted completion date. Accordingly, for future milestones, this column captures forecasted completion dates for all milestones. Forecasted completion dates may differ from planned dates based on actual project circumstances.

Actual Cost (Actual Cost of Work Performed/ACWP) – Enter the actual costs incurred as of the analysis date for each activity. If an activity has not yet begun, enter 0 for the cost. The worksheet will use this value to determine the cost variance for the project.

% of Activity Completed – Provide an estimated completion percentage, **as of the analysis date**, for each activity. If an activity has not yet begun, enter 0% for the completion percentage. This percentage will be used to determine cost variances, so be as accurate as possible with your estimates.

PM (Project Manager) Estimate of Remaining Work – Provide an estimate of the total cost of work to complete this activity, from this point in time forward.

Estimate at Completion – This value is automatically calculated. The value represents the total amount of actual funding that is required for the milestone. The estimate is calculated as the sum of the “Actual Cost” and the “PM Estimate of Remaining Work”.

Earned Value (Budgeted Cost of Work Performed/BCWP, or Earned Value) – This is the value of work actually accomplished based on the original budget to complete the work. This figure will be automatically calculated based on the "% of Activity Completed" and the "Planned Cost."

% Cost Variance – Automatically calculated.

% Schedule Variance – Automatically calculated.

Analysis Date – The analysis date is used to calculate earned value information for your project.

Slide 10 - Earned Value Graph

The TeamPlay software will allow you to track your project schedule and costs using earned value, as well as produce a graphic similar to the one in the presentation template. The graphic should plot your project’s cumulative planned value, earned value, and actual costs on a monthly basis. All project managers are now required to report earned value information for the monthly performance reports. You must report actual costs and percentage complete for your activities on a monthly basis for the Earned Value Graph to show the necessary detail.

If you are unable to use the TeamPlay software to track your project, contact Matt Hix (005P) at 273-9622 for assistance in creating the earned value graph.

Slide 11 - Lifecycle Obligations

Update your Milestone I Lifecycle Obligations worksheet in light of any changes that have occurred as a result of the system prototype. Please note that you should be providing the dollars obligated to each category for a given fiscal year, not the actual dollars expended. A project manager can obligate a certain amount of funds in a given fiscal year, but those funds might be expended over multiple fiscal years. While the project schedule is in terms of actual expenses, this table is obligations-based.

All figures provided on the worksheet should be adjusted for inflation.

Please complete the remainder of the spreadsheet using the definitions and comments below. The worksheet cells with the gray pattern are protected and will calculate automatically.

Savings – Provide any quantified reductions in obligations or benefits gained through the project. Savings can be achieved in a number of ways, including through the replacement of legacy systems, or through reductions in the obligations to support business operations.

Total Budget Authority – This represents the project’s total obligations (including FTE) that were determined based on project plans, potentially adjusted to reflect actual project costs and activities. This line item should be used as a guide to complete the allocation of the required obligations across the cost categories and should match the “**Total Obligations / Funding Requirements**” line towards the bottom of the table.

Hardware – Provide obligated funds supporting the purchase and lease expenditures for servers, client computers (e.g., desktops and laptops), peripherals, and network components.

Software – Provide obligated funds supporting the acquisition and maintenance expenditures for software. Include in this category all system software packages and off-the-shelf software.

Contractor Services – Provide the total obligated funds for contractor labor hours associated with the project. These include development, testing, maintenance and administration obligations, as well as feasibility studies, independent verification and validation, etc. Also included are custom software development obligations. These funds do **not** include contractor support provided for training and IT security efforts. Contractor support obligations associated with training and IT security should be captured in those line items.

Training – Provide the obligated funds for training associated with the investment or undertaking. Include in this category the obligated funds for developing the training materials as well as providing the training.

Security – Provide the obligated funds for security, including the funds for IT security planning and mitigation for the project. All obligations associated with security that may be incorporated into the elements such as hardware, software, contractor services, or training should be separated out and included here as security obligations.

Telecommunications – Provide any obligated funds associated with telecommunications, including dedicated and switched data circuits, and LAN/WAN connectivity costs.

Other – Provide any other obligated funds for IT directly related to the project, but not captured in one of the above categories. Replace “Other” in the table with a descriptive name of the funds.

Subtotal Obligations (*Calculated*) - The line item automatically calculates the subtotal of all the obligation categories for each fiscal year.

Department FTE Amount (Existing) – Of the total Department FTE funds for this project, enter the total funds for those FTEs that are currently on staff and will be assigned to this project. This number should be the dollar amount, not the number of FTE.

Department FTE Amount (Additional Required) – Of the total Department FTE funds for this project, enter the total funds of those FTEs that must be hired in order to successfully complete this project. This number should be the dollar amount, not the number of FTE.

Total Obligations / Funding Requirements (Calculated) – Total obligations, including FTE, are calculated automatically.

Net Savings (Calculated) – Net Savings is automatically calculated to provide the difference between obligations and savings. Typically, in the public sector this value will be negative as performance improvements are the main advantages to be gained by undertaking IT projects.

Discount Factor (Pre-populated) – The discount is specified by the OMB Circular A-94 and is used to calculate the net present value of a cash flow, e.g., savings, hardware and software obligations.

Net Present Value (Calculated) – Net Present Value calculates an investment's return taking into consideration the time value of money. The line item is automatically calculated by multiplying the net savings by the discount factor for each fiscal year.

Total Obligations / Funding Requirements – Latest Approved – Enter the total obligations, including FTE, from your last approved lifecycle obligations table (Milestone I).

Slide 12 - Benefits

Identify and clearly articulate the project's benefits, both qualitative and quantitative. Be sure to address any changes to your benefits as a result of the system prototyping. **Limit your discussion to two slides.** Below are a few of the benefit categories you may wish to address:

Improves services to customers (e.g., improving ability to deliver, access to services and access to information) – Include any benefits that are gained by the customers. For example, the project increases the number of people reached (e.g., customers can conduct business by telephone, e-mail, or Internet in addition to existing mail services) or internal customers gain direct access to resources or information so they can perform tasks more efficiently. Improving services to customers could also include improving access to information (e.g., veterans can obtain information and services via the Internet or telephone.)

Improves accuracy – Include any benefits associated with improving accuracy, such as reducing manual processes or improvements in productivity by reducing time spent on error correction.

Captures future opportunities – Projects that may cause additional gains in the future. For example, an investment in a server for one aspect of a project may also have the capacity to

support additional future projects. This approach may be particularly relevant for infrastructure projects and pilot projects.

Reduces risk – Investments that contribute to the reduction of risk. Examples include back-up systems that reduce the risk of data loss or applications that improve the timely delivery of critical information or services.

Eliminates duplicate assets – Projects that replace multiple, non-compatible, stand-alone systems.

Improves reliability – For example, the new system or enhancement that offers a better performance record with less downtime than the legacy process or system.

Reduces manual operations – Systems that automate manual processes, thereby freeing staff members to perform other functions, which reduce FTE requirements. An example would be systems that allow functions to be performed by lower level staff members.

Improves efficiency – Assets that improve access to information or tools that decrease the amount of time required to perform functions. For example, a system may provide faster or more accurate aggregation and analyses of data.

Other – Any other benefits directly related to the IT project, but not captured in one of the given categories, such as savings.

Slide 13 - Product Requirements

Provide a brief, high-level description of the product's functional requirements, in a non-technical manner. Indicate what the system will be able to do and the functions it will perform.

Limit your response to two slides maximum.

If your product requirements have changed since the Milestone I review, or if they change after the Milestone II review, you must complete a Requirements Change Request Form. On the form, be sure to describe the impact of the requirements change on all relevant aspects of the project.

Changes in product requirements often result in a change to the project's costs and schedule. If the cost or schedule changes as a result of the requirements change, and meets the established thresholds, you must complete a Baseline Change Request Form also. See the instruction under slide 9 – Project Schedule, for more information.

Contact Matt Hix at 273.9622 for the Requirements Change Request Form.

Send your completed Requirements Change Request Form to the 005P mailbox at vaco005p3.mailbox@mail.va.gov as soon as you identify the need to change a product requirement.

Slide 14 - Performance Measures

Provide the most current performance measures from your project's Exhibit 300. Provide actual results for fiscal years 2002 and 2003 and proposed measures through fiscal year 2007. You should have at least two performance measures for each fiscal year.

For assistance in developing performance measures, consult the Federal Enterprise Architecture's Performance Reference Model at <http://www.feapmo.gov/feaprm2.asp>.

Slide 15 - Lines of Business Impact

When you begin work on your Milestone II presentation, contact 005P for assistance in producing the Lines of Business Impact diagram if you believe it must be updated to reflect changes since the Milestone I review.

Slide 16 – Milestone II Architecture, Cyber Security, and Operations Requirements.

You will work with the Enterprise Architecture, Cyber Security, and Operations groups to determine your compliance with their respective Milestone II requirements. For each column of the Zachman framework, the EA group will score your compliance. You may wish to provide an explanation in a backup slide if you do not show “all green.”

Slide 17 - Acquisition Activities

If necessary, update your Acquisition Activities slide to reflect any new activities you have undertaken since Milestone I. In your overview, you may wish to address the following issues:

- ▲ Describe the market research conducted.
- ▲ How was/will competition be used to select vendors?
- ▲ How many contracts will be used, and if more than one, then how do they relate to one another?
- ▲ What type of contract(s) will be used (e.g. fixed price, cost reimbursement)?
- ▲ What type of financial or performance-based contracting incentives will be used (e.g. incentive fees)?
- ▲ When do the contract resources need to be available to start working in order to meet your schedule as indicated in your detailed project schedule?
- ▲ How can you use small, disadvantaged, or veteran-owned businesses in developing or implementing your project?

Slide 18 - Risk Management

From the list of risk categories in the Exhibit 300, place the name of each risk in the risk matrix, based upon your estimation of the probability of the risk's occurrence and the potential impact if the risk does occur.

Slide 19 – Updated Deployment Strategy

If necessary, update your Deployment Strategy. Refer to Milestone I instructions for additional information and examples. **Limit your deployment strategy to one slide. Your plans for system deployment should also be recorded as activities on your project schedule.**

Slide 20 - Updated Operational Support Strategy

If necessary, update your Operational Support Strategy. **Limit your operational support strategy to one slide.**

Slide 21 – Decision Requested

G.7 Milestone II Review Template



Milestone II Review Template

System Design and Prototype
Outcome: System Development & Testing Approval

The Department of Veterans Affairs IT systems development life cycle management process is structured into discrete, logical steps separated by major decision points (called milestones). These milestones provide the basis for comprehensive management, progressive decision making, and authorization of funding for each step in the process.

1



Lessons Learned

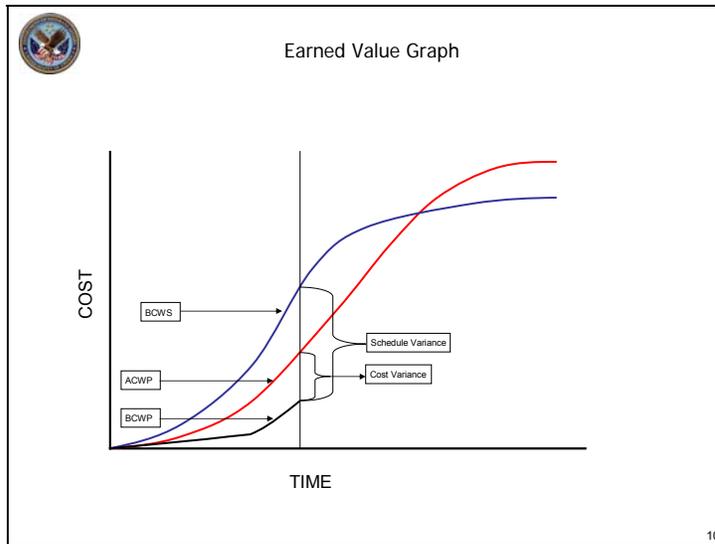
Provide a summary of your project's lessons learned, including any risk events, problems, successes, or other relevant information.

17

 Lines of Business Impact

Identify the VA lines of business and sub-functions that this initiative supports. (See instructions for more information.)

14





Concept of Operations Diagram – Post-Implementation

Provide a high-level graphical depiction of the post-implementation state.

6



Project Name

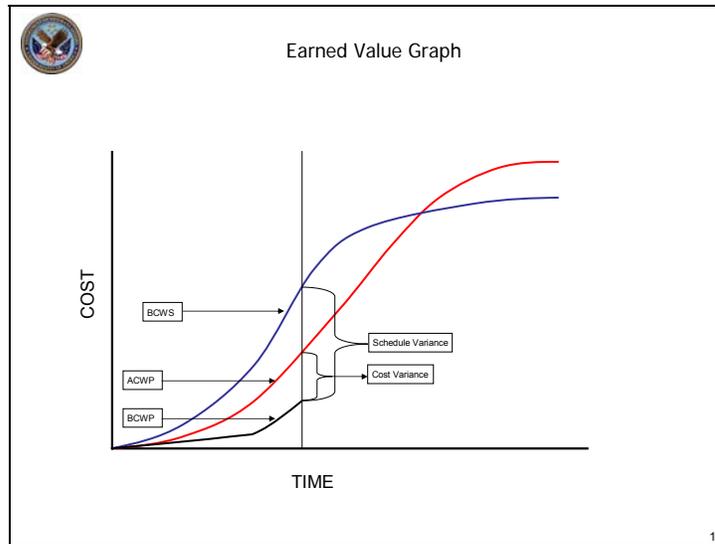
Project Manager Information
(Name, Phone, e-mail, sponsoring office)

2



Project Schedule

Task	Planned Start Date	Planned End Date	Planned Cost	Planned % Complete	Planned Value at Analysis Date	Actual/Forecast Start Date	Actual/Forecast End Date	Actual Cost	% of Activity Completed	PM Estimate of Remaining Work	Estimate at Completion	Earned Value	% Cost Variance	% Schedule Variance
Development Schedule														
Concept Dev. and Devt. (Steps 0-1):														
Activity 1	10/1/02	9/30/07	340.0	21.04%	71.94	10/1/02	9/30/10	172.40	12.00%		\$40.80	-322.95%	-42.97%	
Activity 2	10/1/02	12/1/03	187.1	80.14%	189.59	10/1/02	9/30/10	87.80	85.00%		\$189.08	44.97%	-5.20%	
Activity 3	12/1/02	12/30/03	108.7	81.98%	89.11	12/1/02	9/30/10	497.80	60.00%		\$56.22	-463.26%	-26.81%	
System Design & Prototypes (Step 2):														
Activity 1				0.00%	0.00							\$0.00	0.00%	0.00%
Activity 2				0.00%	0.00							\$0.00	0.00%	0.00%
Activity 3				0.00%	0.00							\$0.00	0.00%	0.00%
System Devt. & Testing (Step 3):														
Activity 1				0.00%	0.00							\$0.00	0.00%	0.00%
Activity 2				0.00%	0.00							\$0.00	0.00%	0.00%
Activity 3				0.00%	0.00							\$0.00	0.00%	0.00%
System Deployment (Step 4):														
Activity 1				0.00%	0.00							\$0.00	0.00%	0.00%
Activity 2				0.00%	0.00							\$0.00	0.00%	0.00%
Activity 3				0.00%	0.00							\$0.00	0.00%	0.00%
Total Development Cost			696.40		329.85			758.00		0.00	0.00	\$205.57	-186.43%	-19.49%
Maintenance Schedule (Step 5)														
Year 1				0.00%	0.00							\$0.00	0.00%	0.00%
Year 2				0.00%	0.00							\$0.00	0.00%	0.00%
Year 3				0.00%	0.00							\$0.00	0.00%	0.00%
Year 4				0.00%	0.00							\$0.00	0.00%	0.00%
Total Maintenance Cost			0.00		0.00			0.00		0.00	0.00	\$0.00	0.00%	0.00%
Project Totals:			696.40		329.85			758.00		0.00	0.00	\$205.57	-186.43%	-19.49%
Analysis Date:	10/20/03													





Lifecycle Obligations

	2003	2004	2005	2006	2007	2008	2009	Total
Savings								0.0
Total Budget Authority	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Obligations:								
Hardware								0.0
Software								0.0
Contractor Services								0.0
Training								0.0
Security								0.0
Telecommunications								0.0
Other								0.0
Subtotal Obligations:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Department FTE Amount (Existing)								0.0
Department FTE Amount (Additional Required)								0.0
Total Obligations / Funding Requirement	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net Savings (Savings - Obligations)	0.0							0.0
Discount Factor		1.000	0.9663	0.9317	0.8993	0.8681	0.8379	
Net Present Value		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Obligations / Funding Requirement - Latest Approved								

11



Project Benefits

Describe the project's benefits, both qualitative and quantitative. (Refer to the instructions document for benefit categories.)

12



Product Requirements

Describe the product's functional requirements in a non-technical manner. What will the system be able to do and what are the functions it will perform?

13



Performance Measures

14



(Final) Operational Support Strategy

Describe your plans to provide training, helpdesk support, documentation, and other services, products, or activities necessary to support the operation of the system.

20



Milestone III Architecture, Cyber Security and Operations Requirements

Enterprise Architecture Requirements:					
Data	Function	Network	People	Time	Motivation
R,Y,G	R,Y,G	R,Y,G	R,Y,G	R,Y,G	R,Y,G

Cyber Security Requirements:
R,Y,G

Operations and Telecommunications Requirements:
R,Y,G

16



Project Benefits

Describe the project's benefits, both qualitative and quantitative. (Refer to the instructions document for benefit categories.)

12



Project Schedule

Task:	Planned Start Date	Planned End Date	Planned Cost	Planned % Complete	Planned Value at Analysis Date	Actual/Forecast Start Date	Actual/Forecast End Date	Actual Cost	% of Activity Completed	PM Estimate of Remaining Work	Estimate at Completion	Earned Value	% Cost Variance	% Schedule Variance
Development Schedule														
Concept Def. and Dev. (Step 0-1):														
Activity 1	10/1/02	9/30/07	340.0	21.04%	71.64	10/1/02	9/30/10	172.43	12.00%			\$40.83	-322.65%	-42.87%
Activity 2	10/1/02	12/1/03	187.7	95.14%	189.19	10/1/02	9/30/10	87.85	85.00%			\$189.95	-44.91%	-5.70%
Activity 3	10/1/02	12/30/03	108.1	91.98%	99.11	12/1/02	9/30/10	497.85	60.00%			\$65.22	-493.26%	-26.81%
System Design & Prototype (Step 2):														
Activity 1				0.00%	0.00							\$0.00	0.00%	0.00%
Activity 2				0.00%	0.00							\$0.00	0.00%	0.00%
Activity 3				0.00%	0.00							\$0.00	0.00%	0.00%
System Dev. & Testing (Step 3):														
Activity 1				0.00%	0.00							\$0.00	0.00%	0.00%
Activity 2				0.00%	0.00							\$0.00	0.00%	0.00%
Activity 3				0.00%	0.00							\$0.00	0.00%	0.00%
System Deployment (Step 4):														
Activity 1				0.00%	0.00							\$0.00	0.00%	0.00%
Activity 2				0.00%	0.00							\$0.00	0.00%	0.00%
Activity 3				0.00%	0.00							\$0.00	0.00%	0.00%
Total Development Cost			638.43		320.85			758.00		0.00	0.00	\$205.97	-185.43%	-19.49%
Maintenance Schedule (Step 5)														
Year 1:				0.00%	0.00							\$0.00	0.00%	0.00%
Year 2:				0.00%	0.00							\$0.00	0.00%	0.00%
Year 3:				0.00%	0.00							\$0.00	0.00%	0.00%
Year 4:				0.00%	0.00							\$0.00	0.00%	0.00%
Total Maintenance Cost			0.00		0.00			0.00		0.00	0.00	\$0.00	0.00%	0.00%
Project Totals:			638.43		320.85			758.00		0.00	0.00	\$205.97	-185.43%	-19.49%
Analysis Date:	10/20/03													

9



Concept of Operations Diagram – Current State

Provide a high-level graphical depiction of the current state.

5

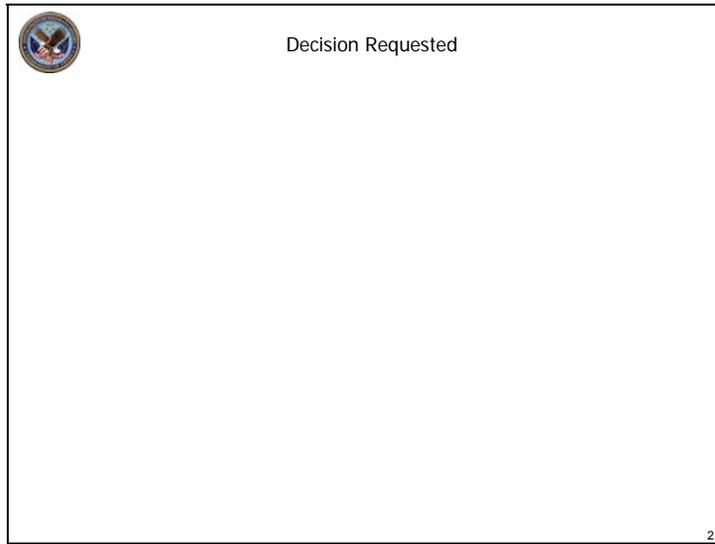


Milestone III, IIIa & IIIb Review Template

System & Life Cycle Development and Testing
Outcome: System Deployment Approval

The Department of Veterans Affairs IT systems development life cycle management process is structured into discrete, logical steps separated by major decision points (called milestones). These milestones provide the basis for comprehensive management, progressive decision making, and authorization of funding for each step in the process.

1



A rectangular slide template with a black border. In the top-left corner, there is a circular seal of the Department of Veterans Affairs. The text "Decision Requested" is centered in the upper portion of the slide. The number "21" is located in the bottom-right corner of the slide.

G.8 Milestone III, IIIa & IIIb Briefing Instructions

Introduction

At Milestone III the Project Manager (PM) must address a basic set of question necessary to warrant approval to deploy the system. Key issues to be addressed are whether the project has adequately demonstrated through testing that the system meets its functional and performance requirements and whether the system is adequately supported by documentation, training, etc., (i.e., whether the system to be deployed meets effectiveness and suitability requirements). At Milestone III, PMs must have defined the performance metrics to be collected during in-service operation of the system as the basis of evaluating goal achievement.

Depending on the nature of your specific project, this Milestone III can be split into a Milestone IIIa for approval of a limited initial deployment (or multiple Milestone IIIa presentations for multi-site deployments), and a follow-up Milestone IIIb for full, enterprise-wide deployment. The slides required for these different presentations are outlined below. Key issues to be addressed are whether the project has adequately demonstrated through testing that the system meets its functional and performance requirements (often referred to as effectiveness), and whether the system is adequately supported in terms of human resources, documentation, backup and spare equipment, and training (often referred to as suitability).

Immediately upon full deployment of the system, and before the Milestone IV, the PM will provide O05P with a summary report detailing deployment results and whether the project has met deployment plans, performance goals, cost, schedule, and security goals, and projected return on investment.

Slide 3 - Business Problem or Opportunity and Project Description

Explain the business problem or opportunity that this project is intended to address. How will this project solve the problem or address the opportunity? In addition, provide a high-level description of the project, including the products and/or services that the project will provide.

Slide 4 - Concept of Operations Narrative

A concept of operations is an overview of the support concept for the new system, including, as applicable, support agencies and facilities; equipment, support software; repair/replacement criteria; maintenance levels and cycles; and storage distribution and supply methods. The concept of operation presented here should be the same as that provided at Milestone II. **Limit your concept of operations narrative to one slide only.**

Slide 5 - Concept of Operations Diagram – Current State

The concept of operations diagrams should compare the current state versus a target state. For Milestone III, IIIa, and IIIb presentations, the concept of operations current state diagram presented here should be the same as that provided at Milestone II.

Slide 6 - Concept of Operations Diagram – Target State

The concept of operations diagrams should compare the current state versus a target state. For Milestone III, IIIa, and IIIb presentations, the concept of operation target state diagram presented here should be the same as that provided on slide 8 at Milestone II, if applicable. Otherwise, use slide 6 from Milestone II.

Slide 7 – Development Results (For Milestone III and IIIa Reviews only)

Provide a description of the results of system development. Be sure to highlight how the results of your development activities will impact the implementation/deployment of the system. You may wish to discuss any development or operational testing conducted during system production, as well as problem reports, and the results of user acceptance testing. The following slides will also highlight how the project has changed as a result of system development.

OR

Initial Deployment Results (For Milestone IIIb Reviews only)

For Milestone IIIb reviews, you will provide the results of your initial deployment strategy. Include a summary of whether your project has met deployment plans, performance goals, cost, schedule, security and projected return on investment. Be sure to highlight how the results of your initial deployment will impact the next deployment phase of the system. **The results of your deployment activities are also shown as actual costs and actual start and end dates on your project schedule.**

Slide 8 - Concept of Operations Diagram – Target State (Updated)

For Milestone III and IIIa presentations, if your target state concept of operations diagram has changed as a result of system development and testing, provide an updated diagram.

For Milestone IIIb presentations, if your target state concept of operations diagram has changed as a result of initial deployment, provide an updated diagram.

Slide 9 - Project Schedule

Project managers of Exhibit 300 projects at VA are required to use the TeamPlay software for managing their projects. If you are currently using TeamPlay, you can enter your project's activities and report their progress on the worksheet shown in the presentation template. If your project schedule in TeamPlay is very detailed, you can “roll up” activities into larger ones. As a result, your project's activities in TeamPlay, those you report on the Exhibit 300, and those shown on this project schedule will not necessarily be at the same level. However, the total cost and overall schedule of the activities must be the same.

Baseline Change Control:

If you wish to change your project schedule baseline from Milestone II, you may be required to complete a Baseline Change Request Form.

This form provides a means to relay which activities have changed and the rationale behind the request for re-baselining. The Baseline Change Request Form must be completed and approved prior to changing the baseline.

You must complete a Baseline Change Request Form for any change that *reduces* the cost or duration of an activity by 10% or more, or *increases* the cost or duration of an activity by 5% or more.

Until the baseline change is approved, you must report actual cost and schedule information against your baseline from Milestone II.

Contact Matt Hix at 273.9622 for the Baseline Change Request Form and send the completed form to the 005P mailbox at vaco005p3.mailbox@mail.va.gov **as soon as you identify the need to change your baseline.**

General guidance for re-baselining is provided below.

- ▲ General cost overruns and schedule slippages are **NOT** sufficient reasons to re-baseline.
- ▲ As long as there is no change in scope, a project manager is able to further decompose activities that were previously recorded at a higher level. This **DOES NOT** constitute a re-baselining but is considered an update.
- ▲ Requested changes during the FY to cost and/or schedule to achieve the original scope. This **DOES** constitute a re-baselining.
- ▲ Reductions in funding **ARE** an acceptable reason to re-baseline. This should be accompanied by an explanation of how the funding cuts impact the original scope of the project.
- ▲ *When a project moves from one life cycle phase to another, a baseline change request is required. For example, when a project moves out of the system design and prototype phase to system development and testing and, as a result, has new and more detailed information.*

At the time of your Milestone III review, you should have begun work against the activities under Step 3: System Development and Testing, as specified in your project schedule at Milestones I and II. In order to show the progress you have made, as well as to determine earned value calculations, enter actual schedule and cost information into the project schedule worksheet. The information contained in the Task, Planned Start Date, Planned End Date, and Planned Cost columns should be the same as that provided in Milestone II, unless you have an approved baseline change.

Column Descriptions:

Planned Start Date – Planned End Date – These columns contain the planned start and completion dates in the form mm/dd/yy. Ensure that the dates seem reasonable given the nature of the work to be accomplished for each milestone.

Planned Cost (Budgeted Cost of Work Scheduled/BCWS, Planned Value) – This column contains the total planned cost for the milestone. It is also called the planned value or the budgeted cost of work scheduled for the milestone. This data should be entered *in '000s*. The cost estimates for these milestones must capture all foreseeable development costs expected for a project. Total development costs are calculated automatically at the bottom of the column.

Planned % Complete - The percentage figure is automatically calculated through a formula based on the current analysis date. Based on the start and end dates you provide, this column calculates the percentage of work that should be completed as of the analysis date, assuming that the costs of the activity are incurred uniformly. If the costs are not incurred uniformly, then you should break down the activity into smaller activities. These values are used to calculate the schedule variance.

Planned Value at Analysis Date – This column indicates the value of each activity that should have been completed from the start date through the analysis date. This value is automatically calculated based on the activity cost and the planned percentage of the activity completed.

Actual/Forecast Start Date – For activities that have already begun, provide the actual date on which the activity started in the form of mm/dd/yy. If the milestone should have started as of the analysis date, but has not yet begun, enter a more accurate forecasted start date. Accordingly, for future milestones, the column captures forecasted start dates for all milestones. Forecasted start dates may differ from planned dates based on actual project circumstances.

Actual/Forecast End Date – For activities that have already been completed, provide the actual date on which the activity ended in the form of mm/dd/yy. If the milestone should have been completed as of the analysis date, but has not yet ended, provide a more accurate forecasted completion date. Accordingly, for future milestones, this column captures forecasted completion dates for all milestones. Forecasted completion dates may differ from planned dates based on actual project circumstances.

Actual Cost (Actual Cost of Work Performed/ACWP) – Enter the actual costs incurred as of the analysis date for each activity. If an activity has not yet begun, enter 0 for the cost. The worksheet will use this value to determine the cost variance for the project.

% of Activity Completed – Provide an estimated completion percentage, **as of the analysis date**, for each activity. If an activity has not yet begun, enter 0% for the completion percentage. This percentage will be used to determine cost variances, so be as accurate as possible with your estimates.

PM (Project Manager) Estimate of Remaining Work – Provide an estimate of the total cost of work to complete this activity, from this point in time forward.

Estimate at Completion – This value is automatically calculated. The value represents the total amount of actual funding that is required for the milestone. The estimate is calculated as the sum of the “Actual Cost” and the “PM Estimate of Remaining Work”.

Earned Value (Budgeted Cost of Work Performed/BCWP, or Earned Value) – This is the value of work actually accomplished based on the original budget to complete the work. This figure will be automatically calculated based on the "% of Activity Completed" and the "Planned Cost."

% Cost Variance – Automatically calculated.

% Schedule Variance – Automatically calculated.

Analysis Date – The analysis date is used to calculate earned value information for your project.

Slide 10 - Earned Value Graph

The TeamPlay software will allow you to track your project schedule and costs using earned value, as well as produce a graphic similar to the one in the presentation template. The graphic should plot your project’s cumulative planned value, earned value, and actual costs on a monthly basis. All project managers are now required to report earned value information for the monthly performance reports. You must report actual costs and percentage complete for your activities on a monthly basis for the Earned Value Graph to show the necessary detail.

If you are unable to use the TeamPlay software to track your project, contact Matt Hix (005P) at 273-9622 for assistance in creating the earned value graph.

Slide 11 - Lifecycle Obligations

Update your Milestone II Lifecycle Obligations worksheet in light of any changes that have occurred as a result of system development and testing. Please note that you should be providing the dollars obligated to each category for a given fiscal year, not the actual dollars expended. A project manager can obligate a certain amount of funds in a given fiscal year, but those funds might be expended over multiple fiscal years. While the project schedule is in terms of actual expenses, this table is obligations-based.

All figures provided on the worksheet should be adjusted for inflation.

Please complete the remainder of the spreadsheet using the definitions and comments below. The worksheet cells with the gray pattern are protected and will calculate automatically.

Savings – Provide any quantified reductions in obligations or benefits gained through the project. Savings can be achieved in a number of ways, including through the replacement of legacy systems, or through reductions in the obligations to support business operations.

Total Budget Authority – This represents the project’s total obligations (including FTE) that were determined based on project plans, potentially adjusted to reflect actual project costs and

activities. This line item should be used as a guide to complete the allocation of the required obligations across the cost categories and should match the “**Total Obligations / Funding Requirements**” line towards the bottom of the table.

Hardware – Provide obligated funds supporting the purchase and lease expenditures for servers, client computers (e.g., desktops and laptops), peripherals, and network components.

Software – Provide obligated funds supporting the acquisition and maintenance expenditures for software. Include in this category all system software packages and off-the-shelf software.

Contractor Services – Provide the total obligated funds for contractor labor hours associated with the project. These include development, testing, maintenance and administration obligations, as well as feasibility studies, independent verification and validation, etc. Also included are custom software development obligations. These funds do **not** include contractor support provided for training and IT security efforts. Contractor support obligations associated with training and IT security should be captured in those line items.

Training – Provide the obligated funds for training associated with the investment or undertaking. Include in this category the obligated funds for developing the training materials as well as providing the training.

Security – Provide the obligated funds for security, including the funds for IT security planning and mitigation for the project. All obligations associated with security that may be incorporated into the elements such as hardware, software, contractor services, or training should be separated out and included here as security obligations.

Telecommunications – Provide any obligated funds associated with telecommunications, including dedicated and switched data circuits, and LAN/WAN connectivity costs.

Other – Provide any other obligated funds for IT directly related to the project, but not captured in one of the above categories. Replace “Other” in the table with a descriptive name of the funds.

Subtotal Obligations (Calculated) - The line item automatically calculates the subtotal of all the obligation categories for each fiscal year.

Department FTE Amount (Existing) – Of the total Department FTE funds for this project, enter the total funds for those FTEs that are currently on staff and will be assigned to this project. This number should be the dollar amount, not the number of FTE.

Department FTE Amount (Additional Required) – Of the total Department FTE funds for this project, enter the total funds of those FTEs that must be hired in order to successfully complete this project. This number should be the dollar amount, not the number of FTE.

Total Obligations / Funding Requirements (Calculated) – Total obligations, including FTE, are calculated automatically.

Net Savings (*Calculated*) – Net Savings is automatically calculated to provide the difference between obligations and savings. Typically, in the public sector this value will be negative as performance improvements are the main advantages to be gained by undertaking IT projects.

Discount Factor (*Pre-populated*) – The discount is specified by the OMB Circular A-94 and is used to calculate the net present value of a cash flow, e.g., savings, hardware and software obligations.

Net Present Value (*Calculated*) – Net Present Value calculates an investment's return taking into consideration the time value of money. The line item is automatically calculated by multiplying the net savings by the discount factor for each fiscal year.

Total Obligations / Funding Requirements – Latest Approved – Enter the total obligations, including FTE, from your last approved lifecycle obligations table (Milestone II).

Slide 12 - Benefits

Identify and clearly articulate the project's benefits, both qualitative and quantitative. Be sure to address any changes to your benefits as a result of system development and testing. **Limit your discussion to two slides.** Below are a few of the benefit categories you may wish to address:

Improves services to customers (e.g., improving ability to deliver, access to services and access to information) – Include any benefits that are gained by the customers. For example, the project increases the number of people reached (e.g., customers can conduct business by telephone, e-mail, or Internet in addition to existing mail services) or internal customers gain direct access to resources or information so they can perform tasks more efficiently. Improving services to customers could also include improving access to information (e.g., veterans can obtain information and services via the Internet or telephone.)

Improves accuracy – Include any benefits associated with improving accuracy, such as reducing manual processes or improvements in productivity by reducing time spent on error correction.

Captures future opportunities – Projects that may cause additional gains in the future. For example, an investment in a server for one aspect of a project may also have the capacity to support additional future projects. This approach may be particularly relevant for infrastructure projects and pilot projects.

Reduces risk – Investments that contribute to the reduction of risk. Examples include back-up systems that reduce the risk of data loss or applications that improve the timely delivery of critical information or services.

Eliminates duplicate assets – Projects that replace multiple, non-compatible, stand-alone systems.

Improves reliability – For example, the new system or enhancement that offers a better performance record with less downtime than the legacy process or system.

Reduces manual operations – Systems that automate manual processes, thereby freeing staff members to perform other functions, which reduce FTE requirements. An example would be systems that allow functions to be performed by lower level staff members.

Improves efficiency – Assets that improve access to information or tools that decrease the amount of time required to perform functions. For example, a system may provide faster or more accurate aggregation and analyses of data.

Other – Any other benefits directly related to the IT project, but not captured in one of the given categories, such as savings.

Slide 13 – (Final) Product Requirements

For Milestone III or IIIb reviews, the requirements you present here will be considered final. For Milestone IIIa reviews, the requirements you present here may change as a result of the initial deployment and are not considered final.

Provide a brief, high-level description of the product’s functional requirements, in a non-technical manner. Indicate what the system will be able to do and the functions it will perform.

Limit your response to two slides maximum.

If your product requirements have changed since the Milestone II review (or since Milestone IIIa for Milestone IIIb reviews), you must complete a Requirements Change Request Form. On the form, be sure to describe the impact of the requirements change on all relevant aspects of the project.

Changes in product requirements often result in a change to the project’s costs and schedule. If the cost or schedule changes as a result of the requirements change, and meets the established thresholds, you must complete a Baseline Change Request Form also. See the instruction under slide 9 – Project Schedule, for more information.

Limit your response to two slides maximum. Contact Matt Hix at 273.9622 for the Requirements Change Request Form.

Send your completed Requirements Change Request Form to the 005P mailbox at vaco005p3.mailbox@mail.va.gov before your milestone review meeting.

Slides 14 - Performance Measures

Provide the most current performance measures from your project’s Exhibit 300. Provide actual results for fiscal years 2002 and 2003 and proposed measures through fiscal year 2007. You should have at least two performance measures for each fiscal year.

For assistance in developing performance measures, consult the Federal Enterprise Architecture's Performance Reference Model at <http://www.feapmo.gov/feaprm2.asp>.

Slide 15 - Lines of Business Impact

The Lines of Business Impact diagram must be updated to note any changes. Contact 005P for assistance in producing the Lines of Business Impact diagram if you believe it must be updated to reflect changes since the Milestone II review.

Slide 16 – Milestone III Architecture, Cyber Security, and Operations Requirements.

You will work with the Enterprise Architecture, Cyber Security, and Operations groups to determine your compliance with their respective Milestone III requirements. For each column of the Zachman framework, the EA group will score your compliance. You may wish to provide an explanation in a backup slide if you do not show “all green.”

Slide 17 - Acquisition Activities

If necessary, update your Acquisition Activities slide to reflect any new activities you have undertaken since Milestone II. In your overview, you may wish to address the following issues:

- ▲ Describe the market research conducted.
- ▲ How was/will competition be used to select vendors?
- ▲ How many contracts will be used, and if more than one, then how do they relate to one another?
- ▲ What type of contract(s) will be used (e.g. fixed price, cost reimbursement)?
- ▲ What type of financial or performance-based contracting incentives will be used (e.g. incentive fees)?
- ▲ When do the contract resources need to be available to start working in order to meet your schedule as indicated in your detailed project schedule?
- ▲ How can you use small, disadvantaged, or veteran-owned businesses in developing or implementing your project?

Slide 18 - Risk Management

From the list of risk categories in the Exhibit 300, place the name of each risk in the risk matrix, based upon your estimation of the probability of the risk's occurrence and the potential impact if the risk does occur.

Slide 19 – (Final) Deployment Strategy

For Milestone III or IIIb reviews, the Deployment Strategy you present here will be considered final. For Milestone IIIa reviews, the Deployment Strategy you present here may change as a result of the initial deployment and is not considered final.

Limit your deployment strategy to one slide.

Your plans for system deployment should also be recorded as activities on your project schedule.

Slide 20 – (Final) Operational Support Strategy

For Milestone III or IIIb reviews, the Operational Support Strategy you present here will be considered final. For Milestone IIIa reviews, the Operational Support Strategy you present here may change as a result of the initial deployment and is not considered final.

Limit your operational support strategy to one slide.

Slide 21 – Decision Requested

G.9 Milestone III, IIIa & IIIb Review Templates



Milestone III, IIIa & IIIb Review Template

System & Life Cycle Development and Testing
Outcome: System Deployment Approval

The Department of Veterans Affairs IT systems development life cycle management process is structured into discrete, logical steps separated by major decision points (called milestones). These milestones provide the basis for comprehensive management, progressive decision making, and authorization of funding for each step in the process.

1



Project Name

Project Manager Information
(Name, Phone, e-mail, sponsoring office)

2

	Business Problem or Opportunity and Project Description
<p>Explain the business problem or opportunity that this project is intended to address. How will this project solve the problem or address the opportunity? (What is this project's mission?)</p>	
<p>In non-technical language, provide a high-level description of your project, including the products and/or services that the project will provide.</p>	
<p>3</p>	

	Concept of Operations Narrative
<p>In the space below, provide a brief narrative describing your concept of operations.</p>	
<p>4</p>	

 Concept of Operations Diagram – Current State

Provide a high-level graphical depiction of the current state.

5

 Concept of Operations Diagram – Target State

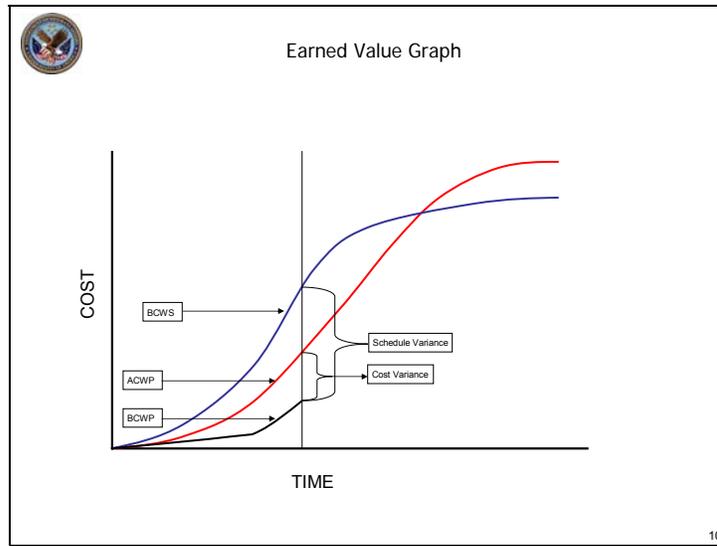
Provide a high-level graphical depiction of the target state.

6



Project Schedule

Task	Planned Start Date	Planned End Date	Planned Cost	Planned % Complete	Planned Value at Analysis Date	Actual/Forecast Start Date	Actual/Forecast End Date	Actual Cost	% of Activity Completed	PM Estimate of Remaining Work	Estimate at Completion	Earned Value	% Cost Variance	% Schedule Variance
Development Schedule														
Concept Dev. and Devt. (Steps 0-1):														
Activity 1	10/1/02	9/30/07	340.0	21.04%	71.84	10/1/02	9/30/10	172.40	12.00%			\$40.80	-322.95%	-42.97%
Activity 2	10/1/02	12/1/03	187.1	80.14%	189.58	10/1/02	9/30/10	87.80	85.00%			\$189.08	-44.97%	-5.20%
Activity 3	12/1/02	12/30/03	108.7	81.98%	89.11	12/1/02	9/30/10	497.80	60.00%			\$56.22	-463.26%	-26.81%
System Design & Prototypes (Step 2)														
Activity 1				0.00%	0.00							\$0.00	0.00%	0.00%
Activity 2				0.00%	0.00							\$0.00	0.00%	0.00%
Activity 3				0.00%	0.00							\$0.00	0.00%	0.00%
System Devt. & Testing (Step 3):														
Activity 1				0.00%	0.00							\$0.00	0.00%	0.00%
Activity 2				0.00%	0.00							\$0.00	0.00%	0.00%
Activity 3				0.00%	0.00							\$0.00	0.00%	0.00%
System Deployment (Step 4):														
Activity 1				0.00%	0.00							\$0.00	0.00%	0.00%
Activity 2				0.00%	0.00							\$0.00	0.00%	0.00%
Activity 3				0.00%	0.00							\$0.00	0.00%	0.00%
Total Development Cost			696.40		329.85			768.00		0.00	0.00	\$205.57	-186.43%	-19.49%
Maintenance Schedule (Step 5)														
Year 1				0.00%	0.00							\$0.00	0.00%	0.00%
Year 2				0.00%	0.00							\$0.00	0.00%	0.00%
Year 3				0.00%	0.00							\$0.00	0.00%	0.00%
Year 4				0.00%	0.00							\$0.00	0.00%	0.00%
Total Maintenance Cost			0.00		0.00			0.00		0.00	0.00	\$0.00	0.00%	0.00%
Project Totals:			696.40		329.85			768.00		0.00	0.00	\$205.57	-186.43%	-19.49%
Analysis Date:	10/20/03													





Lifecycle Obligations

	2003	2004	2005	2006	2007	2008	2009	Total
Savings								0.0
Total Budget Authority	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Obligations:								
Hardware								0.0
Software								0.0
Contractor Services								0.0
Training								0.0
Security								0.0
Telecommunications								0.0
Other								0.0
Subtotal Obligations:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Department FTE Amount (Existing)								0.0
Department FTE Amount (Additional Required)								0.0
Total Obligations / Funding Requirement	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net Savings (Savings - Obligations)	0.0							0.0
Discount Factor		1.000	0.9663	0.9317	0.8993	0.8681	0.8379	
Net Present Value			0.0	0.0	0.0	0.0	0.0	0.0
Total Obligations / Funding Requirement - Latest Approved								

11



Project Benefits

Describe the project's benefits, both qualitative and quantitative. (Refer to the instructions document for benefit categories.)

12

	(Final) Product Requirements
Describe the product's functional requirements in a non-technical manner. What will the system be able to do and what are the functions it will perform?	
13	

	Performance Measures
14	



Lines of Business Impact

Identify the VA lines of business and sub-functions that this initiative will support. (See instructions for more information.)

15



Milestone III Architecture, Cyber Security and Operations Requirements

Enterprise Architecture Requirements:					
Data	Function	Network	People	Time	Motivation
R,Y,G	R,Y,G	R,Y,G	R,Y,G	R,Y,G	R,Y,G

Cyber Security Requirements:
R,Y,G

Operations and Telecommunications Requirements:
R,Y,G

16



Acquisition Activities

Provide an overview of the acquisitions activities you have undertaken.

17



Risk Management

		Risk Management		
		Impact		
		Low	Medium	High
Probability of Occurrence	High	Schedule Investment Management Capability Project Resources	Initial Costs Overall Project Failure	Life-cycle Costs Organizational and Change Mgmt.
	Medium	Technical Obsolescence Business	Feasibility Data/Info	Reliability of Systems Technology
	Low	Dependencies and Interoperability Strategic	Surety Considerations Security	Procurement Monopoly Privacy

18



(Final) Deployment Strategy

Describe your plan to deploy or implement your project or system.

19



(Final) Operational Support Strategy

Describe your plans to provide training, helpdesk support, documentation, and other services, products, or activities necessary to support the operation of the system.

20

	Decision Requested
---	--------------------

21

G.10 Milestone IV Briefing Instructions

Introduction

The Post-Implementation Review evaluates the project history and “lessons learned” to identify training requirements and knowledge to be used by future project teams to identify and mitigate risks, refine estimating parameters, and improve project management. Milestone IV is intended to assess the in-service effectiveness and suitability of an IT system as a continuation of the assessment taken in Milestone III. This includes assessment of the success in meeting the deployment plans, meeting performance metrics, cost, schedule, security and projected return on investment. It also includes an assessment of the adequacy of training, documentation and maintenance support for the IT system, as well as whether any changes are required to the system. The Milestone IV briefing needs to be scheduled after the system has been in operation long enough to provide a good basis for analysis, usually between 6 and 18 months.

Slide 3 - Business Problem or Opportunity and Project Description

Explain the business problem or opportunity that this project was intended to address. How did this project solve the problem or address the opportunity? In addition, provide a high-level description of the project, including the products and/or services that the project provides.

Slide 4 - Concept of Operations Narrative

A concept of operations is an overview of the support concept for the new system, including, as applicable, support agencies and facilities; equipment, support software; repair/replacement criteria; maintenance levels and cycles; and storage distribution and supply methods. The concept of operation presented here should be the same as the one provided at Milestone III. **Limit your concept of operations narrative to one slide only.**

Slide 5 - Concept of Operations Diagram – Pre-Implementation

The concept of operations pre-implementation diagram presented here should be the same as the “Current State” diagram provided at Milestone III.

Slide 6 - Concept of Operations Diagram – Post-Implementation

The concept of operations post-implementation diagram presented here should correspond to the “Target State” diagram (slide 8) provided at Milestone III. This diagram is, in effect, the new “current state” of the system.

Slide 7 – Deployment Strategy Results

Provide the results of your deployment strategy. Include a summary of whether your project has met deployment plans, performance goals, cost, schedule, security and projected return on investment. Many of these aspects are illustrated in more detail in later slides. **The results of**

your deployment activities are also shown as actual costs and actual start and end dates on your project schedule.

Slide 8 – Operational Support Strategy Results

Provide the results of your final operational support strategy. Be sure to address the adequacy of training, documentation and maintenance support for the IT system. **Limit your operational support strategy to one slide.**

Slide 9 - Project Schedule

Project managers of Exhibit 300 projects at VA are required to use the TeamPlay software for managing their projects. If you are currently using TeamPlay, you can enter your project's activities and report their progress on the worksheet shown in the presentation template. If your project schedule in TeamPlay is very detailed, you can "roll up" activities into larger ones. As a result, your project's activities in TeamPlay, those you report on the Exhibit 300, and those shown on this project schedule will not necessarily be at the same level. However, the total cost and overall schedule of the activities must be the same.

Baseline Change Control:

If you wish to change your project schedule baseline from Milestone III, you may be required to complete a Baseline Change Request Form.

This form provides a means to relay which activities have changed and the rationale behind the request for re-baselining. The Baseline Change Request Form must be completed and approved prior to changing the baseline.

You must complete a Baseline Change Request Form for any change that *reduces* the cost or duration of an activity by 10% or more, or *increases* the cost or duration of an activity by 5% or more.

Until the baseline change is approved, you must report actual cost and schedule information against your baseline from Milestone III.

Contact Matt Hix at 273.9622 for the Baseline Change Request Form and send the completed forms to the 005P mailbox at vaco005p3.mailbox@mail.va.gov **as soon as you identify the need to change your baseline.**

General guidance for re-baselining is provided below.

- ▲ General cost overruns and schedule slippages are **NOT** sufficient reasons to re-baseline.
- ▲ As long as there is no change in scope, a project manager is able to further decompose activities that were previously recorded at a higher level. This **DOES NOT** constitute a re-baselining but is considered an update.

- ▲ Requested changes during the FY to cost and/or schedule to achieve the original scope. This **DOES** constitute a re-baselining.
- ▲ Reductions in funding **ARE** an acceptable reason to re-baseline. This should be accompanied by an explanation of how the funding cuts impact the original scope of the project.
- ▲ *When a project moves from one life cycle phase to another, a baseline change request is required. For example, when a project moves out of the system design and prototype phase to system development and testing and, as a result, has new and more detailed information.*

At the time of your Milestone IV review, you should have finished your development activities and begun work against the maintenance activities specified in your project schedule at Milestones III. In order to show the progress you have made, as well as to determine earned value calculations, enter actual schedule and cost information into the project schedule worksheet. The information contained in the Task, Planned Start Date, Planned End Date, and Planned Cost columns should be the same as that provided in Milestone III, unless you have an approved baseline change.

Column Descriptions:

Planned Start Date – Planned End Date – These columns contain the planned start and completion dates in the form mm/dd/yy. Ensure that the dates seem reasonable given the nature of the work to be accomplished for each milestone.

Planned Cost (Budgeted Cost of Work Scheduled/BCWS, Planned Value) – This column contains the total planned cost for the milestone. It is also called the planned value or the budgeted cost of work scheduled for the milestone. This data should be entered *in '000s*. The cost estimates for these milestones must capture all foreseeable development costs expected for a project. Total development costs are calculated automatically at the bottom of the column.

Planned % Complete - The percentage figure is automatically calculated through a formula based on the current analysis date. Based on the start and end dates you provide, this column calculates the percentage of work that should be completed as of the analysis date, assuming that the costs of the activity are incurred uniformly. If the costs are not incurred uniformly, then you should break down the activity into smaller activities. These values are used to calculate the schedule variance.

Planned Value at Analysis Date – This column indicates the value of each activity that should have been completed from the start date through the analysis date. This value is automatically calculated based on the activity cost and the planned percentage of the activity completed.

Actual/Forecast Start Date – For activities that have already begun, provide the actual date on which the activity started in the form of mm/dd/yy. If the milestone should have started as of the analysis date, but has not yet begun, enter a more accurate forecasted start date. Accordingly, for future milestones, the column captures forecasted start dates for all milestones. Forecasted start dates may differ from planned dates based on actual project circumstances.

Actual/Forecast End Date – For activities that have already been completed, provide the actual date on which the activity ended in the form of mm/dd/yy. If the milestone should have been completed as of the analysis date, but has not yet ended, provide a more accurate forecasted completion date. Accordingly, for future milestones, this column captures forecasted completion dates for all milestones. Forecasted completion dates may differ from planned dates based on actual project circumstances.

Actual Cost (Actual Cost of Work Performed/ACWP) – Enter the actual costs incurred as of the analysis date for each activity. If an activity has not yet begun, enter 0 for the cost. The worksheet will use this value to determine the cost variance for the project.

% of Activity Completed – Provide an estimated completion percentage, **as of the analysis date**, for each activity. If an activity has not yet begun, enter 0% for the completion percentage. This percentage will be used to determine cost variances, so be as accurate as possible with your estimates.

PM (Project Manager) Estimate of Remaining Work – Provide an estimate of the total cost of work to complete this activity, from this point in time forward.

Estimate at Completion – This value is automatically calculated. The value represents the total amount of actual funding that is required for the milestone. The estimate is calculated as the sum of the “Actual Cost” and the “PM Estimate of Remaining Work”.

Earned Value (Budgeted Cost of Work Performed/BCWP, or Earned Value) – This is the value of work actually accomplished based on the original budget to complete the work. This figure will be automatically calculated based on the "% of Activity Completed" and the "Planned Cost."

% Cost Variance – Automatically calculated.

% Schedule Variance – Automatically calculated.

Analysis Date – The analysis date is used to calculate earned value information for your project.

Slide 10 - Earned Value Graph

The TeamPlay software will allow you to track your project schedule and costs using earned value, as well as produce a graphic similar to the one in the presentation template. The graphic should plot your project’s cumulative planned value, earned value, and actual costs on a monthly basis. All project managers are now required to report earned value information for the monthly performance reports. You must report actual costs and percentage complete for your activities on a monthly basis for the Earned Value Graph to show the necessary detail.

For the milestone IV review, your Earned Value Graph should reflect earned value data only for your development activities (Steps 0-4). Do not include maintenance activities.

If you are unable to use the TeamPlay software to track your project, contact Matt Hix (005P) at 273-9622 for assistance in creating the earned value graph.

Slide 11 - Lifecycle Obligations

Update your Milestone III Lifecycle Obligations worksheet in light of any changes that have occurred as a result of system deployment. Please note that you should be providing the dollars obligated to each category for a given fiscal year, not the actual dollars expended. A project manager can obligate a certain amount of funds in a given fiscal year, but those funds might be expended over multiple fiscal years. While the project schedule is in terms of actual expenses, this table is obligations-based.

All figures provided on the worksheet should be adjusted for inflation.

Please complete the remainder of the spreadsheet using the definitions and comments below. The worksheet cells with the gray pattern are protected and will calculate automatically.

Savings – Provide any quantified reductions in obligations or benefits gained through the project. Savings can be achieved in a number of ways, including through the replacement of legacy systems, or through reductions in the obligations to support business operations.

Total Budget Authority – This represents the project’s total obligations (including FTE) that were determined based on project plans, potentially adjusted to reflect actual project costs and activities. This line item should be used as a guide to complete the allocation of the required obligations across the cost categories and should match the “**Total Obligations / Funding Requirements**” line towards the bottom of the table.

Hardware – Provide obligated funds supporting the purchase and lease expenditures for servers, client computers (e.g., desktops and laptops), peripherals, and network components.

Software – Provide obligated funds supporting the acquisition and maintenance expenditures for software. Include in this category all system software packages and off-the-shelf software.

Contractor Services – Provide the total obligated funds for contractor labor hours associated with the project. These include development, testing, maintenance and administration obligations, as well as feasibility studies, independent verification and validation, etc. Also included are custom software development obligations. These funds do **not** include contractor support provided for training and IT security efforts. Contractor support obligations associated with training and IT security should be captured in those line items.

Training – Provide the obligated funds for training associated with the investment or undertaking. Include in this category the obligated funds for developing the training materials as well as providing the training.

Security – Provide the obligated funds for security, including the funds for IT security planning and mitigation for the project. All obligations associated with security that may be incorporated

into the elements such as hardware, software, contractor services, or training should be separated out and included here as security obligations.

Telecommunications – Provide any obligated funds associated with telecommunications, including dedicated and switched data circuits, and LAN/WAN connectivity costs.

Other – Provide any other obligated funds for IT directly related to the project, but not captured in one of the above categories. Replace “Other” in the table with a descriptive name of the funds.

Subtotal Obligations (*Calculated*) - The line item automatically calculates the subtotal of all the obligation categories for each fiscal year.

Department FTE Amount (Existing) – Of the total Department FTE funds for this project, enter the total funds for those FTEs that are currently on staff and will be assigned to this project. This number should be the dollar amount, not the number of FTE.

Department FTE Amount (Additional Required) – Of the total Department FTE funds for this project, enter the total funds of those FTEs that must be hired in order to successfully complete this project. This number should be the dollar amount, not the number of FTE.

Total Obligations / Funding Requirements (*Calculated*) – Total obligations, including FTE, are calculated automatically.

Net Savings (*Calculated*) – Net Savings is automatically calculated to provide the difference between obligations and savings. Typically, in the public sector this value will be negative as performance improvements are the main advantages to be gained by undertaking IT projects.

Discount Factor (*Pre-populated*) – The discount is specified by the OMB Circular A-94 and is used to calculate the net present value of a cash flow, e.g., savings, hardware and software obligations.

Net Present Value (*Calculated*) – Net Present Value calculates an investment’s return taking into consideration the time value of money. The line item is automatically calculated by multiplying the net savings by the discount factor for each fiscal year.

Total Obligations / Funding Requirements – Latest Approved – Enter the total obligations, including FTE, from your last approved lifecycle obligations table (Milestone III).

Slide 12 - Benefits

Provide a discussion of the projects benefits proposed at Milestone III, whether they have been achieved, and to what extent.

Slides 13 - Performance Measures

Provide the most current performance measures table from your project's Exhibit 300. Provide actual results for fiscal years 2002 and 2003 and proposed measures through fiscal year 2007. You should have at least two performance measures for each fiscal year.

Slide 14 - Lines of Business Impact

The Lines of Business Impact diagram must be updated to note any changes. Contact 005P for assistance in producing the Lines of Business Impact diagram if you believe it must be updated to reflect changes since the Milestone III review.

Slide 15 – Milestone IV Architecture, Cyber Security, and Operations Requirements.

You will work with the Enterprise Architecture, Cyber Security, and Operations groups to determine your compliance with their respective Milestone IV requirements. For each column of the Zachman framework, the EA group will score your compliance. You may wish to provide an explanation in a backup slide if you do not show “all green.”

Slide 16 - Risk Management

From the list of risk categories in the Exhibit 300, place the name of each risk in the risk matrix, based upon your estimation of the probability of the risk's occurrence and the potential impact if the risk does occur.

Slide 17 - Lessons Learned

Provide a summary of your project's lessons learned, including any risk events, problems, successes, or other relevant information.

A lesson learned is a recorded experience of value; a conclusion drawn from analysis of feedback information on past and/or current programs, policies, systems and processes. Lessons may show successes or innovative techniques, or they may show deficiencies or problems to be avoided. A lesson may be:

1. An informal policy or procedure;
2. Something you want to repeat;
3. A solution to a problem, or a corrective action;
4. How to avoid repeating an error;
5. Something you never want to do (again)

Slide 18 – Decision Requested and Next Steps

Provide a summary of your project's next steps, including any potential modifications, development efforts, or other information senior management may want to know.

G.11 Milestone IV Review Template



Milestone IV Review Template

Post-Implementation Review

The Department of Veterans Affairs IT systems development life cycle management process is structured into discrete, logical steps separated by major decision points (called milestones). These milestones provide the basis for comprehensive management, progressive decision making, and authorization of funding for each step in the process.

1



Project Name

Project Manager Information
(Name, Phone, e-mail, sponsoring office)

2

	Business Problem or Opportunity and Project Description
<p>Explain the business problem or opportunity that this project was intended to address. How did this project solve the problem or address the opportunity? (What is this project's mission?)</p>	
<p>In non-technical language, provide a high-level description of your project, including the products and/or services that the project provides.</p>	
<p>3</p>	

	Concept of Operations Narrative
<p>In the space below, provide a brief narrative describing your concept of operations.</p>	
<p>4</p>	

 Concept of Operations Diagram – Pre-Implementation

Provide a high-level graphical depiction of the pre-implementation state.

5

 Concept of Operations Diagram – Post-Implementation

Provide a high-level graphical depiction of the post-implementation state.

6

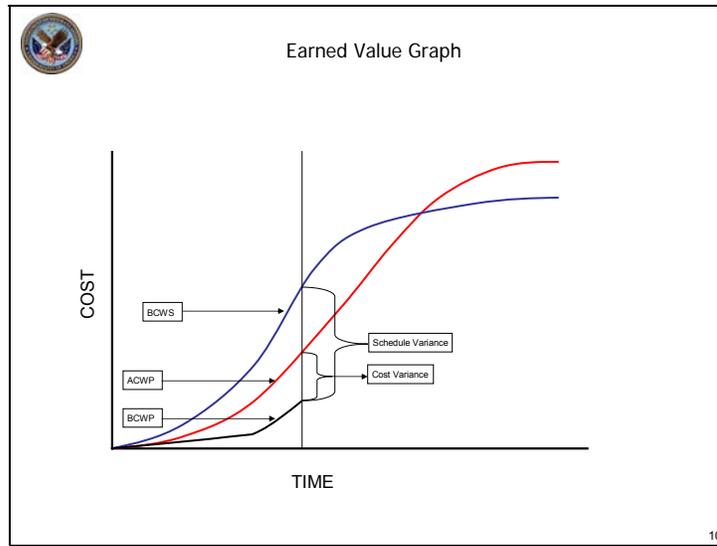
	<h3>Deployment Strategy Results</h3>
<p>Describe the results of your plan to deploy or implement your project or system.</p>	
<p>7</p>	

	<h3>Operational Support Strategy Results</h3>
<p>Describe the results of your plans to provide training, helpdesk support, documentation, and other services, products, or activities necessary to support the operation of the system.</p>	
<p>8</p>	



Project Schedule

Task	Planned Start Date	Planned End Date	Planned Cost	Planned % Complete	Planned Value at Analysis Date	Actual/Forecast Start Date	Actual/Forecast End Date	Actual Cost	% of Activity Completed	PM Estimate of Remaining Work	Estimate at Completion	Earned Value	% Cost Variance	% Schedule Variance
Development Schedule														
Concept Dev. and Devt. (Steps 0-1):														
Activity 1	10/1/02	9/30/07	340.0	21.04%	71.84	10/1/02	9/30/10	172.45	12.00%		\$40.80	-322.95%	-42.97%	
Activity 2	10/1/02	12/1/03	187.1	80.14%	189.58	10/1/02	9/30/10	87.80	85.00%		\$189.08	-44.97%	-5.20%	
Activity 3	12/1/02	12/30/03	108.7	81.98%	89.11	12/1/02	9/30/10	497.80	60.00%		\$55.22	-463.26%	-26.81%	
System Design & Prototypes (Step 2)														
Activity 1				0.00%	0.00							\$0.00	0.00%	0.00%
Activity 2				0.00%	0.00							\$0.00	0.00%	0.00%
Activity 3				0.00%	0.00							\$0.00	0.00%	0.00%
System Devt. & Testing (Step 3):														
Activity 1				0.00%	0.00							\$0.00	0.00%	0.00%
Activity 2				0.00%	0.00							\$0.00	0.00%	0.00%
Activity 3				0.00%	0.00							\$0.00	0.00%	0.00%
System Deployment (Step 4):														
Activity 1				0.00%	0.00							\$0.00	0.00%	0.00%
Activity 2				0.00%	0.00							\$0.00	0.00%	0.00%
Activity 3				0.00%	0.00							\$0.00	0.00%	0.00%
Total Development Cost			696.40		329.85			758.00		0.00	0.00	\$205.57	-186.43%	-19.49%
Maintenance Schedule (Step 5)														
Year 1				0.00%	0.00							\$0.00	0.00%	0.00%
Year 2				0.00%	0.00							\$0.00	0.00%	0.00%
Year 3				0.00%	0.00							\$0.00	0.00%	0.00%
Year 4				0.00%	0.00							\$0.00	0.00%	0.00%
Total Maintenance Cost			0.00		0.00			0.00		0.00	0.00	\$0.00	0.00%	0.00%
Project Totals:			696.40		329.85			758.00		0.00	0.00	\$205.57	-186.43%	-19.49%
Analysis Date:	10/20/03													





Lifecycle Obligations

	2003	2004	2005	2006	2007	2008	2009	Total
Savings								0.0
Total Budget Authority	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Obligations:								
Hardware								0.0
Software								0.0
Contractor Services								0.0
Training								0.0
Security								0.0
Telecommunications								0.0
Other								0.0
Subtotal Obligations:	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Department FTE Amount (Existing)								0.0
Department FTE Amount (Additional Required)								0.0
Total Obligations / Funding Requirement	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Net Savings (Savings - Obligations)	0.0							0.0
Discount Factor		1.000	0.9663	0.9317	0.8993	0.8681	0.8379	
Net Present Value			0.0	0.0	0.0	0.0	0.0	0.0
Total Obligations / Funding Requirement - Latest Approved								

11



Project Benefits

Describe the project's benefits, and discuss whether the benefits originally proposed have been realized.

12



Performance Measures

13



Lines of Business Impact

Identify the VA lines of business and sub-functions that this initiative supports. (See instructions for more information.)

14



Milestone IV Architecture, Cyber Security and Operations Requirements

Enterprise Architecture Requirements:					
Data	Function	Network	People	Time	Motivation
R,Y,G	R,Y,G	R,Y,G	R,Y,G	R,Y,G	R,Y,G

Cyber Security Requirements:

R,Y,G

Operations and Telecommunications Requirements:

R,Y,G

15



Risk Management

Risk Management				
		Impact		
		Low	Medium	High
Probability of Occurrence	High	Schedule Investment Management Capability Project Resources	Initial Costs Overall Project Failure	Life-cycle Costs Organizational and Change Mgmt.
	Medium	Technical Obsolescence Business	Feasibility Data/Info	Reliability of Systems Technology
	Low	Dependencies and Interoperability Strategic	Surety Considerations Security	Procurement Monopoly Privacy

16



Lessons Learned

Provide a summary of your project's lessons learned, including any risk events, problems, successes, or other relevant information.

17



Decision Requested and Next Steps

18

G.12 Requirements Change Request Form

Use this form to provide details of requested changes to the product's requirements. A description of the impact of the requirement change must be provided for all requests.

Project Name					
Project Manager					
Date of Request					
				ASSESSMENT & ACTION RECOMMENDATIONS	
Request #	Requirement	Requested Action	Rationale for and impact of change.	005P Assessment	Recommended Action
1					<input type="checkbox"/> Approve <input type="checkbox"/> Disapprove <input type="checkbox"/> Request add'l info
2					<input type="checkbox"/> Approve <input type="checkbox"/> Disapprove <input type="checkbox"/> Request add'l info
3					<input type="checkbox"/> Approve <input type="checkbox"/> Disapprove <input type="checkbox"/> Request add'l info
4					<input type="checkbox"/> Approve <input type="checkbox"/> Disapprove <input type="checkbox"/> Request add'l info
5					<input type="checkbox"/> Approve <input type="checkbox"/> Disapprove <input type="checkbox"/> Request add'l info
6					<input type="checkbox"/> Approve <input type="checkbox"/> Disapprove <input type="checkbox"/> Request add'l info
7					<input type="checkbox"/> Approve <input type="checkbox"/> Disapprove <input type="checkbox"/> Request add'l info
8					<input type="checkbox"/> Approve <input type="checkbox"/> Disapprove <input type="checkbox"/> Request add'l info
9					<input type="checkbox"/> Approve <input type="checkbox"/> Disapprove <input type="checkbox"/> Request add'l info

G.13 Baseline Change Request Form

Use this form to provide details of requested changes to your project's baseline. General guidance for re-baselining is provided below. For each Request #, provide information regarding the activity in the current baseline and any requested action (Modify, Delete, Add New) to that activity baseline. **A rationale must be provided for all requests.**

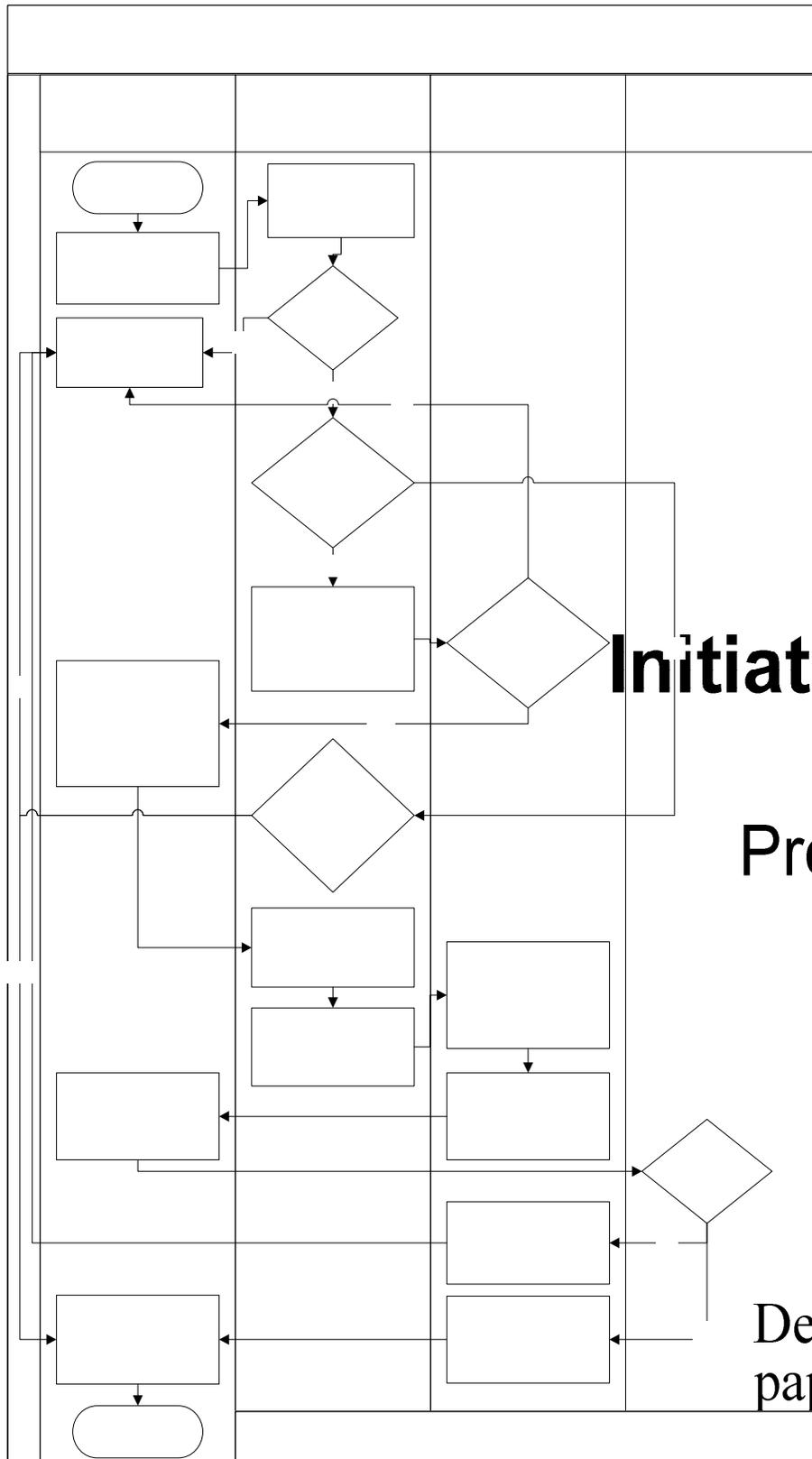
General Guidelines:

- Any change that reduces the cost or duration of an activity by 5% or more, or increases the cost or duration of an activity by 10% or more will require a change request.
- General cost overruns and schedule slippages are **NOT** sufficient reasons to re-baseline.
- As long as there is no change in scope, a project manager is able to further decompose activities that were previously recorded at a higher level. This **DOES NOT** constitute a re-baselining but is considered an update.
- Requested changes during the FY to cost and/or schedule to achieve the original scope. This **DOES** constitute a re-baselining.
- Reductions in funding, **ARE** an acceptable reason to re-baseline. This should be accompanied by an explanation of how the funding cuts impact the original scope of the project.
- When a project moves from one life cycle phase to another, a baseline change request is required. For example, when a project moves out of the initial concept phase to requirements specification and, as a result, has new and more detailed information.

Project Name		
Project Manager		
Date of Request		

Previous Baseline						Requested Action	New Baseline					ASSESSMENT & ACTION RECOMMENDATIONS	
Request #	Activity Name	#	Start Date	End Date	Cost (in 000's)		New Activity Name (if applicable)	Start Date	End Date	Cost (in 000's)	Rationale for Change	005P Assessment	Recommended Action
1												<input type="checkbox"/> Approve <input type="checkbox"/> Disapprove <input type="checkbox"/> Request add'l info	
2												<input type="checkbox"/> Approve <input type="checkbox"/> Disapprove <input type="checkbox"/> Request add'l info	
3												<input type="checkbox"/> Approve <input type="checkbox"/> Disapprove <input type="checkbox"/> Request add'l info	
4												<input type="checkbox"/> Approve <input type="checkbox"/> Disapprove <input type="checkbox"/> Request add'l info	
5												<input type="checkbox"/> Approve <input type="checkbox"/> Disapprove <input type="checkbox"/> Request add'l info	
6												<input type="checkbox"/> Approve <input type="checkbox"/> Disapprove <input type="checkbox"/> Request add'l info	
7												<input type="checkbox"/> Approve <input type="checkbox"/> Disapprove <input type="checkbox"/> Request add'l info	

APPENDIX H – VA PM PROCESS FLOW

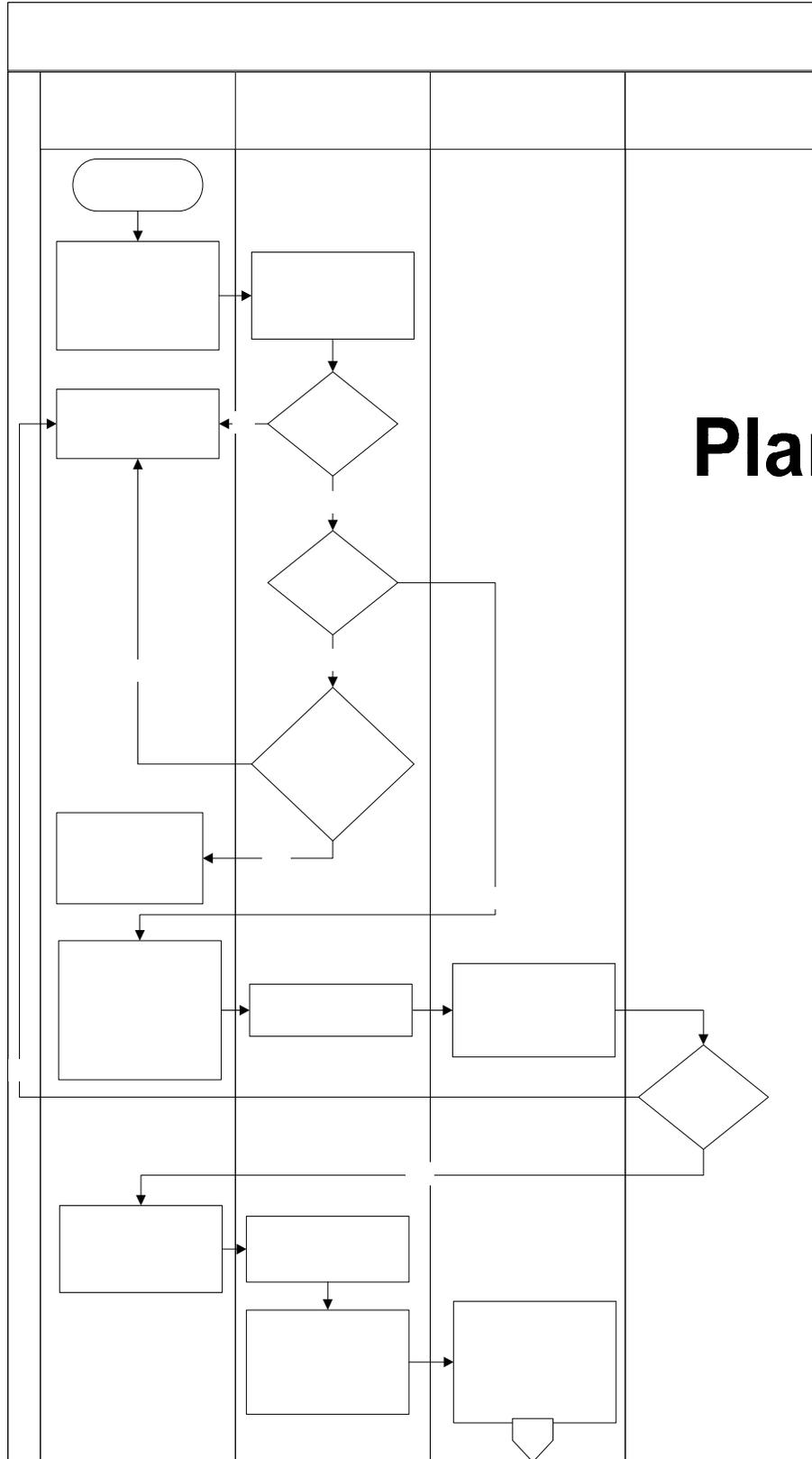


Initiating PM Pro

**Project Manage
Sponsor**

**Begin with new
business need**

**Develop concept
paper.**



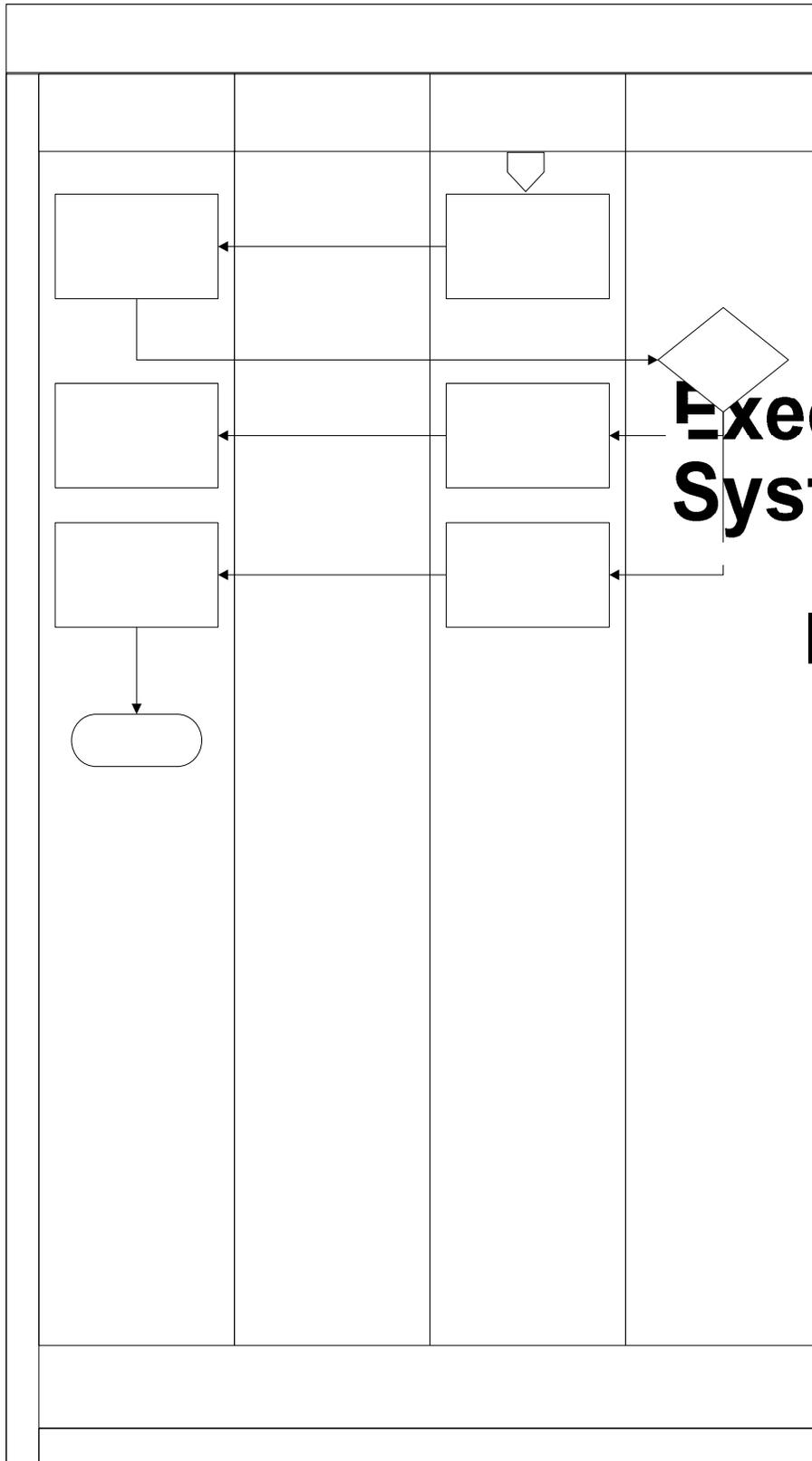
Planning PM

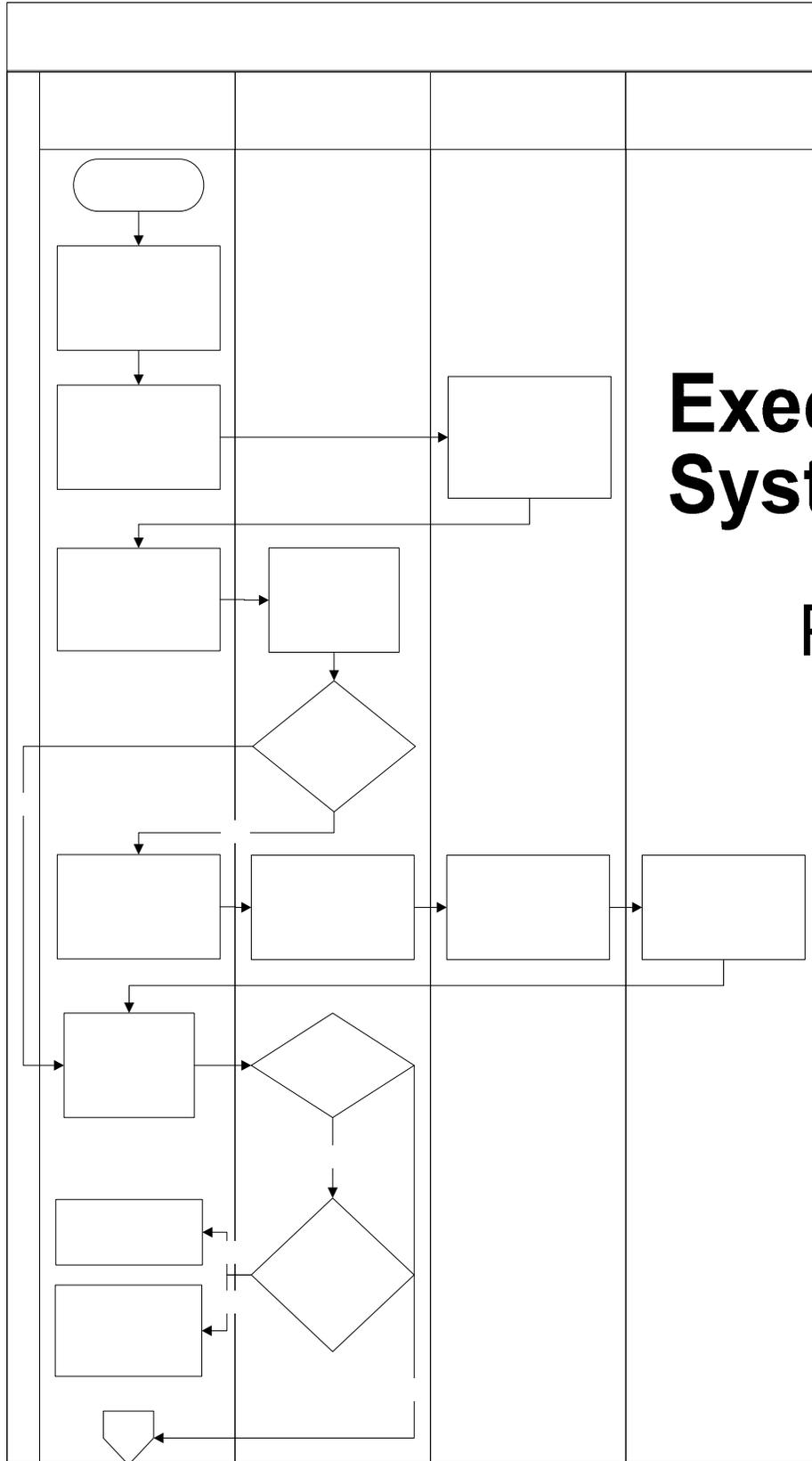
Project Ma
Spons

Start Step 1
Cycle

Develop Project
Mgmt Plan (P
and subsidiary
working with
stakeholders,

Project is can
or reworked





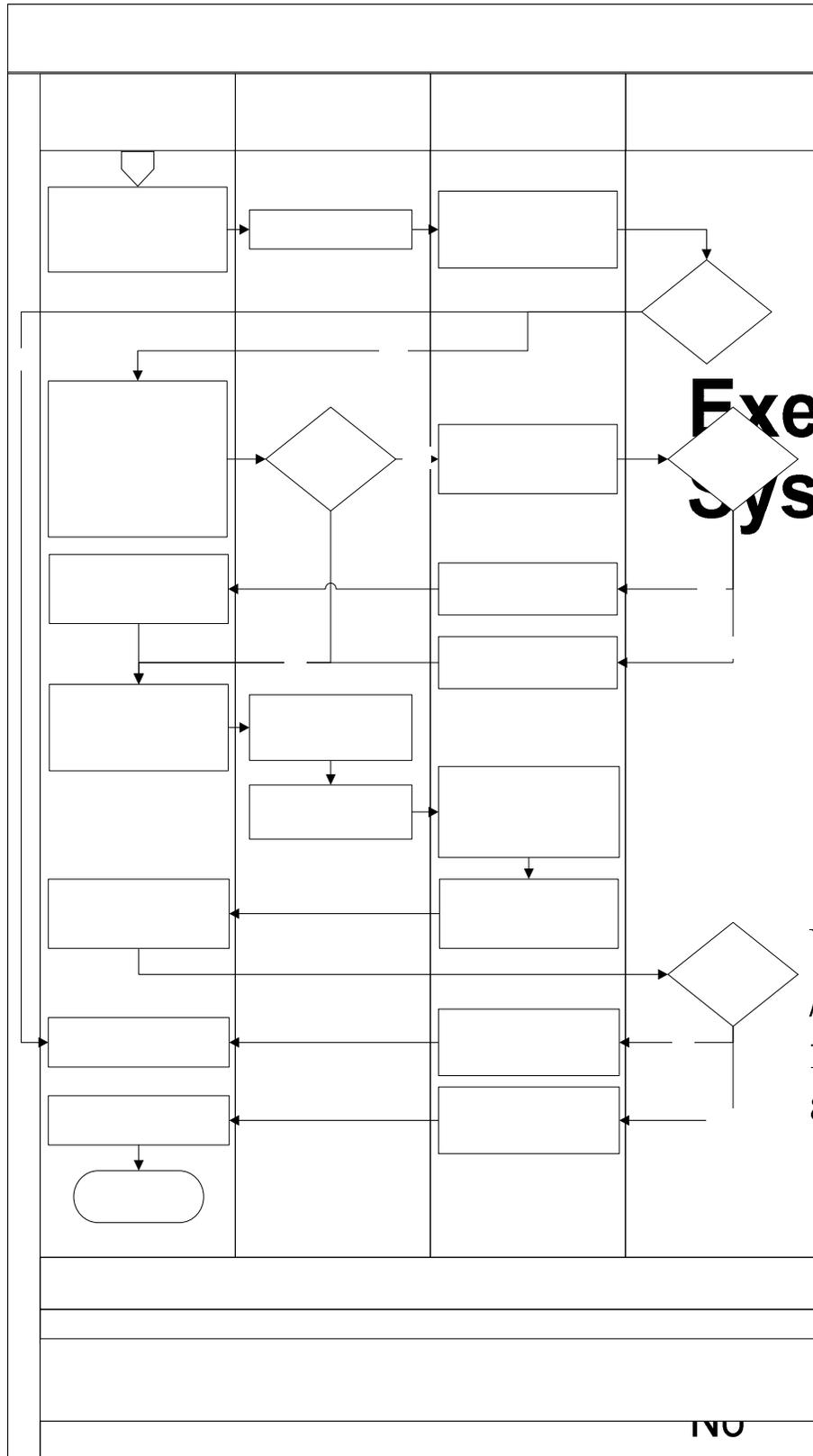
Executing and System Life Cycle

Project Management Sponsor

Start Step 2 of Cycle

Validate and e Project Mng P (PMP) and subsidiary plan

Submit acquis requests (acco to Procurement to 005B for IT



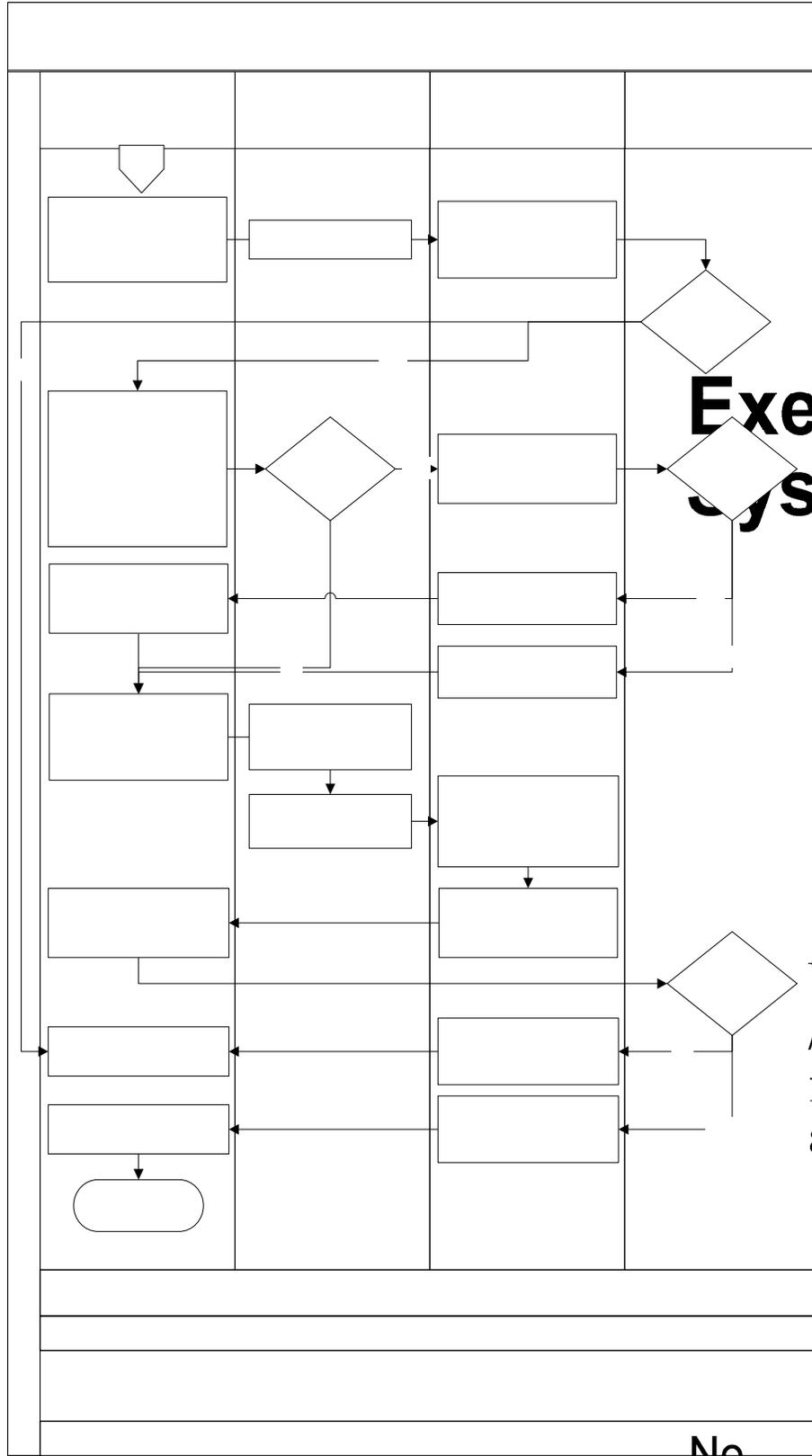
**Executing and
System Life**

**Project Man
Spons**

Update OMB Ex
/ other investmen
forms in respons
annual budget ca

NO

During project ex
and control, if a
requested that wi
the cost or sched



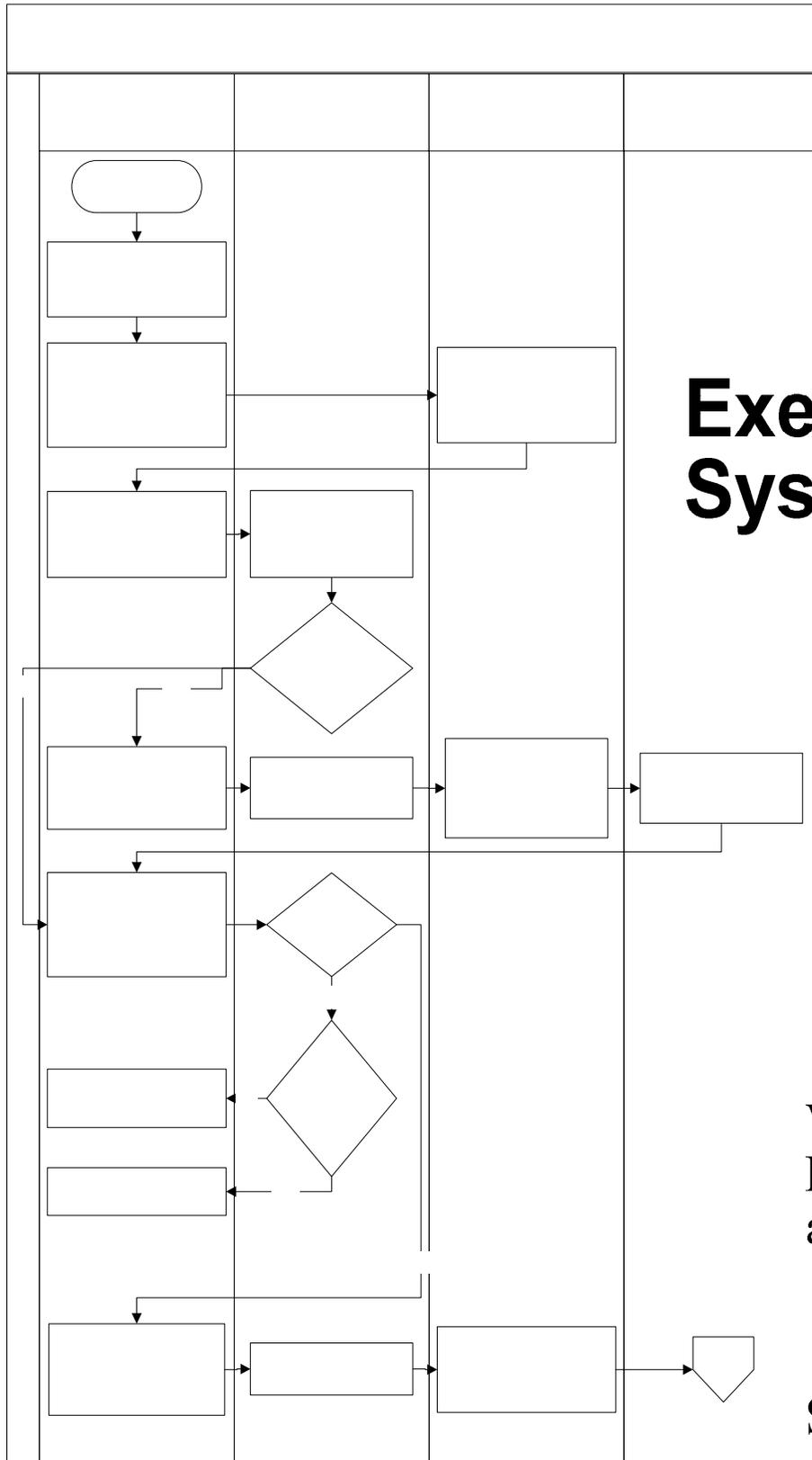
**Executing and
System Life**

**Project Man
Spons**

Update OMB Ex
/ other investmen
forms in respons
annual budget ca

No

During project ex
and control, if a
requested that wi



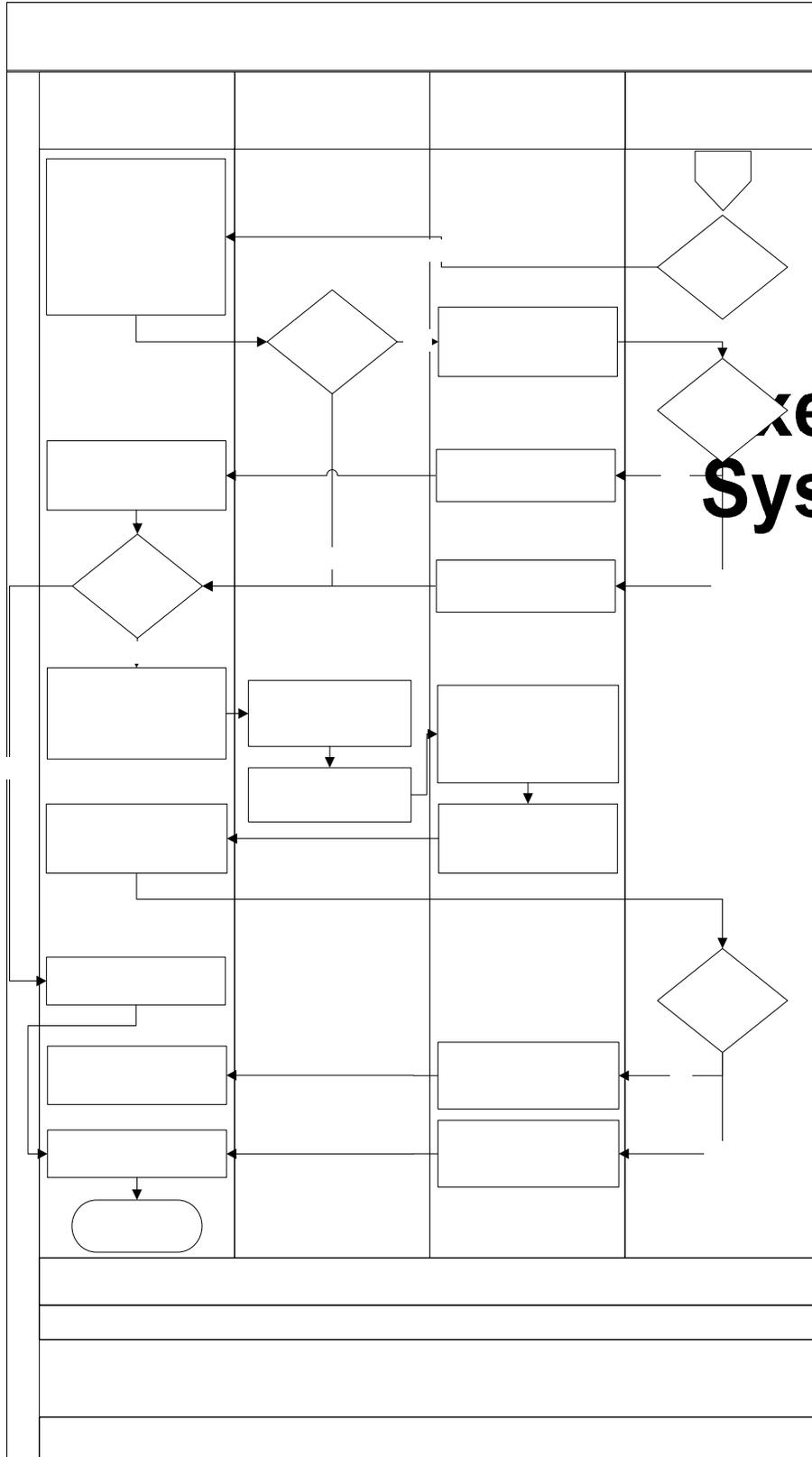
Executing and Managing the System Life Cycle

Project Manager
Sponsor

Start Step 4
Life Cycle

Validate and execute the
Project Mng Plan
and subsidiary plans

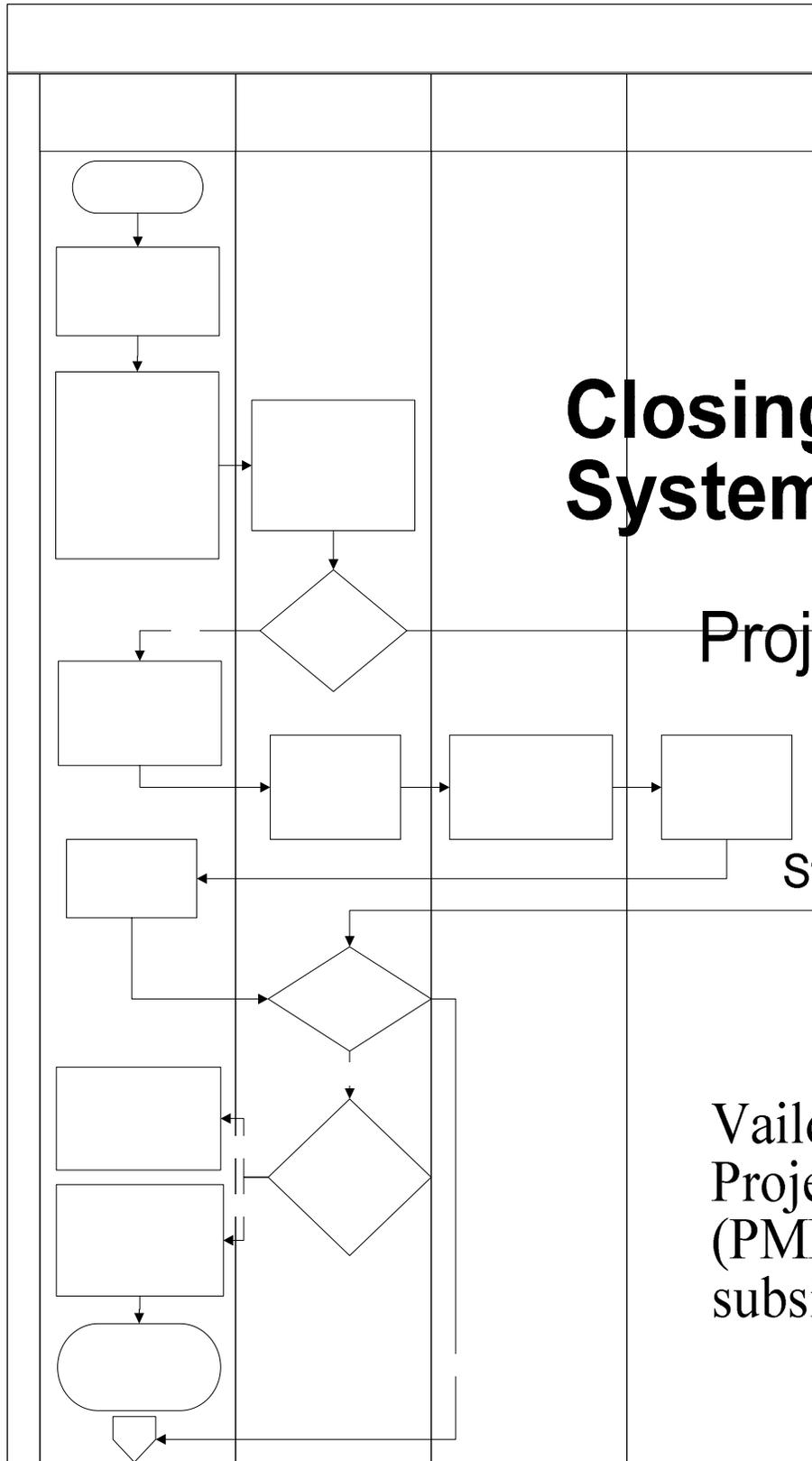
Submit acquisition
requests (according to
Procurement Plan
005P for IT and/
approval.



Executing a System Life

Project Management
Sponsor

During project execution and control, if a change is requested that will increase the cost or schedule by 5% or more, or if requirements, the change request



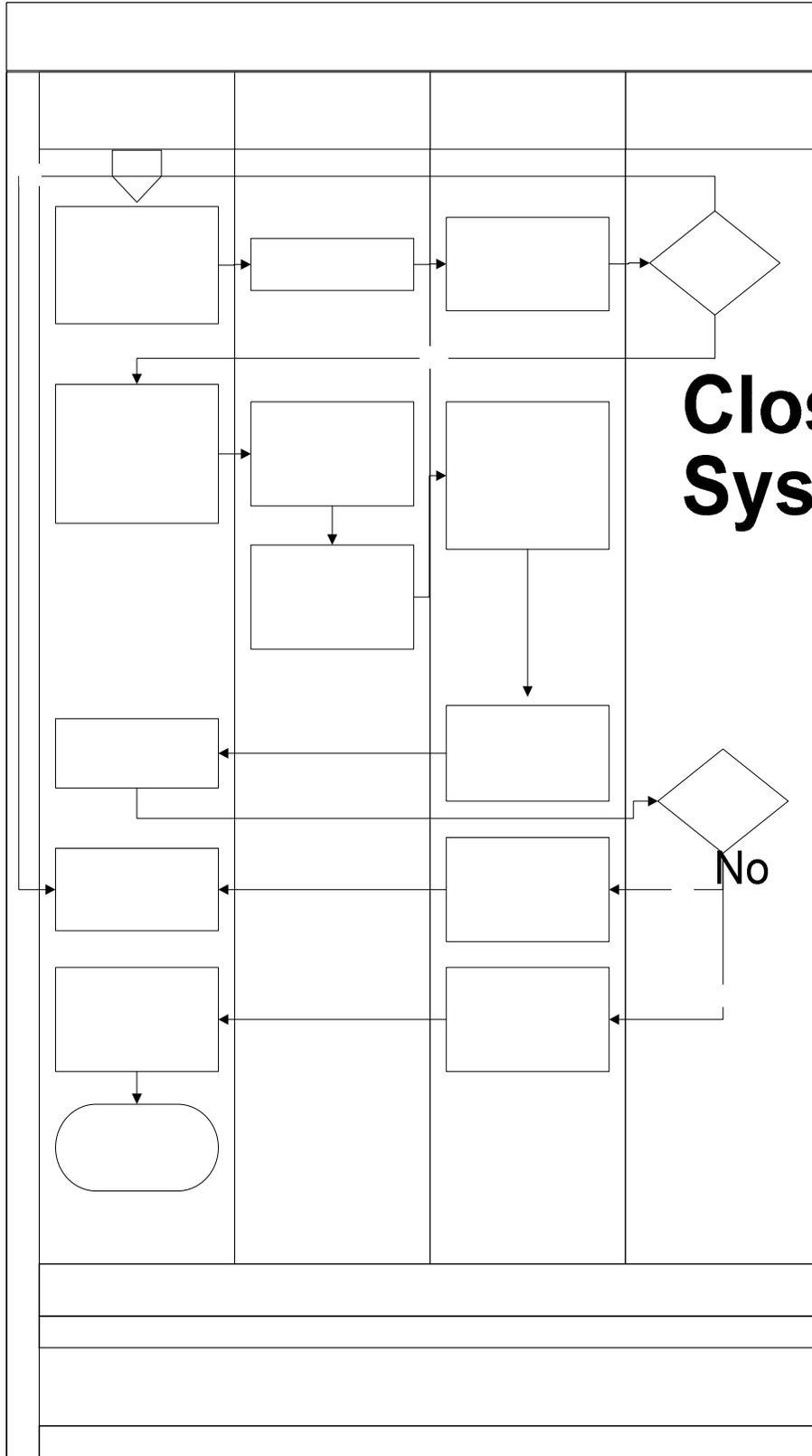
Closing PM Process System Life Cycle

Project Manager/
Sponsor

Start of Step 5 of
Life Cycle

Validate and execute
Project Mgmt Plan
(PMP) and
subsidiary plans.

After deployment
and/or as the project
nears conclusion,
begin project
closeout activities.



Closing PM F System Life C

Project Man
Spons

Update OMB
Exhibit 300 / c
investment mg
forms in respo
annual budget
call***.

As project exte
approximately
months into
operations ph

Page Left Blank Intentionally

APPENDIX I – VA IT SECURITY C&A GUIDANCE

I.1 Background

Security Certification and Accreditation (C&A) of agency Information Systems (IS) supports the legislative requirements of the Federal Information Security Management Act (FISMA) by ensuring that agencies periodically: (i) assess the risk resulting from the operation of those systems; (ii) test and evaluate the security controls in those systems to determine control effectiveness and system vulnerabilities; and (iii) assess the information security programs supporting those systems (e.g., security awareness and training, incident response, and contingency planning).

For systems under development, the security C&A tasks begin early in the system development life cycle with an opportunity to shape and influence the security capabilities of the system. Building security into a system during its design and development stages always costs less than trying to retro-fit security after the system is operational. For operational systems and many of the older systems in the federal inventory, the security C&A task may, by necessity, begin later in the life cycle. In either situation, all of the C&A tasks should be completed to ensure that: (i) all regulatory or statutory security requirements have been identified for the Information System (IS); (ii) a matching security control has been chosen to satisfy each of those security requirements; and (iii) the security controls have been independently tested to ensure they operate as intended. The Authorizing Official (AO) explicitly accepts the residual risk (aka statement of agency-level risk) to agency operations, agency assets, or individuals after the implementation of the required set of security controls that were chosen to directly meet requirements, based on their validation by independent testing.

While security C&A are very closely related, they are very distinct processes. Security accreditation is about the acceptance and management of risk—the risk to an agency’s operations (including mission, functions, image, or reputation) or assets that results from the operation of an information system.

The security certification phase is the evidence building phase. Evidence is that the required security controls are in place and operating as intended is built through independent testing and presented to the AO in hopes of soliciting a positive accreditation decision (an authority to operate).

Security accreditation should not be viewed as a static process. An information system is authorized for operation at a specific point in time reflecting the current security state of the system. However, the inevitable changes to the hardware, firmware, and software in the information system and the potential impact those changes may have on the security of that system require a more dynamic process – a process capable of monitoring the ongoing effectiveness of the security controls in the IS. Thus, the initial security accreditation of the IS must be supplemented and reinforced by a structured and disciplined process involving: (i) the continuous monitoring of the security controls in the system; and (ii) the periodic reporting of the

security state of the system to appropriate agency officials. It is usual practice for an IS to undergo configuration changes, maintenance changes, software patches/fixes, and upgrades, etc. these changes may increase operating risk. The risk of changes that occur over time should be measured and actions taken to mitigate escalating risks to the risk level that was agreed to at the time of accreditation. This could include the re-certification (retesting) of controls impacted by change.

The successful completion of the security C&A process provides agency officials with the necessary assurances that the IS has appropriate security controls and that the operating risk of this IS to VA is reduced to an acceptably low level, thereby justifying the decision to authorize processing (accredit).

I.2 Definitions

Security Accreditation Boundary - A set of information resources meeting the following criteria: (i) under the same management control; (ii) have the same general function or mission objective; (iii) have essentially the same operating characteristics and security needs; and (iv) reside in the same general operating environment. During the C&A of said IS, all people, information, hardware, and software within the identified boundary are considered to be part of the C&A.

Security Certification – The comprehensive evaluation of the management, operational, and technical security controls in an information system against statutory or regulatory requirements. This evaluation, made in support of the security C&A process, independently determines the effectiveness of these security controls. Security certification:

- ▲ Employs a set of structured verification techniques for independent validation of controls.
- ▲ Demonstrates the security controls match the requirements, are implemented correctly, and are effective.
- ▲ Identifies risks to confidentiality, integrity, and availability of information and resources.

Security Accreditation – The official management decision by the senior agency official, known as the Authorizing Official (AO), to authorize operation of an IS. By accrediting an IS, the AO is not only responsible for the security of the system but is also accountable for adverse impacts to the agency if a breach of security occurs. Security accreditation, which is required under OMB Circular A-130, provides a form of quality control and challenges managers and technical staff at all levels to implement the most effective security controls and techniques, given technical constraints, operational constraints, cost and schedule constraints, and mission requirements.

System Interconnection – The electronic connection of two or more IS for the purpose of sharing data and or other information resources. When IS are connected, an Interconnection Security Agreement is established per NIST SP 800-47, *Security Guide for Interconnecting Information Technology Systems*. The benefits of the agreement are a clearer understanding of security

requirements of the connection, and the identification of responsibilities for the security of the connection itself.

I.3 APPLICABLE POLICIES, STANDARDS, AND GUIDELINES:

[NIST SP 800-18](#), *Guide for Developing Security Plans for Information Technology Systems* (December 1998) - Provides a guideline for federal agencies to follow when developing the security plans that document the management, technical, and operational controls for federal automated IS.

[NIST SP 800-30](#), *Risk Management Guide for Information Technology Systems* (October 2001) – Provides a foundation for the development of an effective risk management program, containing both the definitions and the practical guidance necessary for assessing and mitigating risks identified within IT systems.

[NIST SP 800-34](#), *Contingency Planning Guide for Information Technology Systems* (December 2001) – Provides instructions, recommendations, and considerations for government IT contingency planning. The document presents a sample format for developing an IT contingency plan.

[NIST SP 800-37](#), *Guide for the Security Certification and Accreditation of Federal Information Systems*, May 2004:

- ▲ Provides guidelines for certifying and accrediting IS supporting the executive agencies of the federal government.
- ▲ Applies to all federal IS other than those systems designated as national security systems as defined in 44 U.S.C., Section 3542 (national security systems function, operate, or are utilized for intelligence activities, cryptologic activities related to national security, command and control of military forces, equipment that is an integral part of a weapon or weapons system, or critical to the direct fulfillment of military or intelligence missions).
- ▲ Supercedes NIST Federal Information Processing Standards (FIPS) 102.

[NIST SP 800-47](#), *Security Guide for Interconnecting Information Technology Systems: Recommendations of the National Institute of Standards and Technology* (August 2002) – Provides guidance for planning, establishing, maintaining, and terminating interconnections between IS that are owned and operated by different organizations. The document provides recommended steps for completing each phase, emphasizing security measures that should be taken to protect the connected systems and shared data. The document also contains guides and samples for developing an Interconnection Security Agreement (ISA) and a Memorandum of Understanding/Agreement (MOU/A). The ISA specifies the technical and security requirements of the interconnection, and the MOU/A defines the responsibilities of the participating organizations. Finally, the document contains a guide for developing a System Interconnection Implementation Plan, which defines the process for establishing the interconnection, including scheduling and costs.

[NIST SP 800-53](#), *Recommended Security Controls for Federal Information Systems* (Initial Public Draft, October 2003) - Provides guidelines for selecting and specifying security controls for IS. The guidelines were developed to help achieve more secure IS by:

- ▲ Facilitating a more consistent, comparable, and repeatable approach for selecting and specifying security controls for IS;
- ▲ Providing a recommendation for baseline (minimum) security controls for IS categorized in accordance with FIPS 199, *Standards for Security Categorization of Federal Information and Information Systems*;
- ▲ Promoting a dynamic, extensible catalog of security controls for IS to meet the demands of changing requirements and technologies; and
- ▲ Creating a foundation for the development of verification techniques and procedures for determining security control effectiveness.
- ▲ These guidelines serve as the basis for NIST development of upcoming Federal Information FIPS 200, *Minimum Security Controls for Federal Information Systems*.

[NIST SP 800-60](#) *Guide for Mapping Types of Information and Information Systems to Security Categories*, (June 2004) - Contains the basic guidelines for mapping types of information and information systems to security categories. The appendixes, including security categorization recommendations for mission-based information types and rationale for security categorization recommendations, are published as Volume II. Both volumes are available at the [NIST Special Publications page](#).

[FIPS 199](#), *Standards for Security Categorization of Federal Information and Information Systems*, (December 2003) - Establishes standards to be used by Federal agencies to categorize information and IS based on the objectives of providing appropriate levels of information security according to a range of risk levels. These standards will be linked to the Federal Enterprise Architecture to show security traceability through reference models.

[VA Directive 6214 and Related Handbook](#) – prescribes the policies and responsibilities for the implementation of the Department of Veterans Affairs Information Technology Security Certification and Accreditation Program (ITSCAP). The Directive:

- ▲ Establishes a uniform, standards-based policy for the C&A of VA IS;
- ▲ Defines a methodology that will be implemented throughout VA to ensure that VA IS conform to applicable security requirements and will continue to maintain accreditation throughout the system life cycle;
- ▲ Describes the responsibilities of the personnel involved in the C&A process.

I.4 Roles and Responsibilities (as described in NIST SP 800-37 and VA Directive 6214))

Authorizing Official (AO)– The VA AO is currently the VA’s Chief Information Officer (CIO). Formerly identified in NIST guidance as the *Designated Approving Authority*, this individual has the authority to formally accredit a system from an information security perspective. Additional AO authority may be delegated.

Authorized Official Designated Representative (AODR) – The AODR in VA is currently the C&A Division staff in the Office of Cyber and Information Security (OCIS). The AODR reviews C&A documentation and make recommendations to the AO and can perform AO responsibilities with the exception of accepting agency-level risk (residual risk) and signing an authorization to process (Accreditation or FATO).

Registration Agent (RA) – The RA is the Office of Cyber and Information Security. This is the organization that manages system registration and certification status and collects electronic copies of ITSCAP documents.

Certification Agent (CA) – The CA responsible for performing the certification testing, which is often contracted out in order to satisfy the requirement for independency. This individual may oversee a group of technical testers known as the Certification Team but there is only one CA for any particular C&A effort. The CA is responsible for advising the Program Manager or System Owner on security vulnerabilities identified during the testing and residual risks (agency-level risks) that remain. CAs must be independent from the organization responsible for system development or operation. Organizational independence of the CA ensures the most objective information for the AO to make an accreditation decision.

Certification Team – The Certification Team is responsible for making a technical judgment of the system’s compliance with stated requirements, identifying and assessing the risks associated with operating the system, coordinating the certification activities, recommending additional security measures, and consolidating the final C&A documents. The Certification Team is usually independent from the organization responsible for the system development or operation, unless the system has a low sensitivity categorization.

Designated Approving Authority (DAA) – See “Authorizing Official”.

Program Manager (PM) – The PM is the official responsible and accountable for coordinating the business aspects of managing the system from initial concept, through development, to implementation and system closeout. The PM must add a C&A funding line item to the program budget to ensure appropriate funding for C&A and other security activities. Different individuals may assume the PM role during different phases of the system life cycle. The PM will determine the sensitivity of information in the system and appropriate protections to be taken.

User Representative – The User Representative is the individual or organization that represents the user or user community in the definition of IS requirements, development or implementation of the system, and system operations.

Information Security Officer (ISO) – The ISO is typically responsible to the Program Manger, Information Owner, and/or System Owner, for managing the security program at the site, assisting in the C&A process, and ensuring appropriate security awareness.

Systems Security Manager (SSM) – The SSM is the individual with the technical ability and responsibility to implement IS security configuration controls, report security incidents, and implement security changes for specific systems.

Information Owner – The information owner determines the sensitivity of information in the system and the appropriate protections to be afforded. The information owner also authorizes who has access to the system and what functions they are permitted to perform. These tasks may be delegated to the PM acting as the information custodian.

I.5 Security Accreditation Decisions

Convey the results of the accreditation processes to information system owners. There are three types of security accreditation decisions, described below, that can be rendered by AOs.

Full Authorization to Operate (FATO).

- ▲ Residual risk to the agency’s operations or assets is deemed fully acceptable to the AO and system owner.
- ▲ Information system is accredited without any significant restrictions or limitations on its operation.
- ▲ AOs may recommend specific actions be taken to reduce or eliminate identified vulnerabilities, where it is cost effective to do so.
- ▲ Security reaccreditation occurs at the discretion of the AO in accordance with federal or agency policy – typically when significant changes have taken place in the IS or when a specified time period has elapsed (e.g., every three years).

Interim Authorization to Operate (IATO).

- ▲ Residual risk to the agency’s operations or assets is not deemed fully acceptable to the AO, but there is an overarching need to place the IS into operation or continue its operation due to mission necessity.
- ▲ Provides a limited authorization to operate the IS under specific terms and conditions and acknowledges greater risk to the agency’s operations and assets for a limited period of time creating a “Limited Risk Window.”
- ▲ Terms and conditions established by the AO convey limitations on information system operations.
- ▲ The IS is ***not*** considered accredited during the period of limited authorization to operate.
- ▲ Maximum allowable timeframe for an interim authority to operate should be commensurate with the risk level (See FIPS 199) associated with the information system (Low – maximum of 1 year; Medium – maximum of 6 months; High – maximum of 90 days).

- ▲ Before the end of the period of limited authorization, the IS should either gain a Full Authority to Operate or not be authorized for further operation (operating in jeopardy of a shut-down).
- ▲ Renewals or extensions to interim approvals to operate should be discouraged and approved by AO only under the most extreme or extenuating of circumstances. Any renewals or extensions applied for should be justified by showing forward progress.
- ▲ Security control effectiveness should be monitored during the period of IATO and monitoring activities should focus on the specific vulnerabilities in the information system identified during the security certification.
- ▲ Significant changes to the IS that increase risks beyond levels in place at the time the IATO was signed should be reported immediately to the AO. Risk Assessment tools can be used to quantify risk levels and can be used to analyze prospective changes in “what if” as scenarios so risks can be kept to IATO levels much more objectively.

Denial of Authorization to Operate.

- ▲ The residual risk to the agency’s operations or assets is deemed unacceptable to the AO.
- ▲ Information system is not accredited and should not be placed into operation—or for an information system currently in operation, all activity should be halted.
- ▲ Major deficiencies in the security controls in the information system – corrective actions should be initiated immediately.
- ▲ The AO or AODR should work with the information system owner to revise the plan of action and milestones to ensure that proactive measures are taken to correct the security deficiencies in the information system.

I.6 Certification and Accreditation Process

The process consists of four distinct phases: (1) initiation phase, (2) security certification phase, (3) security accreditation phase, and (4) continuous monitoring phase. These phases are distinct from the steps in the Project Management Life Cycle and the System Development Life Cycle. The following outlines the major tasks for each of the phases and provides a list of the key questions that will be the basis for the security accreditation decision.

I.6.1 Initiation Phase

A certification review occurs after the risks to the system have been assessed, the security plan has been developed and approved, and the security controls are implemented and tested. The development of the system security plan implies that all sections contained in NIST SP 800-18, “Guide for Developing Security Plans for Information Technology Systems” are adequately covered and readily available. The need for determining the sensitivity of the information (risk level) as it relates to high, medium, and low needs for the confidentiality, integrity, and availability of the data, a contingency plan, incident response plan, etc. are required sections in NIST SP 800-18 and must be part of the system security plan. The FIPS 199 *Standards for*

Security Categorization of Federal Information and Information Systems and NIST Special Publication 800-60 are used for determining sensitivity levels. A certification review is the last step after all of the above activities are completed and approved by agency management.

Task 1: Preparation – requires reviewing the security plan for the information system and confirming that the contents of the plan are consistent with an initial risk assessment. If the risk assessment and security plan have not been completed, those activities should be completed prior to proceeding with the security C&A process.

- ▲ System description – review and confirm that the IS has been fully characterized and documented in the security plan or an equivalent document. Descriptive information about the information system is typically documented in the system identification section of the security plan or in some cases, included in attachments to the plan. System identification information can also be provided by referencing appropriate documents. (References: NIST SPs 800-18, 800-30)
- ▲ Security categorization – confirm that the security category of the information system has been determined and documented in the security plan or an equivalent document. The security category should be considered during the risk assessment to help guide the agency’s selection of security controls for the information system. Security categorization information is typically documented in the system identification section of the security plan or included as an attachment to the plan. (References: FIPS 199, NIST SP 800-60, 800-18, 800-30)

Table 1 summarizes the potential impact definitions for each security objective – confidentiality, integrity, and availability, per FIPS 199, “Standards for Security Categorization of Federal Information and Information Systems.”

SECURITY OBJECTIVE	POTENTIAL IMPACT		
	LOW	MODERATE	HIGH
Confidentiality Preserving authorized restrictions on information access and disclosure, including means for protecting personal privacy and proprietary information. [44 U.S.C., Sec. 3542]	The unauthorized disclosure of information could be expected to have a limited adverse effect on organizational operations, organizational assets, or individuals.	The unauthorized disclosure of information could be expected to have a serious adverse effect on organizational operations, organizational assets, or individuals.	The unauthorized disclosure of information could be expected to have a severe or catastrophic adverse effect on organizational operations, organizational assets, or individuals.
Integrity Guarding against improper information modification or destruction, and includes ensuring information non-repudiation and authenticity.	The unauthorized modification or destruction of information could be expected to have a limited adverse effect	The unauthorized modification or destruction of information could be expected to have a serious adverse	The unauthorized modification or destruction of information could be expected to have a severe or

SECURITY OBJECTIVE	POTENTIAL IMPACT		
	LOW	MODERATE	HIGH
[44 U.S.C., Sec. 3542]	on organizational operations, organizational assets, or individuals.	effect on organizational operations, organizational assets, or individuals.	catastrophic adverse effect on organizational operations, organizational assets, or individuals.
Availability Ensuring timely and reliable access to and use of information. [44 U.S.C., Sec. 3542]	The disruption of access to or use of information or an information system could be expected to have a limited adverse effect on organizational operations, organizational assets, or individuals.	The disruption of access to or use of information or an information system could be expected to have a serious adverse effect on organizational operations, organizational assets, or individuals.	The disruption of access to or use of information or an information system could be expected to have a severe or catastrophic adverse effect on organizational operations, organizational assets, or individuals.

TABLE 1: POTENTIAL IMPACT DEFINITIONS FOR SECURITY OBJECTIVES

- ▲ Threat identification – confirm that potential threats that could exploit information system flaws or weaknesses have been identified and documented in the security plan or an equivalent document. Threats can be natural (floods, earthquakes, tornadoes, landslides, avalanches, electrical storms), human (events that are either enabled by or caused by human beings), or environmental (long-term power failures, pollution, chemicals, liquid leakage). Only those threats that are relevant to the security of the information system need to be listed. Threat identification information is typically documented in the risk assessment report, which should be included in the security plan, either by reference or as an attachment. (References: NIST SPs 800-18, 800-30)
- ▲ Security control identification – confirm that the security controls (either planned or implemented) for the information system have been identified and documented in the security plan or an equivalent document. Minimum security controls for low, moderate, and high-risk IS are listed in NIST SP 800-53 (to become FIPS 200). These predefined sets of security controls (geared to the risk levels defined in FIPS 199) provide a baseline, or starting point, for addressing the necessary safeguards and countermeasures required for IS. Additional analyses should be performed to determine if adjustments to the baseline set of security controls are needed. Adjustments to the baseline set of security controls should be reasonable, appropriate, and fully documented in the security plan with supporting rationale. Security control information is typically documented in the management, operational, and technical controls section of the security plan. (References: NIST SPs 800-18, 800-30, 800-53)

- ▲ Vulnerability Identification – confirm that flaws or weaknesses in the information system that could be exploited by potential threats have been identified and documented in the security plan or an equivalent document. The identification of vulnerabilities can be accomplished in a variety of ways using questionnaires, on-site reviews, document reviews, and automated scanning tools. Vulnerability sources include: previous risk assessment documentation; audit reports; system anomaly reports; security reviews; self assessments; results of vulnerability scans and penetration tests; security test and evaluation reports; vulnerability lists; security advisories; vendor advisories; commercial computer incident/emergency response teams and post lists; information security vulnerability alerts and bulletins; and hardware, software, or firmware security analyses. Vulnerability identification information is typically documented in the risk assessment report, which should be included in the security plan, either by reference or as an attachment. (References: NIST SPs 800-18, 800-30)
- ▲ Residual Risk Determination – confirm that the expected agency-level risk has been determined and documented in the security plan or an equivalent document. The methods used to assess risk should include consideration of the major factors in risk management including: threats to and vulnerabilities in the information system; potential impact and magnitude of harm to the agency’s operations or assets that could result from the unauthorized access, use, disclosure, disruption, modification, or destruction of information and the information system; and the effectiveness of current or proposed security controls. Assessing risk should be an ongoing activity to ensure that new threats and vulnerabilities are identified and appropriate security controls are implemented. Residual risk is typically documented in the risk assessment report, which should be included in the security plan, either by reference or as an attachment. (References: FISMA, OMB Circular A-130, NIST SP 800-30).

Task 2: Notification and Resource Identification – this task provides notification to all concerned agency officials as to the need for security C&A of the information system; determines the resources necessary to carry out the effort; and prepares a plan of execution for the security C&A activities indicating the proposed schedule and key milestones.

- ▲ Notification – inform the AO, user representative, and cognizant agency officials that the information system will require security C&A support. The initial notification of key agency officials is an important activity to establish the security C&A process as an integral part of the system development life cycle. (References: OMB Circular A-130)
- ▲ Planning and Resources – determine the level of effort and resources required for the security C&A of the information system (including organizations involved) and prepare a plan of execution. Identifying appropriate resources needed for the security C&A effort is an essential aspect of the initial preparation activities. Once a certification agent is selected (or certification services procured), an execution plan for conducting the security C&A is prepared by the certification agent and approved by the system owner and the AO or AODR. An execution plan contains specific tasks, milestones, and delivery schedule. (References: OMB Circular A-130)

Task 3: Security Plan Analysis, Update, and Acceptance – this task is to obtain an independent analysis of the security plan; update the security plan as needed based on the results of the independent analysis; and obtain acceptance of the security plan by the AO or AODR prior to security testing and evaluation.

- ▲ Security Plan Analysis – analyze the security plan to determine if the expected vulnerabilities in the information system and the resulting expected residual risk to agency operations or assets is actually what the plan would produce. The independent review of the security plan by the certification agent and AO or AODR determines if the plan is complete and consistent. Based on the results of this independent review and analysis, the certification agent and AO or AODR may recommend changes to the security controls; the expected vulnerabilities; or other sections in the security plan, as appropriate. (References: NIST SP 800-18)
- ▲ Security Plan Update – update the security plan based on the results of the independent analysis and recommendations of the certification agent and the AO or AODR. (References: NIST SP 800-18)
- ▲ Security Plan Acceptance – review the security plan to determine if the expected residual risk to agency operations or agency assets is acceptable. The acceptance of the security plan represents an important milestone in the security C&A of the information system. The AO or AODR, by accepting the security plan, is agreeing to move ahead to the next phase of the security C&A process (i.e., the actual testing and evaluation of security controls) and is also approving the level of effort and resources required to successfully complete the associated security C&A activities. (References: NIST SP 800-30)

Key Questions that must be answered before proceeding to the next phase – Security Certification.

- ▲ Is the FIPS 199 risk level described in the security plan correct?
- ▲ Does the execution plan properly identify the resources required to successfully complete the security C&A activities?
- ▲ Does the expected residual risk described in the security plan appear to be correct?
- ▲ Having decided that the expected risk appears to be correct, would the risk be acceptable?

I.6.2 Security Certification Phase

The certification review should contain sufficient supporting documentation describing what has been tested and the results of the tests. If the test results identify security controls requiring implementation or modification, a plan of action and milestones (POA&M) documenting the security controls to be implemented must be developed as well. The table below provides a synopsis of the types of certification reviews required for each system type and risk level.

Type of Certification Reviews			
System Type	Low Risk	Medium Risk	High Risk

General Support System	<i>Self-assessment or independent review</i>	Independent review	Independent review
Major Application	Independent review	Independent review	Independent review

Task 4: Security Control Verification – this task is to: (i) prepare for the evaluation of the security controls in the information system; (ii) evaluate the security controls; and (iii) document the results of the evaluation. Preparation for security evaluation involves gathering appropriate planning and supporting material, system requirements and design documentation, security control implementation evidence, and assessment results from previous security evaluations, security reviews or audits. Preparation also involves developing specific techniques and procedures to evaluate the security controls in the information system.

- ▲ Documentation and Supporting Materials – assemble any documentation and supporting materials necessary for the evaluation of the security controls in the information system. Descriptive information about the information system is typically documented in the system identification section of the security plan or included as attachments to the plan. Supporting materials such as procedures, reports, logs, and records showing evidence of security control implementation should be identified as well. (References: Documents and supporting materials included or referenced in the security plan)
- ▲ Reuse of Evaluation Results – assemble and review the findings, results, evidence, and documentation from previous assessments of the security controls in the information system for use during the security C&A process. In order to make the security C&A process as timely and cost effective as possible, the reuse of previous evaluation results, when reasonable and appropriate, is strongly recommended. Certification agents should maximize the use of previous evaluation results in determining the effectiveness of security controls in an information system. (References: Independent audits, security reviews, test and evaluation reports, self-assessments)
- ▲ Techniques and Procedures – select, or develop when needed, appropriate techniques and procedures to evaluate the management, operational, and technical security controls in the information system. To remove the need for developing unique or specialized techniques and procedures to evaluate the security controls in the information system, consult NIST SP 800-53A, currently under development, which will provide standardized evaluation techniques and procedures for verifying the effectiveness of security controls listed in NIST SP 800-53. Evaluation techniques and procedures may need to be created for those security controls employed by the agency that are not contained in NIST SP 800-53. Additionally, evaluation techniques and procedures may need to be tailored in some instances, for specific system implementations. (References: NIST SP 800-53)
- ▲ Security Evaluation – evaluate the management, operational, and technical security controls in the information system using techniques and procedures selected or developed in the Techniques and Procedures step, above, to determine the effectiveness of those controls in a particular environment of operation and the remaining vulnerabilities in the system after the implementation of such controls. After the security evaluation is completed, the certification agent will have determined the state

of the security controls and actual vulnerabilities in the information system. The results of the security evaluation (including the confirmed vulnerabilities in the information system) are documented in the security controls assessment. (References: NIST SP 800-53)

- ▲ Security Controls Assessment – prepare the final report of the security controls assessment (SCA). This report contains: (i) the results of the security evaluation (i.e., the determination of security control effectiveness); (ii) a description of the confirmed vulnerabilities in the information system; and (iii) recommendations for corrective actions that could be taken to reduce or eliminate the vulnerabilities. The SCA report is part of the final security certification package along with the updated security plan and plan of action and milestones. The report is the certification agent’s statement regarding the security status of the information system. (References: NIST SP 800-53)

Task 5: Security Certification Documentation – this task is to provide the certification agent findings and recommendations to the information system owner; update the security plan as needed; and assemble the final security certification package. Corrective actions recommended by the certification agent can be implemented to reduce or eliminate vulnerabilities in the information system – this should be accomplished prior to the assembly and compilation of the final security certification package and submission to the AO. The completion of this task will conclude the Security Certification Phase.

- ▲ Certification Agent Findings and Recommendations – provide the information system owner with a security test and evaluation report. The certification agent evaluates any changes made to the security controls in response to corrective actions by the system owner and updates the recommendations for corrective actions and information system vulnerabilities, as appropriate. (References: NIST SP 800-30)
- ▲ Security Plan Update – update the security plan based on the results of the security evaluation and any modifications to the security controls in the information system. The security plan should reflect the actual state of the security controls after the security evaluation and any modifications by the information system owner in addressing the recommendations for corrective actions from the certification agent. The plan, at the end of the Security Certification Phase, should contain: (i) an accurate list and description of security controls; and (ii) a description of the actual vulnerabilities in the information system resulting from the ineffectiveness or absence of security controls (i.e., controls not implemented). The actual vulnerabilities replace the expected vulnerabilities that were identified and described in the original security plan. (References: NIST SP 800-18)
- ▲ Security Certification Package Assembly – assemble the final security certification package. The security certification package contains the following information: (i) the security test and evaluation report providing the results of the independent evaluation of the security controls in the information system, the confirmed vulnerabilities in the system, and recommendations for corrective actions; (ii) the action plan from the system owner (including milestones and costs) indicating corrective actions taken or planned to reduce or eliminate the vulnerabilities in the information system; and (iii) the

updated security plan. The contents of the security certification package should be protected appropriately in accordance with agency policy. (References: OMB Circular A-130)

Key Questions that must be answered before proceeding to the next phase – Security Accreditation.

- ▲ What are the actual vulnerabilities in the information system?
- ▲ What specific corrective actions have been taken or are planned to reduce or eliminate vulnerabilities in the information system?

I.6.3 Security Accreditation Phase

Consists of two tasks: (i) security accreditation decision; and (ii) security accreditation documentation. The purpose of this phase is to ensure that the actual residual risk to agency operations (including mission, functions, image, or reputation) or agency assets is acceptable to the AO and that the acceptability of that risk forms the basis of the security accreditation decision. Upon successful completion of this phase, the information system owner will have: (i) full authorization to operate the information system; (ii) an interim approval to operate the information system under specific terms and conditions; or (iii) denial of authorization to operate the information system.

Task 6: Security Accreditation Decision – the objective of this task is to: (i) determine the actual residual risk to the agency’s operations or assets; (ii) determine if the actual residual risk is acceptable; and (iii) prepare the final security accreditation package.

- ▲ Residual Risk Determination (Actual) – determine the actual risk to agency operations or agency assets based on the confirmed vulnerabilities in the information system and any planned or completed corrective actions to reduce or eliminate those vulnerabilities. The AO or AODR may consult the information system owner, certification agent, or other agency officials before making the final risk determination. (References: NIST SP 800-30)
- ▲ Residual Risk Acceptability – determine if the actual residual risk to agency operations or agency assets.

Task 7: Security Accreditation Documentation –there are two documents that are essential to completing the security C&A process: (i) the security certification package, and (ii) the security accreditation package. Note that all documentation should be marked and protected appropriately in accordance with agency policy.

Security Certification Package – documents the results of the security certification and provides the AO with the essential information needed to make a credible risk-based decision on whether to authorize operation of the information system. The security certification package contains the following documents:

- ▲ Updated security plan (updated by the system owner based on the results of the security certification)

- ▲ Security test and evaluation report (prepared by the certification agent, provides the results of the independent testing and evaluation of the security controls in the information system, a description of the confirmed vulnerabilities in the system, and a list of recommended corrective actions)
- ▲ Plan of action and milestones (prepared by the system owner as self-reported input on information system and associated output from the FISMA database, indicates corrective actions taken or planned to reduce or eliminate the identified vulnerabilities in the information system)

The information system owner submits the final security certification package to the AO or AODR.

Security Accreditation Package – transmits the security accreditation decision from the AO to the information system owner. The AODR or support staff prepares the final security accreditation package for the AO with decision recommendations, as appropriate. The security accreditation package contains the following documents:

- ▲ Security accreditation decision letter signed by the AO conveying the accreditation decision, supporting rationale for the decision, and any terms and conditions placed on the system owner, and
- ▲ Supporting documentation related to the security C&A process that the AO wants to provide to the system owner

Key Questions

- ▲ How do the actual vulnerabilities in the information system translate into actual risk to agency operations or agency assets?
- ▲ Is the risk acceptable?

I.6.4 Continuous Monitoring Phase – Major Tasks

- ▲ Configuration Management and Control
- ▲ Ongoing Security Control Verification
- ▲ Status Reporting and Documentation

Task 8: Continuous Monitoring – continuous monitoring is a critical aspect of the security C&A process involving the continuous monitoring of security controls in the information system over time. An effective monitoring program requires:

- ▲ A structured and disciplined configuration management and control process
- ▲ A process to verify the continued effectiveness of the security controls in the information system, and
- ▲ Procedures to report the security status of the system to appropriate agency officials.

Documenting information system changes and assessing the potential impact on the security of the system on an ongoing basis is an essential aspect of maintaining the security accreditation. To be cost-effective, an appropriate set of security controls should be selected for periodic testing and evaluation. The criteria for selecting the controls should reflect the agency's priorities and importance of the information system to its operations (including mission, functions, image, or reputation) and assets. The AO or AODR and information system owner, in consultation with the information system security officer, should agree on the set of security controls in the information system that are to be monitored on an ongoing basis as well as the frequency of such monitoring activity.

The results of the continuous monitoring activity should be documented in the security plan for the information system and reported to the AO or AODR on a regular basis. The security status report should describe the continuous monitoring activities employed by the agency and include a plan of action and milestones from the information system owner. The ongoing monitoring of security controls in the information system continues until the need for security reaccreditation occurs.

Key Questions

- ▲ Have any changes to the information system affected the current, documented vulnerabilities in the system?
- ▲ If so, has the actual risk to agency operation or assets been increased?
OR
- ▲ Has a specified time period passed requiring the information system to be reauthorized in accordance with Federal or agency policy?

NOTE: There are references in this appendix to documents currently under development by the National Institute of Standards and Technology (NIST): NIST 800-53A and FIPS 200. The methodologies in this appendix may be used even before the completion of these documents, but for planning and transition purposes, the reader is encouraged to track these documents' development and availability at <http://csrc.nist.gov/>.

Additionally, Appendix I is maintained by the Office of Cyber and Information Security (OCIS) Business Assurance Service (BAS). Comments and questions may be directed to the OCIS portal [FAQ function](#).