



# **NWCG Project Plan Guidelines**

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## The Project Plan

*A Guide to the Project Management Body of Knowledge* defines a project as a temporary endeavor undertaken to create a unique product or service. The phases of a typical project life cycle are initiating, planning, executing, controlling, and closing. The project initiation phase includes high level planning and development of a project charter (see *NWCG Project Charter Guidelines*). The project planning phase includes the development of a detailed project plan.

According to Dr. Harold Kerzner, *Project Management, A Systems Approach to Planning, Scheduling, and Controlling*, the most important responsibilities of a project manager are planning, integrating, and executing plans. Planning is described, in general, as selecting certain enterprise objectives and establishing the policies, procedures, and programs necessary for achieving them. The project manager is the key to successful project planning. Similarly, successful project managers are continually planning. Planning is an iterative process that is performed throughout the life of the project.

Some elements of the project plan are sequential and other components can be expanded as the plan is developed. There are many shortcuts that can be used to improve and reduce the overall effort project planning effort. It is recommended that first-time project managers seek advice from more experienced project managers and contact the NWCG IRM Program Management Office early in the process for assistance.

### I. What Is the Project Plan?

The Project Plan documents the complete set of procedures, standards, methodologies, and tools needed to complete the project. Initially, the Project Plan provides detailed estimates for the Project Initiation Phase where business requirements are identified, as well as phase-end estimates for subsequent phases. As the project progresses, detailed plans for the subsequent phases are developed based on prior phase results.

The project plan is a composite of the planning output elements listed below. Some of these elements have previously been addressed in the Project Charter. The Project Plan further explains the language in the Project Charter.

- Statement of Work (SOW)
- Work Breakdown Structure (WBS)
- Project Schedule
- Activity descriptions
- Role and responsibility definitions
- Responsibility assignment matrix (RAM)
- Resource plan
- Budget
- Quality plan

- Configuration management plan
- Change control procedure
- Issues control procedure
- Project organization, boundaries and interfaces
- Communications plan
- Project reporting procedures
- Documentation plan
- Risk assessment and risk management plan
- Procurement plan
- Project Glossary
- Assumptions, constraints, and critical success factors
- Project plan updates

## **II. Who Is Responsible for the Project Plan?**

The project manager has ultimate responsibility for ensuring that the project plan is developed and maintained. Other entities such as the NWCG, IRM-PMO and other working teams, the lead agency, business leader, key project personnel, and the contractor may have assigned responsibilities relative to, or for portions of the project plan.

Project plan development begins with project chartering. The development process continues through the Planning Phase. Project plan maintenance is the part of planning that keeps the plan up to date with respect to actual project performance. Time and cost variances are posted against a baseline plan. The baseline plan represents the control mark against which progress is measured. It reflects the budget and schedule that resulted from the last authorization to proceed. If variances are significant enough so that the baseline is no longer useful as a reflection of project outcome, it should be changed. Baseline plan changes require authorization from an appropriate level of approval authority.

## **III. What Are the Inputs to the Project Plan?**

Inputs to the project planning process include a review of the project charter, constraints, assumptions, authorization to proceed, plan change requests resulting from a review and validation of business requirements, and other corrective actions based on the lessons learned during the project initiation phase. A project manager should consider each of these in developing the project plan.

## **IV. Defining Elements of the Project Plan**

### **Statement of Work (SOW)**

The Project Management Institute defines the Statement of Work (SOW) as a narrative description of products or services to be supplied under contract. The SOW is a complete description of the project including descriptions of major product deliverables. The SOW is a major deliverable of the initiation and planning phases of the project life cycle. It is updated throughout the project as the understanding of the project and product changes. (See Appendix A: Statement of Work.)

### **Work Breakdown Structure (WBS)**

The Work Breakdown Structure (WBS) is a structured task list or outline of the project that identifies the tasks to be performed. Usually, the WBS is a deliverables-oriented, hierarchical grouping of elements (activities, tasks and subtasks) that defines the project. Other WBS orientations may focus on organization or critical path. Decomposing major elements into increasingly detailed levels creates the WBS. Management and administrative activities should be included in the WBS.

Several software tools are available to help develop the WBS. The IRM-PMO recommends use of Microsoft PROJECT. The use of Microsoft EXCEL may be adequate for small projects, however Microsoft PROJECT also works well in these instances and is more versatile. (See Appendix B: WBS Checklist.)

### **Project Schedule**

The project schedule is a time line for project activities, including milestones for key deliverables. The schedule reflects resource allocations, dependencies between activities, and activity durations. It is the basis for project schedule control and budgeting. The schedule is based on the activities and deliverables identified in the WBS. The schedule may be shown for any level of the WBS. The project schedule may be expressed using Gantt charts, network diagrams, milestone charts, and/or tables.

### **Activity Descriptions**

Each activity should be described in terms of its deliverable(s), resource requirements, dependencies with other activities, required effort, duration and assigned resources.

### **Role and Responsibility Definitions**

Every role required to perform the project should be identified and described in terms of skill and knowledge requirements, authority and responsibilities. Ultimately, an organizational unit and an individual will be associated with each role and be identified in a Responsibility Assignment Matrix.

### **Responsibility Assignment Matrix (RAM)**

The RAM should be developed to associate each role or activity in the project with an individual or organizational unit. Role and responsibility assignments are the foundation for accountability monitoring. The RAM should associate the project organizational

structure to the WBS to help ensure all planned project work is assigned to a responsible person.

### **Resource Plan**

The Resource Plan describes the resources (people, equipment, materials, facilities) required to perform the project. The resource plan shows the kind of resource required (e.g., skills and level of experience), resource quantity, and when the resource is required according to the project schedule. The resource plan is developed in tandem with the project schedule.

### **Budget and Cost Estimates**

Project expenditures determine actual project cost and value. It is important to identify and track all costs associated with the project. The budget describes project costs and the expected expenditures across the project schedule. When appropriate (e.g., status reporting), payment or cash flow schedules should be included. A resource budget should also be developed and expressed in units of resource time.

### **Quality Plan**

The Quality Plan describes how the project team will address quality assurance, quality control, and process improvement during the project. The quality plan should address:

- Standards and compliance monitoring
- Major checkpoints/quality gating requirements
- Schedules
- Test planning and testing strategy
- Configuration management for all documents and product components
- Measurement
- Audits
- Process reviews

### **Configuration Management Plan**

The Configuration Management Plan describes how changes and variation in the product and its components will be controlled. The configuration is the full set of components, including documentation, that make up the product. The product may have several variations (releases, versions) during the project. Multiple versions and releases may exist in the production environment as well. Configuration is managed to ensure changes made to any component are properly reflected throughout the product, as necessary, to avoid problems in the development and operational environments. (See Appendix C: Configuration Management Plan.)

### **Change Control Procedures**

Change control procedures identify the way changes to either the project plan or the product are defined, requested, authorized/rejected, and acted upon. Roles and

responsibilities, including authorization levels, should be clearly stated. (See Appendix D: Project Plan Change Request.) Note: Product Change Requests are usually contract issues requiring specific contract language and Contracting Officer assistance.

### **Issues Control Procedures**

Issues control procedures identify the way that issues arising during the project are recorded, assigned, tracked, and resolved. Both change control and issues control procedures are part of the configuration management plan.

### **Project Organization, Boundaries and Interface**

This element of the project plan describes project organizational relationships, including the project reporting relationships. It is expressed in an organizational chart. All functional areas supporting the project or providing resources to the project should be identified on the organizational chart.

### **Communications Plan**

The Communications Plan identifies project information requirements and the process by which these information requirements are fulfilled. The plan should identify the information needs of the stakeholders and the way they will be fulfilled. The plan should identify briefing schedules, roles and responsibilities, formats, suggested contents, and media. At a minimum, the communications plan should address the following:

- What must be in writing
- Who are the decision makers
- Who must be informed of the decision
- Protocols and standards for:
  - Approvals, concurrence
  - Project reviews
  - Newsletters and project publications
  - Project status reports (if different from NWCG format)
  - Electronic and hard copy filing
  - E-mail/memos
  - Presentations, demonstrations, and meetings

### **Project Reporting Procedures**

Project reporting procedures address the way project performance and status reporting will be performed. The plan should address the format, contents, media, frequency and audience for reports and meetings regarding project progress. The *NWCG Project Status Report* is used to periodically update project stakeholders. A specific reporting format has been developed and is recommended for NWCG Projects. Project reporting procedures are part of the communications plan.

## **Documentation Plan**

The Documentation Plan identifies the documents to be produced during the project, the standards for document production, and the procedures for document management. Document management ensures that documents are kept up to date. (See Appendix F: Documentation Plan.)

## **Risk Assessment and Risk Management Plan**

Risk assessment and the risk management plan identify and quantify project risk events (e.g., inadequate staffing, inadequate funding, late delivery of equipment), define mitigating responses to risk event occurrences. The risk management plan must be maintained and respond to changes in risk over the project's life. Risk assessment, using an analysis of assumptions, results in contingency reserve estimates used in developing project schedules and changes.

## **Assumptions, Constraints, and Critical Success Factors**

Identification and documentation of assumptions, constraints, and critical success factors should be part of the planning activity and closely related to risk assessment and risk management. The project plan is founded on assumptions, constraints, and critical success factors, and therefore, they should be communicated in writing as an attachment to the plan. Articulating the assumptions, constraints, and critical success factors is fundamental to risk management, scheduling, and budgeting. Among the most common categories of assumptions, constraints, and critical success factors are:

- Resource availability and capacity
- Dependencies on equipment, services and other deliverables to be supplied by external groups
- Availability of stakeholders for requirements definition and deliverables review and approval.
- Technical feasibility in an interagency operations environment
- Reliability of tools and methods
- Project team member learning curves

## **Procurement Plan**

The Procurement Plan identifies the possible need for acquisition of products or services and identifies standards and procedures for:

- Make-or-buy decisions
- Identifying and selecting prospective suppliers
- Preparing procurement documents, such as Request for Proposals (RFPs)
- Identifying and scheduling evaluation panels
- Establishing weighted selection criteria
- Making purchasing decisions

- Contracting and contract management

### **Project Glossary**

The Project Glossary defines the terms that represent the project's language. The use of consistent terminology in the WBS, schedule, budget, project reports, and documentation adds clarity, reduces miscommunications, and facilitates better understanding. The terminology in a glossary ensures everyone has the same meaning for the language.

## V. Bibliography

*A Guide to the Project Management Body of Knowledge (PMBOK® Guide) 2000 Edition.* Project Management Institute, Inc., Newtown Square, Pennsylvania, 2000.

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*Project Performance Partners.* Linda Kretz, PMP: International Institute for Learning, Inc., New York, New York, 1998.

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*NWCG Project Status Report.* NWCG IRM Program Management Office, 2001.

## **Appendix A: Statement of Work**

**Definition:** A complete description of the project, including descriptions of major product deliverables.

### **Statement of Work (SOW)**

#### **Section 1 – Description and Scope**

- 1.1 Summary of Work Requested
- 1.2 Background
- 1.3 Description of Major Elements (Deliverables) of the Completed Work
- 1.4 Expected Benefits
- 1.5 Items not In Scope
- 1.6 Business objective(s)

#### **Section 2 – Approach**

- 2.1 Major Milestones/Key Events Anticipated
- 2.2 Methodologies or Special Standards to be Observed
- 2.3 Impact on Existing Projects or Systems
- 2.4 Rationale for Buy/Build Decision
- 2.5 Assumptions Critical to the Project
- 2.6 Constraints That Are Significant to the Project
- 2.7 Plans for Periodic Status Reporting
- 2.8 Assignment of Responsibilities for all Participants
- 2.9 Procedures for Change of Scope and/or Work Effort

#### **Section 3 – Resource Requirements**

- 3.1 Identification of Stakeholders
- 3.2 Human Resources, Detailed Plan for Assignment
- 3.3 Concerns or Alternatives Related to Staffing
- 3.4 Expected Commitments of Other Departments or People
- 3.5 Other Resources: Hardware, Terminals, Money
- 3.6 Any Other Resources Required

#### **Section 4 – Risks and Concerns**

- 4.1 With Respect to Customer Expectations
- 4.2 With Respect to Project Assumptions and Constraints

- 4.3 With Respect to the Environment
- 4.4 With Respect to Competing Projects
- 4.5 Other Related Projects

**Section 5 – Acceptance Criteria**

- 5.1 Responsibility for Acceptance Process and Criteria
- 5.2 Testing Approach
- 5.3 Identification of Test Data
- 5.4 Expected Results
- 5.5 Termination of Project

**Section 6 – Estimated Time and Costs (Check with Govt. Contracting Officer)**

- 6.1 Estimate for Proposed Work
- 6.2 Requirements for Special Funding
- 6.3 Costs: Development and Ongoing
- 6.4 Major Arguments or Basis for Time and Cost

## Appendix B: WBS Checklist (for Management and Administrative Tasks only)

**Definition:** The project Work Breakdown Structure (WBS) should include all of the work to be performed on the project including management and administrative tasks. Refer to the elements of the Project Plan for a more complete categorization of elements or phases that must be decomposed. This may only be a partial list for any given project.

Management and administrative tasks are commonly overlooked during project planning resulting in poorly performed management and administration. The list below includes management and administrative tasks that should be included in the overall project WBS.

For each task identified in the WBS, make sure there is an assigned responsibility and that appropriate time/effort have been allocated.

### WBS Checklist for Management and Administrative Tasks

#### Planning

- Task Analysis
- Preparation of Estimates
- Risk Analysis and Risk Management
- Scheduling
- Staffing
- Budget Analysis and Administration
- Plan Maintenance
- Personnel Management, Task Assignment, and Delegation
- Supervision
- Interface and Coordination
- Team-building
- Quality Assurance and Control
- Organization and Performance of Reviews and Formal Presentations
- Establishment of Standards and Methods
- Configuration Management and Control
- Library Management
- Subcontractor and Vendor Management
- Procurement Process

- Documentation Management
- Issues Management
- Change Management
- Responsibility Assignment Matrix (RAM)
- Communications Planning
- Higher Management Interface and Coordination
- Customer Interface and Coordination
- Performance/Status Reporting

Note: Every task that appears in a fully decomposed WBS should be associated with someone who is accountable and identifiable.

**High-level RAM Example**

<b>WBS Activity, Task, Deliverable</b>	<b>Responsible Individual</b>
<b>Project Plan</b>	<b>Project Manager</b>
<b>Budget Analysis and Administration</b>	<b>Project Administrative Assistant</b>
<b>Business Requirements</b>	<b>Business Team Leader</b>
<b>Technical Requirements</b>	<b>Infrastructure Team Leader</b>

## **Appendix C: Configuration Management Plan**

**Definition:** The configuration management plan describes how changes and variations in the product and its components will be controlled.

### **Configuration Management Plan**

#### **Product Configuration Management Organization and Resources**

- Organizational structure and Resources
- Personnel Skill Levels and Qualifications

#### **Standards, Procedures, Policies and Guidelines**

##### **Configuration Identification**

- Method for Defining Product Control Items (e.g., modules, versions, documents)
- Description of the Product Control Items for this Project
- Naming and Marking Documents, Components, Revisions, Releases

##### **Submission of Configuration Items**

- Approval/Rejection Procedure

##### **Change Control**

- Change Control Procedures (Method of Submission, Review, Approval/Rejection)
- Reporting Documentation (Change Requests, Problem Reports)

##### **Version Control**

- Preparation of Product and Documentation Versions
- Approval/Release Procedures

##### **Storage, Handling and Delivery of Project Media**

- Storage Requirements and Backups

##### **Configuration Control of Contractors, Vendors, and Suppliers**

##### **Additional Controls (Project Specific)**

##### **Status Accounting**

- Audits, Reviews

##### **Tools, Techniques, and Methodology**

## Appendix D: Project Plan Change Request

**Definition:** A plan change request is a formal request to change the Project Plan. Typically, plan change requests are for additional funding and/or time extensions. If they are approved, the baseline project plan will be changed.

### Plan Change Request - Plan Revision Process

Plan change requests are required when the baseline plan is no longer an accurate prediction of the project outcome. To avoid unnecessary requests for change and the delays and difficulties they often cause, contingency reserves should be included in the original baseline plan.

Plan change requests should be infrequent. When they are necessary, the project manager and appropriate members of the project team should perform a comprehensive analysis of the project plan to completion of the project phase and predict the revised outcome as accurately as possible.

Plan change request approval authority should be established early in the project. In large projects there may be more than one level of approval authority and funding limits.

<b>Project Plan Change Request</b>			
Date		Project Name	
Business Leader		Business Team(s)	
Project Manager		Business Contact(s)	
<b>Project Phases and System Development Stages:</b>			
<input type="checkbox"/> Initiation/Planning	<input type="checkbox"/> Analysis/Business System Requirements	<input type="checkbox"/> High Level Design	
<input type="checkbox"/> Detailed Design	<input type="checkbox"/> Construction/Testing	<input type="checkbox"/> Implementation	
<input type="checkbox"/> Post Implementation	<input type="checkbox"/> Execution/Control	<input type="checkbox"/> Closing	
<b>Current Information</b>			
Original Funding		Original Completion Date	
<b>Revised Information</b>			
New Funding		New Completion Date	
<b>Reason(s) for Change</b>			
<b>Impact(s) to Project</b>			
<b>Impact(s) to Business Area(s)</b>			
Sponsor Signature		Project Manager Signature	

## Appendix E: Documentation Plan

**Definition:** The documentation plan identifies the documents to be produced during the project, the standards for document production, and the procedures for document management.

### Documentation Plan

#### Required Documents By Phase

- Audience (developers, technical support, operations, management, users, stakeholders)
- Approach and Specifications (size, method of development, software)
- Document design:
  - Contents
  - Structure
  - Graphics

#### Document Standards

- Headers and Footers
- Type Styles and Sizes
- Appendices/Indices
- Tables of Contents

#### Information Sources

#### Resources Required

- Development/Writing
- Production
  - Hardware/Network/Internet
  - Word Processing Software
  - Graphics Software
  - Reproduction and Binding
  - Distribution
  - Personnel

#### Responsible Organizations

#### Production Schedules

- Authoring/Editing Cycle: draft, edit, review, final approval
- Reproduction/Binding/Distribution

**Retention Requirements**

- Agency
- Location of archived files

**Document Maintenance/Management**

- Recipient List Maintenance
- Change Management/Distribution
- Version Control