3 PROJECT PLANNING

Purpose

The purpose of Project Planning is to define the exact parameters of a project and ensure that all the pre-requisites for Project Execution and Control are in place.

Project Planning builds upon the work performed during Project Initiation. The project definition and scope are validated with appropriate Stakeholders, starting with the Project Sponsor and Customer Decision-Makers. Project Scope, Schedule and Budget are refined and confirmed, and risk assessment activities advance to the mitigation stage. The Initiation deliverables – CSSQ, and Initial Project Plan – are further developed, enhanced, and refined, until they form a definitive plan for the rest of the project.

Additional Project Team members are brought on board and familiarized with the project objectives and environment, and additional resources are ready to be brought in following the finalized staff and material acquisition plans.

Project Planning is an opportunity to identify and resolve any remaining issues and answer outstanding questions that may undermine the goals of the project or threaten its success. It is an opportunity to plan and prepare, as opposed to react and catch up.

Project sponsorship and commitment are re-confirmed at the end of the phase, with approval signifying authorization to proceed and commit funds for Project Execution and Control.

List of Processes
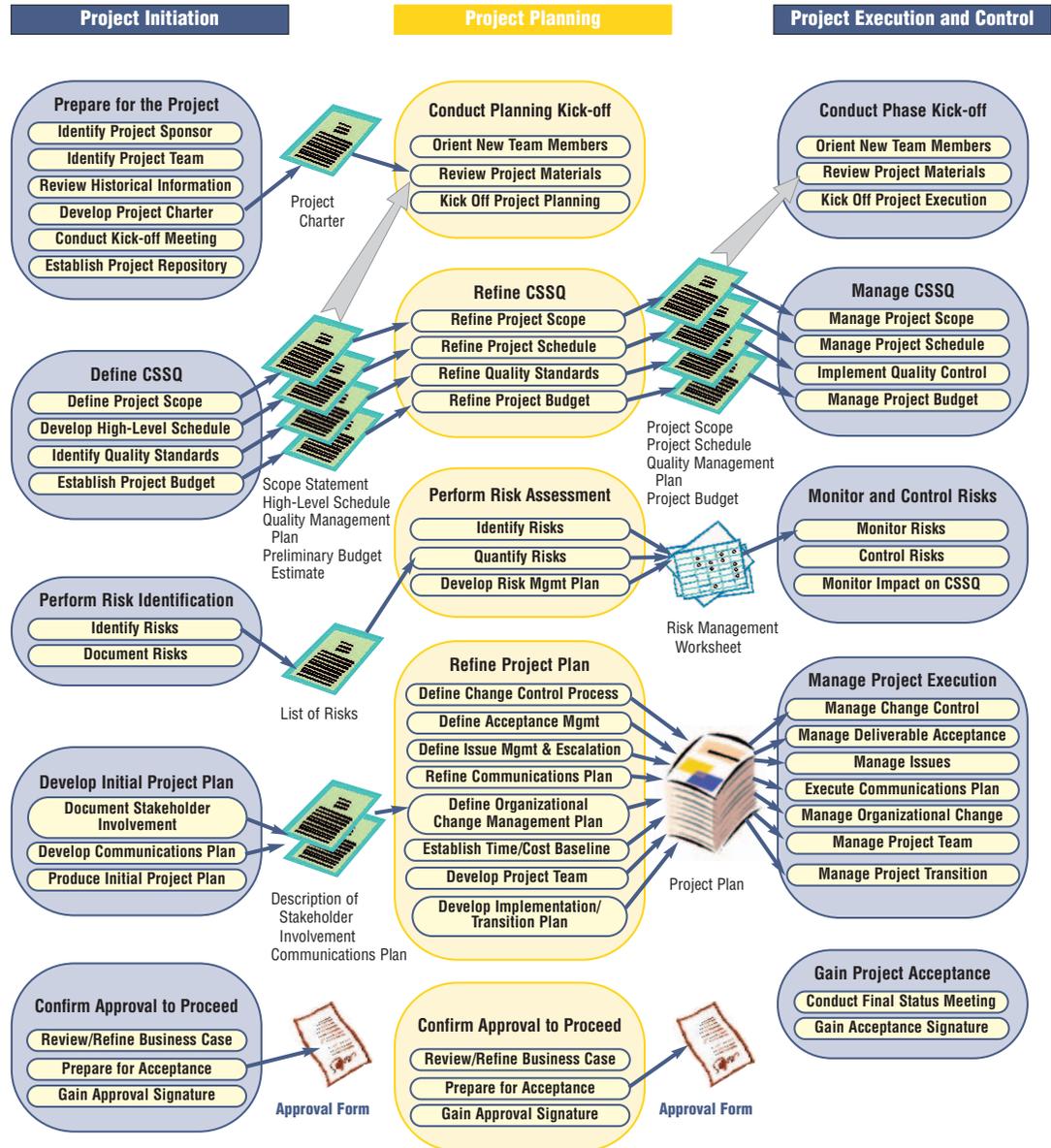
This phase consists of the following processes:

◆ **Conduct Project Planning Kick-off,** where the Project Manager conducts a meeting to formally begin the Project Planning phase, orient new Project Team members, and review the documentation and current status of the project.

◆ **Refine CSSQ,** where the Project Team refines the cost, scope, schedule and quality components of the project to more accurately reflect the additional information is learned about the project.

◆ **Perform Risk Assessment,** where the Project Team and Project Manager review the list of risks identified in Project Initiation, identify new risks, evaluate each risk based on the likelihood of its occurrence and magnitude of its impact, and develop a plan to respond to each risk.

◆ **Refine Project Plan,** where additional management procedures and plans are developed and all updated documents created during Project Planning are compiled into the Project Plan to be utilized in Project Execution and Control.

◆ **Confirm Approval to Proceed to Next Phase,** where the Project Manager reviews and refines the Business Case, secures resources required for the Project Execution and Control phase and prepares the formal acceptance package for review and approval by the Project Sponsor.

The following chart illustrates all of the processes, tasks, and deliverables of this phase in the context of the project management lifecycle.

Figure 3-1

Project Initiation	Project Planning	Project Execution and Control

Prepare for the Project
- Identify Project Sponsor
- Identify Project Team
- Review Historical Information
- Develop Project Charter
- Conduct Kick-off Meeting
- Establish Project Repository

Project Charter

Conduct Planning Kick-off
- Orient New Team Members
- Review Project Materials
- Kick Off Project Planning

Conduct Phase Kick-off
- Orient New Team Members
- Review Project Materials
- Kick Off Project Execution

Define CSSQ
- Define Project Scope
- Develop High-Level Schedule
- Identify Quality Standards
- Establish Project Budget

Scope Statement
High-Level Schedule
Quality Management Plan
Preliminary Budget Estimate

Refine CSSQ
- Refine Project Scope
- Refine Project Schedule
- Refine Quality Standards
- Refine Project Budget

Project Scope
Project Schedule
Quality Management Plan
Project Budget

Manage CSSQ
- Manage Project Scope
- Manage Project Schedule
- Implement Quality Control
- Manage Project Budget

Perform Risk Assessment
- Identify Risks
- Quantify Risks
- Develop Risk Mgmt Plan

Risk Management Worksheet

Monitor and Control Risks
- Monitor Risks
- Control Risks
- Monitor Impact on CSSQ

Perform Risk Identification
- Identify Risks
- Document Risks

List of Risks

Develop Initial Project Plan
- Document Stakeholder Involvement
- Develop Communications Plan
- Produce Initial Project Plan

Description of Stakeholder Involvement
Communications Plan

Refine Project Plan
- Define Change Control Process
- Define Acceptance Mgmt
- Define Issue Mgmt & Escalation
- Refine Communications Plan
- Define Organizational Change Management Plan
- Establish Time/Cost Baseline
- Develop Project Team
- Develop Implementation/ Transition Plan

Project Plan

Manage Project Execution
- Manage Change Control
- Manage Deliverable Acceptance
- Manage Issues
- Execute Communications Plan
- Manage Organizational Change
- Manage Project Team
- Manage Project Transition

Confirm Approval to Proceed
- Review/Refine Business Case
- Prepare for Acceptance
- Gain Approval Signature

Approval Form

Confirm Approval to Proceed
- Review/Refine Business Case
- Prepare for Acceptance
- Gain Approval Signature

Approval Form

Gain Project Acceptance
- Conduct Final Status Meeting
- Gain Acceptance Signature

List of Roles

The following roles are involved in carrying out the processes of this phase. The detailed descriptions of these roles can be found in the Section I Introduction.

◆ Project Manager
◆ Project Sponsor
◆ Project Team Member
◆ Customer
◆ Customer Decision-Maker
◆ Customer Representative
◆ Performing Organization Management
◆ Stakeholders

List of Deliverables

Project deliverables in this phase fall into three categories of importance and formality:

◆ **Phase deliverables** – major deliverables signed by the Project Sponsor or a designated alternate that allow the project to gain approval to proceed to the next phase.

◆ **Process deliverables** – drafts of major deliverables or minor deliverables that may or may not require a formal sign-off but nevertheless must be reviewed by Project Team members, Customer Decision-Makers, and the Project Sponsor. The review validates the project's progress, and allows the Project Manager to move on to the next process in confidence.

◆ **Task deliverables** – drafts of process deliverables or works-in-progress that are verified within the Project Team, and may or may not be reviewed by the Project Sponsor or Customer Decision-Makers. Each task culminates with the production of one or more tangible deliverables, which allows the Project Manager to monitor project progress using concrete and real results.

The following table lists all Project Planning tasks and their deliverables or outcomes. Starting with CSSQ, all task deliverables are eventually included as part of the Project Plan and the final acceptance package for this phase. Depending on available resources, some of these processes can be performed in parallel. The initial Project Schedule produced in Project Initiation will include the detailed schedule for the processes and tasks in Project Planning.

Figure 3-2

Processes	Tasks	Task Deliverables (Outcomes)
Conduct Project Planning Kick-off	Orient New Project Team Members	*Team Members Oriented*
	Review Outputs of Project Initiation and Current Project Status	*Project Outputs Reviewed*
	Kick Off Project Planning	Kick-off Meeting Agenda Kick-off Meeting Notes
Refine CSSQ	Refine Project Scope	Project Scope Statement
	Refine Project Schedule	Project Schedule
	Refine/Define Quality Standards and Quality Assurance Activities	Quality Management Plan
	Refine Project Budget	Project Budget Refined Staff/Materials Acquisition Strategy
Perform Risk Assessment	Identify New Risks, Update Existing Risks	Risk Management Worksheet
	Quantify Risks	Risk Management Worksheet
	Develop Risk Management Plan	Risk Management Worksheet
Refine Project Plan	Define Change Control Process	Change Control Process
	Define Acceptance Management Process	Acceptance Management Process
	Define Issue Management and Escalation Process	Issue Management and Escalation Process
	Refine Communications Plan	Communications Plan
	Define Organizational Change Management Plan	Organizational Change Management Plan
	Establish Time and Cost Baseline	Time and Cost Baseline
	Develop Project Team	Project Team Training Plan
	Develop Project Implementation and Transition Plan	Project Implementation and Transition Plan
Confirm Approval to Proceed to Next Phase	Review/Refine Business Case	Refined Business Case
	Prepare Formal Acceptance Package	Approval Form
	Gain Approval Signature from Project Sponsor	*Signed Approval Form*

3.1   CONDUCT PROJECT PLANNING KICK-OFF

Purpose

Conduct Project Planning Kick-off formally marks the beginning of Project Planning and facilitates the transition from Project Initiation. It ensures that the project remains on track and focused on the original business need. New Project Team members are thoroughly prepared to begin work, the current project status is reviewed, and all prior deliverables are re-examined. All deliverables produced during Project Initiation are used in Project Planning.

Roles

- Project Manager
- Project Sponsor
- Project Team Members
- Stakeholders

Tasks

3.1.1 Orient New Project Team Members

The goal of orientation is to enhance the ability of new team members to contribute quickly and positively to the project's desired outcome. If individuals have recently joined the team, it is imperative they have adequate workspace, equipment, security access, and supplies necessary to perform their required tasks. The Project Manager (or Team Leader, if appropriate) must convey to each new team member, in a one-on-one conversation, what his/her role and responsibilities are related to the project. In order to streamline interaction among the team, new team members must also become familiar with the roles and responsibilities of all other Project Team members and Stakeholders as soon as possible, and immediately receive copies of all project materials, including any deliverables produced so far. It is usually the Project Manager's responsibility to get new members of the team up to speed as quickly as possible. On large projects, however, if the team is structured with Team Leaders reporting to the Project Manager, it may be more appropriate to assign a Team Leader to "mentor" the new individual.

The tasks in Conduct Project Planning Kick-off are:

3.1.1   Orient New Project Team Members

3.1.2   Review Outputs of Project Initiation and Current Project Status

3.1.3   Kick Off Project Planning

Information that would be useful to new team members includes:

- All relevant project information from Project Origination and Initiation

- Organization charts for the Project Team and Performing Organization

- Information on project roles and responsibilities

- General information about the Customer and Performing Organization

- Logistics (parking policy, work hours, building/office security requirements, user id and password, dress code, location of rest rooms, supplies, photocopier, printer, fax, refreshments, etc.)

- Project procedures (team member expectations, how and when to report project time and status, sick time and vacation policy)

Orientation sessions can be held for new members to ensure that they read and understand the information presented to them.
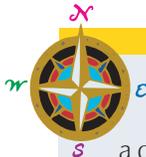
Some Project Managers make use of orientation checklists to ensure that nothing is forgotten during orientation sessions. It's a good idea to retain a package containing a checklist, an orientation meeting agenda, project materials and logistical information. Then, when a new member joins the Project Team, you can just copy its contents. Remember to keep the contents of the package current.

3.1.2 Review Outputs of Project Initiation and Current Project Status

Before formally beginning Project Planning, the Project Charter and all components of the Initial Project Plan should be reviewed. This is a checkpoint process – to recap what has been produced so far and analyze what will most likely be refined as Project Planning takes place. It is especially useful for any new members joining the team during this phase. The review of materials may spark innovative ideas from new team members since they bring different and varied experiences to the project.

3.1.3 Kick Off Project Planning

As was the case for Project Initiation, a meeting is conducted to kick off Project Planning. At this meeting the Project Manager presents the main components of the Initial Project Plan for review. Suggested items on the agenda (see Figure 3-3, Project Planning Kick-off Meeting Agenda) to highlight during the Project Planning kick-off include:

- Introduction of new team members

- Roles and responsibilities of each team member

- Restating project background and objective(s)

- Most recent Project Schedule and timeline

- Identified risks

- Communications plan

- Current project status, including open issues and action items

The goal of the kick-off meeting is to verify that all parties involved have consistent levels of understanding and acceptance of the work performed to date and to validate and clarify expectations of each team member in producing Project Planning deliverables. Attendees at the Planning Kick-off Meeting should include the Project Manager, Project Team, Project Sponsor, and any other Stakeholders with a vested interest in the status of the project.

As in Project Initiation, the Project Sponsor should reinforce his/her support for the project and the value it will provide to the organization. The Project Manager should also be sure one of the Project Team members in attendance is designated as the scribe for the session, to capture pertinent project decisions, issues, and action items. Following the session, the information captured should be compiled into meeting notes to be distributed to all attendees for review and approval. Meeting materials should be added to the project repository.

Figure 3-3 Project Planning Kick-off Meeting Agenda

Project Planning Kick-off Meeting Agenda	Project: _____ Date:_____ Time: From: _____ To: _____ Location: _____

Invitees: List the names of individuals invited to the meeting
_____

Invitees should include the Project Manager, Project Team, Project Sponsor, and any Customers with a vested interest in the status of the project.

Attendees: During the meeting, note who actually attended. If attendees arrived late or left early, indicating they missed some of the topics discussed, note their arrival or departure time.
_____

AGENDA

Use the following suggested times as guidelines–the time you need to cover agenda topics will vary depending upon the needs of the project.

	PRESENTER NAME	TIME (MINUTES)
Introductions	Project Manager	5 min.

Project Manager welcomes everyone and briefly states the objective of the meeting.
Allow individuals to introduce themselves, and provide a description of their role within the Performing Organization and their area of expertise and how they may be able to contribute to the project efforts.
The material to be presented by the following agenda topics should come right from the Project Charter.

Sponsor's Statement	Project Sponsor	5 min.

After brief introductions, the Project Sponsor should describe the vision for the project, demonstrate support, and advocate for its success, setting it as a priority for all parties involved.

Project Request & Background	Project Manager	5 min.
Project Goals & Objectives	Project Manager	10 min.
Project Scope	Project Manager	10 min.
Roles & Responsibilities	Project Manager	10 min.

When reviewing roles and responsibilities be explicit about expectations relative to stakeholder availability and Project Sponsor commitment and support for the project.

Next Steps	Project Manager	5 min.
Questions	Project Manager	10 min.

ADDITIONAL INFORMATION:

Handouts:

Provide a list of the material to be distributed to the attendees.

Figure 3-3 (Continued)

Project Planning Kick-off Meeting	Project: _____ Date:_____ Time: From: _____ To: _____ Location: _____

Be sure that one of the Project Team members in attendance is scribing for the session, capturing important project-specific information that requires further review or discussion as well as potential issues that could impact the project. At the end of the meeting, the Project Manager and Project Team should review these points as well as any other notes captured by other team members to identify any additional actions required. The notes will be compiled into meeting minutes to be distributed to all the attendees and retained in the project repository.

DECISIONS

Decision Made	Impact	Action Required?

Document each project decision reached and its impact. Also indicate if the decision requires follow-up actions. If so, these should be captured below.

ISSUES

Issue Description	Impact	Action Required?

Document any project issues identified and its impact. Also indicate if the issue requires follow up actions. If so, these should be captured below.

ACTION ITEMS FOR FOLLOW UP

Action	Responsible	Target Date

Capture any follow up activities and the individual responsible for them as well as set a date as to when the action needs/should be completed.

At the end of the meeting, the scribe should recap the action items. These should also be included in the meeting minutes to be distributed.

3.2   REFINE CSSQ

CSSQ is the acronym for a project's quadruple constraints: Cost, Scope, Schedule, and Quality. During Project Initiation, the Project Team created the initial CSSQ, a set of formal documents defining the project and how its desired outcome(s) will be reached. During Project Planning, each section of the CSSQ will be refined as more information becomes known about the project. The CSSQ is not static – some of the components will continue to change throughout the life of the project.

Roles

- Project Manager
- Project Sponsor
- Project Team Members
- Customer
- Customer Representative

It should be noted that refining CSSQ occurs in parallel with other project-specific tasks. Project Execution and Control tasks are not put on hold while the Project Team waits for the plan to be finalized. In fact, the execution of project-specific tasks usually provides additional information necessary to further elaborate the planning efforts.

The purpose of **Refine CSSQ** is to use additional knowledge about the product of the project and the approach to be taken to:

- Improve the definition of Project Scope.

- Refine the Project Schedule by more accurately defining and sequencing project activities, estimating their durations, determining the dependencies among them, and assigning resources to them. The schedule will need to be adjusted according to the approach that will be used to produce the product and the availability of resources.

- Improve the understanding and definition of the processes and standards that will be used to measure quality during Project Execution and Control.

- Refine the appropriate approaches for staff and material acquisition defined during Project Initiation, implement the plans, and more accurately define the budget required to produce the desired outcome of the project. The project budget will be affected based upon the approach that will be used to produce the product and the availability of resources.

When refining CSSQ, the Project Manager should create a revised version of each document while maintaining the integrity of the original documents. This will provide an audit trail as to how CSSQ has evolved throughout the project lifecycle.

Tasks

3.2.1 Refine Project Scope

It is important to remember that refinements to the Project Scope must include discussions and interviews with the Customer and other appropriate Stakeholders. The scope document, therefore, will reflect a mutual agreement between all parties, which is more likely to ensure that buy-in is achieved.

The tasks for Refine CSSQ are:

3.2.1   Refine Project Scope

3.2.2   Refine Project Schedule

3.2.3   Refine/Define Quality Standards and Quality Assurance Activities

3.2.4   Refine Project Budget

A clearly defined Project Scope is critical to the success of a project. Without a clear definition, work already performed may be subject to rework, resulting in lower team productivity. During Project Initiation, a scope statement was written to document a basic description of the project and its deliverables. (See Figure 2-6, New York State Project Scope Statement.) Refining the Project Scope breaks deliverables into smaller pieces of work, allowing the scope and the existing Project Budget, Schedule, and quality measurements to be more accurately defined. Where the initial Project Scope statement highlighted the deliverables to be produced in support of the desired project outcome, the revised Project Scope must go one step further. Using the information learned during Project Initiation, and based upon input gained by communicating regularly with the Customer and other appropriate Stakeholders, the Project Team must refine the Scope statement to clearly define each deliverable – including an exact definition of what will be produced and what will not be produced.

Break each deliverable described in the Project Scope statement down into smaller, more manageable components. Repeat this until the components are small enough to be defined in the greatest possible detail. Questions to ask to determine if each deliverable has been broken down sufficiently are:

■ Am I able to clearly define the component?

■ Am I able to clearly state what will be done to complete the work and what will NOT be done?

■ Am I able to estimate the time needed to complete the component? Am I able to assign an individual who will be responsible for completing the work?

■ Am I able to assign a dollar value to the cost of completing the work?

If the answer to any of these questions is "No," that particular component needs to be further broken down. This "decomposition" exercise assists project staff to better understand and properly document the Project Scope. It also provides information needed for Project Schedule and budget revision.

The nature of the specific line of business associated with the product of each project will drive how the Project Scope is refined. For example, for building construction projects, architectural drawings will be completed; for application software projects, detailed requirements definition and design will be completed. (See Section III, SDLC.)

Anything that impacts the team's ability to perform the work required by the project may be important to consider when refining the Project Scope. For example, impacts may occur due to a Legislative decision. Both formal deliverables and less formal documents created during the Project Initiation, such as status reports, memos, and meeting minutes will be of assistance to the Project Team in revising the scope definition.

Changes to a Project Scope document must be made using a defined change control process. This process should include a description of the means by which scope will be managed and how changes to scope will be handled. Once documented, the process becomes part of the Project Plan. It is vital to document a clear description of how to determine when there is a change in scope to facilitate change control during Project Execution and Control. Documenting how to determine what constitutes change is a difficult process, but one that is critical to the change control management process. Additionally, while updating the Project Scope, the Project Manager and Customer must consider the effect the updates may have on the organi-

zation, anticipate impacts, and communicate them proactively to the user community. As in Project Initiation, selling the positive aspects of the project, the benefits of its product, and the value of changes to the scope during the entire duration of the project will facilitate acceptance down the road. (See 3.4.1 Define Change Control Process).

Once again, communication between the Project Manager and the Customer is crucial in creating a scope document that clearly reflects what the Customer needs and ensuring a mutual agreement between all parties. If the Project Scope is not accurately described and agreed upon, conflict and rework is almost certain to occur.

3.2.2 Refine Project Schedule

Using the Project Scope revised in the previous task, the Work Breakdown Structure created during Project Initiation must be revised. Deliverables illustrated in the Work Breakdown Structure should be broken into smaller components, until each component is defined to the level of detail currently understood, or is small enough to allow the Project Manager to accurately estimate the time and cost required for its completion (using the Project Schedule Worksheet). Using information from the Project Schedule Worksheet as input, the Project Manager should update the Project Schedule to more accurately define required activities, dependencies, levels of effort, and deliverable due dates.

You probably will not have sufficient information to break each and every component down into excruciating detail, especially if your project spans a long period of time. How can you predict the amount of work required to produce a deliverable that is scheduled to begin two years from now? You can, however, provide an estimate for the entire project at a high level, and should be able to provide accurate detail for the level of work required for the next 3 to 6 months. Describe the entire project to the level of detail you currently understand. Remember, as the project progresses, you will gain the information you need to break components down and provide estimates for the NEXT 3 to 6 months!

A good rule of thumb to follow is the "eighty-hour rule": if the task requires more than two weeks duration to complete, it should be broken down further. This provides a solid basis for estimating level of effort, task planning, assignment of work, and measurement of performance in Project Execution and Control. Use of the "eighty-hour rule" not only greatly facilitates scheduling, but also lays a foundation for accurate tracking of actuals; reporting on progress is reduced to an objective, binary mode: each task (and its deliverable) is either done or not done.

On smaller projects a Project Manager works directly with Project Team members to obtain individual input on effort estimates. On larger projects with multiple components, the Project Manager most likely relies on the input of Team Leaders or individuals who are expert in the specific subject areas. In either case, the Project Manager should gain input from individuals who will actually perform the work or who have performed similar work in the past. This will not only make the effort estimates more accurate, but will help generate excitement and buy-in from the Project Team, as they will feel more a part of the process.

Estimating the time to complete an activity is directly influenced by the capabilities of the individual assigned to perform it. The skill level of each person on the team should, therefore, be considered when doing effort estimates. A good practice is to base estimates on an assumed level of skill. This will allow the Project Manager to adjust his/her estimates up or down when the actual team is in place and the exact skill levels are known. It is imperative that all assumptions used in estimates are documented.

An experienced Project Manager also takes into account absenteeism, meetings, discussions, and staff interaction. A successful schedule builds in reality factors. Specific team members may have ongoing responsibilities occupying a portion of their time, and this must be factored into the schedule. Once effort estimates have been determined for each activity, the Project Schedule must be revised to reflect them. Any revisions or refinements that were made to the Project Scope will directly affect the Project Schedule and must be reviewed and incorporated into the schedule as needed.

Dependencies among tasks can be defined now, or adjusted as necessary. The Project Manager must recognize:

■ **mandatory dependencies** – those dependencies that are inherent to the type of work being done. They cannot and will not change, no matter how many individuals are working on a task or how many hours are allocated to a task (e.g., the frame of a building cannot be built until the foundation is in place). The Project Manager must recognize mandatory dependencies since they will dictate the way certain pieces of the schedule will need to be structured.

- **discretionary dependencies** – those dependencies that are defined by the Project Team or Customer that force the Project Manager to schedule tasks in a certain way. For example, the Project Team may be required to use an in-house "best practice" to complete an activity that forces other activities to be completed in a specific sequence.

- **external dependencies** – outside the realm of the project or outside the control of the Project Manager or Customer, these dependencies may direct how portions of the project schedule must be defined. For example, a project activity may be dependent upon an outside vendor delivering a piece of equipment. This is something neither the Project Team nor the Customer can control, but it must be defined and considered when revising the schedule.

Project Schedule revision must also take into account:

Calendars – the hours and days when project work is allowed, including seasonal restrictions, holidays, labor contract restrictions, vacation or training schedules.

Constraints – completion dates for project deliverables mandated by the Project Sponsor, Customer, or other external factors, which will most often be known early in the project. Additionally, there may be financial, legal, or Legislative-driven constraints that help dictate a project's timeline.

Once the schedule has been revised to include tasks, effort estimates, resources, and dependencies, the Project Manager should study the schedule to determine its critical path. The critical path is the sequence of tasks in the schedule that takes the longest amount of time to complete. If any task on the critical path is delayed, the entire project will be delayed.

A Project Manager can determine the critical path in a Project Schedule by looking at all tasks that run in parallel and computing the total amount of estimated time to complete them. The path that takes the most time to complete is the critical path. Tasks on the critical path that are completed late will delay the project, unless the Project Manager takes proactive steps to finish subsequent critical tasks ahead of schedule. Because of the important relationship between critical tasks and the project end date, the Project Manager must always be cognizant of the critical path and understand how it is affected when changes are made to the Project Schedule.

Work with an experienced Project Manager, if you can, to learn tips and techniques for breaking work down, estimating time required to complete certain pieces of work, and refining the Project Schedule. Someone familiar with the process and the scheduling tools can save a more inexperienced Project Manager a lot of time and frustration!

If experienced Project Managers are not available, consider getting effort estimates from multiple sources, comparing results and estimating the duration based on the multiple inputs. Involving the Project Team in the planning process will not only help ensure estimates reflect reality, but will also help gain team buy-in and acceptance.

And remember…always document any and all assumptions made when deriving estimates or updating the Project Schedule. This "audit trail" will prove invaluable if you need to retrace your steps down the road or must explain why schedule revisions are necessary!

3.2.3 Refine/Define Quality Standards and Quality Assurance Activities

The Project Manager and Customer must determine if changes have occurred to the Project Scope, Customer requirements, external standards or regulations, or any other aspect of the project that will affect the quality standards established for each deliverable during Project Initiation. If the standards are no longer valid, the quality policy must be changed appropriately to refine existing standards or define additional ones.

Also during Project Planning, the Project Manager communicates with the Customer to establish and document all quality activities to be implemented during the course of the project to ensure the defined quality standards will be met. This is called quality assurance. Sometimes quality assurance for specific types of deliverables is performed by a separate Quality Assurance Department. If an organization does not have the luxury of a Quality Assurance Department, the required activities will need to be performed by designated Project Team members or Customers. Examples of quality assurance activities include:

■ Collecting project documentation

■ Conducting audits

■ Verifying business requirements

■ Performing testing

A description of all quality activities to be implemented during the course of the project should be included in the Quality Management Plan. (See Figure 2-8, New York State Quality Management Plan.)

3.2.4 Refine Project Budget

Based on the information now known about the project as a result of Project Planning activities, the Project Manager recalculates the budget required to complete project activities and tasks. (See Figure 3-4, New York State Project Budget.) As in the previous phase of the project, all costs must be considered including the cost of human resources, equipment, travel, materials and supplies. In addition, the following project components must be taken into account:

■ **Project Schedule** – the schedule created during Project Initiation has been revised during Project Planning to include more detail and greater accuracy regarding project activities, tasks, and durations. This information will be used as direct input to the refined cost budget.

■ **Staff Acquisition** – the Project Manager must identify additional staffing requirements. Strategies defined in Project Initiation need to be changed accordingly. Note that if the reporting relationships among different organizations, technical disciplines, and/or individuals have changed in any way, the strategy used to acquire human resources may need to be changed. Also, if the skills required to staff the project are different from those known during Project Initiation, the means by which staff members are acquired could be different. The Project Manager must update the Project Schedule to include all tasks needed to acquire Project Team members. (See Section II:3, Procurement and Contractor Management, for more information.)

■ **Resource Requirements and Costs** – at this point in the project, a more detailed understanding of the resources required to perform the work and their associated costs is most likely known and can be used in refining the budget.

■ **Materials Acquisition** – the Project Manager must verify whether product requirements have changed since Project Initiation. If changes have occurred, the product acquisition strategies need to be changed accordingly. The Project Manager must update the Project Schedule to include all tasks needed to acquire equipment, materials, and other non-human resources. (See Section II:3, Procurement and Contractor Management, for more information.)

■ **Preliminary Budget Estimate** – also produced during
Project Initiation, this spreadsheet should be the place to
start to refine information pertaining to the budget. The
Project Manager should add to this spreadsheet the more
detailed cost estimates for the project defined in the
Project Schedule, and revise the hours and cost columns
based upon the revised Project Schedule, resource rates
and requirements, and cost estimates. The Project
Manager can use cost estimating checklists to ensure all
preliminary budgeting information is known and all bases
are covered.

It is also recommended that you take the time to document a preliminary disbursement schedule. This will help you and the Project Sponsor understand how the total budget will be expended over the course of the project.

Figure 3-4 New York State Project Budget

New York State
Project Budget

PROJECT IDENTIFICATION

Project Name: _____   Date:_____

Project Sponsor: _____   Project Manager: _____

> *Enter the **Project Name**.*
> *Enter the current **Date**.*
> *Enter the name of the **Project Sponsor**.*
> *Enter the name of the assigned **Project Manager**.*

Figure 3-4 (Continued)

New York State
Project Budget

BUDGET INFORMATION

Phase/Process/Task	Labor Cost	Material Cost	Travel Cost	Other Cost	Total Cost per Activity	Planned Date of Expenditure
TOTAL Budget						

*The **Phase**, **Process**, and **Task** Names come from the High-Level Schedule.*

*The **Labor Cost** is the cost of human resources required.*

*The **Material Cost** is the cost for equipment and supplies.*

*The **Travel Cost** is any predicted cost that will be incurred if travel is required.*

*Enter any costs outside person, material, and travel costs under **Other Costs**.*

*Total the costs for each activity and enter the total under **Total Cost**. Then enter the **Planned Date** the expenditure will be made.*

*Calculate the total of all rows in the table and enter the values in the **TOTAL Budget** row at the bottom of the worksheet.*

COMMENTS: (List any assumptions pertaining to the costs entered above.)

Consult with past managers of similar projects to gain their perspectives on the actual time/costs to produce their projects' outcomes. Solicit input from past Project Team members to gain insight into the actual effort required to perform similar project tasks.

Again, for historical purposes, and to enable the budget to be further refined during Project Execution and Control, the Project Manager should maintain notes on how the budget was revised.

Deliverables

◆ **Project Scope** – the document that describes in detail the project boundaries, including defining the deliverables: how they will be produced, who will produce them during the course of the project, and the means by which changes to the deliverables will be identified and managed.

◆ **Project Schedule** – a revised, definitive representation of activities, durations, dependencies and resources to the level understood at this point in the project lifecycle. The schedule has multiple uses. It is both a task list for further planning, if necessary, and a structure for reporting status during Project Execution and Control. As individual tasks are completed, project progress can be assessed. It also serves as a useful management communication tool by which results can be compared with expectations. Because it is critical to the success of the project going forward, the schedule must be reviewed and accepted by both the Customer and the Project Team during Project Planning.

◆ **Refined Quality Management Plan** – the quality standards defined during Project Initiation and refined during Project Planning become part of the Quality Management Plan. The Quality Management Plan will be expanded during Project Execution and Control and is included as part of the Project Plan.

◆ **Project Budget** – a revised, more accurate estimate of the dollars required to complete the project. It includes the cost of all required human resources, equipment, travel, and supplies, and the anticipated timing of expenditures.

3.3 PERFORM RISK ASSESSMENT

Purpose

Risks require continual review and assessment throughout the project management lifecycle. The goals of **Risk Assessment** are to predict the likelihood that a risk will occur, to quantify its potential impact on the project, and to develop plans for risk management. Risks documented during Project Initiation should be reassessed during Project Planning.

Roles

- Project Manager
- Project Sponsor
- Project Team Members
- Customer Representatives

Next, an approach for risk management is developed. Actions can be taken to avoid, mitigate or accept each risk, depending upon the probability of its occurrence and the magnitude of its impact on the project. If a risk event can be anticipated, there should be sufficient opportunity to weigh consequences and develop actions to minimize its negative impacts or maximize its positive ones.

The list of risks created during Project Initiation is entered into a Risk Management Worksheet (see Figure 3-5, New York State Project Risk Management Worksheet) and supplemented by any additional risks identified in Project Planning. Within the worksheet, information is added to describe the risk probability, impact, and the timeframe in which the impact may occur. Based on these factors, the priority level of the risk event can be derived. Last, and most important, risk management plans must specify the individuals responsible for the mitigation actions, the timing of the actions to be implemented, and the expected results of the actions.

In addition to quantifying risk probability and impact and formulating risk responses, the risk assessment process facilitates establishment of an agreement for the Project Team, Project Sponsor and Customer Representatives to collaborate in managing risks as they arise during the project.

Figure 3-5 New York State Project Risk Management Worksheet

New York State
Project Risk Management Worksheet

Order Risks Risk Probability/Impact: Very Low - Low - Medium - High - Very High   Priority Level: 1.00 - 10.00

Project Duration: Less Than 3 Month   3–6 Months   6–12 Months   1–3 Years   More Than 3 Years

Baseline As-of Date: _____

Risk	Risk Probability	Impact Description	Level of Impact	Date of Impact	Priority Level	Risk Management Plan

Figure 3-5 (Continued)

*There are two templates available to assist you in managing project risks. The first, which is in the Appendices of the **Guidebook**, is a Word document that will walk you through the risk management process. The second template is an automated tool that can be found on OFT's website.*

The following instructions apply to the Risk Management Worksheet Microsoft Excel tool. You can also use this tool in hardcopy form, without making use of the automated Order or Print functions. You can download the Microsoft Excel tool from the OFT web site (see Guidebook templates at www.oft.state.ny.us).

1) *Select the appropriate Project Duration using the Project Duration drop down box at the top of the page.*

2) *The Baseline As-of-Date field defaults to today's date. Change this date if you wish.*

3) *Transfer the current list of risks (identified and documented in Project Initiation and augmented as needed) to the Risk column*

4) *Determine the Risk Probability on a five-point scale (Very Low - Low - Medium - High - Very High), and record it in the Risk Probability column. Be sure to enter either the WORDS Very Low, Low, Medium, High or Very High, or the corresponding abbreviations VL, L, M, H or VH. Do NOT enter numbers in the Risk Probability column.*

5) *Identify the Impact that each risk event may have on the project, and record a textual description in the Impact Description column*

6) *Determine the impact magnitude on a five-point scale (Very Low - Low - Medium - High - Very High), and record it in the Level of Impact column. Again, be sure to enter either the WORDS Very Low, Low, Medium, High or Very High, or the corresponding abbreviations VL, L, M, H or VH. Do NOT enter numbers in the Impact column*

7) *Ascertain the date of impact and record it in the Date of Impact column, in the format MM/DD/YY. This is the date on the Project Schedule when you expect a risk event to start affecting CSSQ. It is not the date of the event itself.*

8) *Click on the Order button to order risks according to Priority Level calculated by the tool*

Tasks

3.3.1 Identify New Risks, Update Existing Risks

The Project Manager must review the list of risks initially identified for the project to determine if all risks remain applicable. As a result of Project Initiation and Planning, the Project Manager and team members should be considerably more knowledgeable about the project and, therefore, better able to recognize and predict risk events.

The tasks for Performing Risk Assessment during Project Planning are:

3.3.1 Identify New Risks, Update Existing Risks

3.3.2 Quantify Risks

3.3.3 Develop Risk Management Plan

Through other activities taking place in Project Planning specific to Cost, Scope, Schedule and Quality (CSSQ), additional risk variables may be introduced to the project. Further refinement of the Project Scope may uncover areas of concern that were previously unknown. A more detailed schedule may introduce a new level of complexity and interdependencies to the project, possibly producing more risk. More accurately defined staffing requirements may call for resources with unique skills whose availability may be diminishing. These are only a few examples of how risks in a project evolve over time, with the focus shifting from one risk source to another.

The Project Manager verifies the updated list of risks with the Project Team and Project Sponsor. As in Project Initiation, the Project Manager must consider both internal and external risks, internal risks being those events the Project Manager can directly control (e.g., staffing), and external risks, those that happen outside the direct influence of the manager (e.g., legislative action).

Once again, data and experiences from previous projects may provide excellent insight into potential risk areas and ways to avoid or mitigate them. If the organization has a list of common project risks, it can be useful to ensure that the Project Manager has considered all potential risk elements in the current list. The Project Manager should update the organization's list as necessary based on the results of the current project.
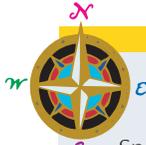
> Solicit input from experienced Project Team members and/or the Project Sponsor to uncover potential areas of risk and to help you identify what types of risks the Project Sponsor views as relevant. Jointly identifying and updating the risk variables for a project results in the sharing of risk awareness by all parties involved.

3.3.2 Quantify Risks

The Project Manager and Project Team members evaluate each risk in terms of the likelihood of its occurrence and the magnitude of its impact. Both criteria should be quantified using a five-point scale: very high, high, medium, low and very low. These measurements are used as input into the Risk Management Worksheet for further analysis when determining how the risk threatens the project.

There are many tools available to quantify risks. The Risk Management Worksheet presented here has been selected for its simplicity and ease of use. More sophisticated tools may be necessary for large-scale high-risk projects.

A factor to be considered when quantifying risks is stakeholder risk tolerance, the threshold to which the Performing Organization will assume risk, which is dependent on its attitude toward and motivation for the project. For example, an agency may view a 15% chance of a project overrun as acceptable since the cost benefit for the organization to do the project far outweighs this factor. The Project Manager's understanding of the organization's strategic direction and the motivation of both the Project Sponsor and the Customer will help determine the level of risk tolerance for the project.

3.3.3 Develop Risk Management Plan

The Project Manager evaluates the results of the previous task to determine an appropriate response for each risk: avoidance, mitigation or acceptance. Each case will require a decision by the Project Team. The Project Manager is then responsible for communicating the steps necessary to manage the risk and following up with team members to ensure those steps are taken.
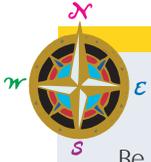
Identifying the risk is good; but planning a wise course of action around it is infinitely better.

Be aware that by addressing one risk, you may be introducing another. For example: you identified a risk that your cost estimates may be off by as much as 15%. Your mitigation plan is to request a 20% increase in funds to cover the increased cost. You may have introduced a new risk, because a red flag may be raised, inviting an audit.

Since each risk may have more than one impact, the Risk Management Plan must describe the actions to be taken to avoid, mitigate or accept each risk impact, including contingency plans. It should also specify the individuals responsible for the mitigation actions or contingency plan execution. Attention should be directed to those risks most likely to occur, with the greatest impact on the outcome of the project. On the other hand, a conscious decision can also be made by the Project Team to accept or ignore certain risks. These decisions must be documented as part of the Risk Management Plan for subsequent re-evaluations.

Some commonly employed risk mitigation strategies may include:

Procurement – some risks can be mitigated through procurement. For example, if the project requires staff with particular skills it may be advisable to retain resources through an outside organization. Unfortunately, this may introduce other risk factors such as the resource's unfamiliarity with the agency.

Resource Management – it may be beneficial to leverage a lead resource that has already worked on a project with similar characteristics by assigning that resource as a mentor to more junior team members. This will mitigate delays in the schedule due to the learning curve of more junior resources.

Use of Best Practices/Lessons Learned – some organizations already have repositories of project specific or business function best practices, which may help you to prepare for unanticipated risks. Taking advantage of other project best practices, whether they are process or tool based, will help to mitigate risk. Implementing processes that have worked successfully on other projects will save time.

The frequency with which the Risk Management Plan will be monitored, reviewed and maintained, and the method of communicating progress of risk mitigation actions, must be incorporated in the Project Schedule and Project Plan. The Risk Management Worksheet should be reviewed at every status meeting, and updated with each change to the project.

At the end of this task, the Risk Management Worksheet should be complete.

When updating the Risk Management Worksheet, maintain the original. Each revision should be kept to provide an audit trail demonstrating how the risks evolved throughout the project management lifecycle.

Deliverable

◆ **Risk Management Worksheet** – An updated record of risk variables, impact, probability, date of impact, level of priority and risk response actions. The review and update cycle for risk assessment should be built into the Project Plan and Schedule.

3.4 REFINE PROJECT PLAN

Purpose

Refining the Project Plan includes development of all required management processes and plans for team development and project execution and implementation. All updated work products and deliverables produced during Project Planning are compiled and included in the Project Plan.

Tasks

3.4.1 Define Change Control Process

Every aspect of the project defined during Project Initiation and Planning has the potential to change. In fact, change should be expected to occur throughout every project phase; but if an effective change control process is defined and agreed upon during Project Planning, any change should be able to be handled without negative effect on the project outcome.

Project change is not defined simply as a change to the cost, end date, or Project Scope. Change should be defined as ANY adjustment to ANY aspect of the Project Plan or to ANY already approved deliverable(s). This includes anything formally documented in the Project Charter, Project Plan, or any deliverable produced during the course of the project.

The Project Manager and Customer Decision-Maker must agree on the change control process, which then must be formalized, documented, and included as a section in the Project Plan. Items that must be defined are:

■ Identification of the individual(s) authorized to request a change.

■ Identification of the person responsible for analyzing the request to understand its impact on the Project Cost, Scope, Schedule, and Quality, as well as the Customer Representative who has authority to approve the request. The Project Manager should never give the Project Team the go-ahead to begin work until a change request form has been signed by the Customer Decision-Maker. (See Figure 3-6, New York State Project Change Request.) It should be noted that the impact to the Project Schedule must take into account time spent to analyze the change request.

■ The timeframe (number of business days) allowed for a change request to be approved or rejected by the Customer. It is important to document the fact that approval or rejection by default is not permitted, so acceptance or rejection cannot be assumed if there is no response to a submitted change request.

■ The process to follow if no timely decision on approval or rejection of a change request is made. The Project Manager should follow up with the person to whom it was submitted to determine why the change request has not been processed. If its identification as a change is disputed, the situation should become an open issue in the Project Manager's status report. The Project Manager should attempt to negotiate a compromise, but, if there is no resolution, executive intervention may be required.

■ The percentage of the overall Project Budget that has been reserved for project changes. It is important to pre-determine a change budget to prevent project work from being interrupted while funds are secured to do the work.

Should you advise your Project Sponsor to set up a change budget – set aside a pot of money (10 to 20% of the project total) for unforeseen eventualities? Let's see. Does your Project Sponsor enjoy "going to the well" time and time again to ask for additional funds? Do you enjoy writing justifications and groveling repeatedly? Enough said.

Figure 3-6 New York State Project Change Request

New York State
Project Change Request

PROJECT IDENTIFICATION

Project Name: _____

Project Manager: _____

*Enter the **Project Name**.*
*Identify the assigned **Project Manager**.*

CHANGE REQUEST INFORMATION

Request Date: _____

Requested By: _____ Agency: _____

Description of Change:

Scope Impact:

Schedule Impact:

Quality Impact:

Cost Impact:

Figure 3-6 (Continued)

New York State
Project Change Request

*This form is likely to pass through several hands. The person who is requesting the change will initiate the form, entering the **Change Request Date** and his or her **Name** and **Agency**. This person should then include a detailed description of the change being requested in the **Description** area. (If more space is required for a thorough justification, attach additional documentation to this form.)*

*The designated **Reviewer** (usually a subject matter expert) should then analyze the request being made, and communicate to the Project Manager the estimated impact to the project. The Project Manager will include this information on this form, along with his/her estimate of the cost and schedule impact. When completed, this form should describe the impact to the quadruple constraints, CSSQ.*

Once the impact has been documented, this form is presented to the appropriate approvers.

REVIEWER INFORMATION

Reviewer Name: _____ Role: _____

Recommended Action: Approve: ☐   Reject: ☐

Reviewer Comments:

Date: _____

*Provide the above information for each individual designated as a **Reviewer** for the change request. The **Reviewer** should include his/her recommendation for **Approval** or **Rejection** of the request, any comments, and the date reviewed. If the **Recommended Action** is to reject the change request, the reviewer must explain the reason.*

Figure 3-6 (Continued)

New York State
Project Change Request

APPROVER INFORMATION

Approver Name: _____ Role: _____

Action: Approve: ☐   Reject: ☐

Approver Comments:

Approver Signature: _____

Date: _____

*Provide the above information for each individual designated as an **Approver** for a change request. The **Approver** should check whether he/she is **Approving** or **Rejecting** the request and include any **Comments**. If the approver is rejecting the change request, he/she must provide the reason. If the request is being approved, the approver should sign the form and enter the date approved.*

PROJECT MANAGER INFORMATION

_____

Name (Print)

_____   _____

Signature   Date

*Once a change request has been approved, the **Project Manager** should indicate his/her agreement by providing a **Signature** and **Date**.*

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3.4.2 Define Acceptance Management Process

A detailed definition of each deliverable that will be produced during the course of the project is included in the Project Scope. A deliverable is considered complete when it has been accepted by the Customer. The Project Plan must be revised to include a definition of the acceptance management process to be used for the project.

It is recommended that "acceptance" be defined as an authorized Customer Decision-Maker's written approval signifying that a deliverable meets expectations. It should be clearly stated that verbal acceptance or acceptance by default is not sufficient. To expedite the acceptance process, it is recommended that one individual per deliverable be given final decision-making authority. This person will be responsible for obtaining feedback from and representing the Customer.

In order for a deliverable to be considered "complete" and "acceptable," it must be measured against pre-determined acceptance criteria. The Project Manager and Customer must agree on the required criteria and the criteria must be documented and included in the Project Plan.

To ensure timely acceptance of deliverables, the Project Manager and Customer Decision-Makers should agree on the format, content and appearance of deliverables before they are produced. This information should be documented and included in the Project Plan. This helps to prepare the Customer to receive deliverables, and to avoid situations where deliverables are rejected because they do not meet Customer expectations. It is also important for the Project Manager to solicit feedback on deliverables throughout their development. Interim reviews of deliverables will streamline final acceptance.

In addition to acceptance criteria, the Project Manager and Customer Decision-Maker must agree on, formalize, and document the deliverable acceptance process. Items that must be defined are:

- The number and identity of Customer Representatives who may be required to review deliverables before final approval from the designated individual(s) is sought. A reviewer is usually an expert who is very knowledgeable about the details of the subject matter in the deliverable. In many organizations a Customer Decision-Maker with approval authority will not sign an approval form until a deliverable is thoroughly reviewed by an expert.

> Don't be afraid to list the names of several reviewers, as different experts may need to be consulted depending upon the contents of the deliverable being produced.

■ The number of business days in which deliverables must be either approved or rejected by the Customer. When establishing an agreement regarding the acceptable number of business days for deliverable review, the Project Manager must consider that the process is iterative and may take more time than initially thought. The amount of time for deliverable acceptance must be included in the Project Schedule, and should be sufficient to include the following activities:

▲ Presentation of the deliverable by the Project Manager to the appropriate Customer Representative.

▲ Independent review of the deliverable by subject matter expert(s). The more experts, the more time it will take.

▲ Independent review of the deliverable by Customer Representatives. Again, the more decision-makers, the more time it will take.

▲ Group review sessions, if required.

▲ Rework of portions of the deliverable, if required.

▲ Resubmission of the deliverable.

▲ Re-review by the subject matter expert and Customer Representatives.

▲ Pursuit of approval signature by the Project Manager.

■ The number of times a deliverable can be resubmitted to the Customer for approval. It is very important for the Customer to include reason(s) when rejecting the deliverable so the Project Team can address them when resubmitting. If the number of iterations exceeds the number defined in the deliverable acceptance process, further work on the deliverable will require a change request. If the number of iterations becomes unreasonable, the Project Manager should recognize that a bigger problem most likely exists. Setting the maximum number of deliverable revisions and iterations will avoid the situation where a deliverable is "never quite done." Whatever the number of iterations that is agreed upon, the Project Manager must build time to accommodate them into the Project Schedule.

■ The escalation process that will be followed if a timely decision on approval or rejection of a deliverable is not met. Will the situation simply become an open issue in the Project Manager's status report? Will executive intervention be required? Or will it be a combination of both?

Maintain an "Acceptance Log" in your Project Status Report to track the status of a deliverable as it goes through iterations of the acceptance process. (See the Project Status Report, Figure 2-10.)

3.4.3 Define Issue Management and Escalation Process

Issue management involves capturing, reporting, escalating, tracking, and resolving problems that occur as a project progresses. A process must be in place to manage issues, since they can potentially result in the need for change control and can become major problems if not addressed. The following items must be agreed upon between the Project Manager and Project Sponsor and must be documented and included as a section of the Project Plan:

■ How issues will be captured and tracked – many Project Managers make use of some type of repository to ensure that issues are not lost. This repository may be either electronic or manual, depending upon the needs and size of the project. At a minimum, an issue repository must contain a description of the issue, its potential impact, the date it is recorded, its anticipated closure date, its priority, and the name of the person responsible for resolving it or getting it resolved. The due date for closure must be a specific date (i.e., the date cannot be "ASAP"). The responsible party must be a specific individual, not a functional group (i.e., an issue should not be assigned to the "IT Department"). As progress occurs on the resolution of an issue, the Project Manager should update the issue repository to reflect what has occurred. An issue log (whether electronic or paper-based) should be updated regularly, possibly as often as daily depending upon the needs of the project and issue resolution progress. (See Figure 2-10, Project Status Report.)

■ How issues will be prioritized – the characteristics about the issue that will determine whether its resolution will be

a high, medium or low priority. Impact to the schedule, level of effort, or cost are usually the factors that determine the priority.

■ How and when issues will be escalated for resolution – whether they will be escalated if they are not resolved in a given period of time or when a delivery date is missed or only when the Project Budget is severely affected. Whatever the decision, details of the escalation process need to be clearly stated. It is also vital to document to whom issues will be escalated.

3.4.4 Refine Communications Plan

A preliminary Communications Plan was developed for inclusion in the Initial Project Plan during Project Initiation, and describes how communications will occur. (See Figure 2-11, New York State Project Communications Plan.) As a project progresses, certain events may occur that alter the way information is accessed or change communication requirements. For example, a department may move to a new building, allowing Project Team Members access to email for the first time. Or a change in personnel may dictate a change in the frequency of communications. During Project Planning and subsequent phases, the Project Manager should review the Communications Plan with the Project Team to be sure it is still viable. If it is determined that any portion of the plan is no longer applicable, the Project Manager must develop appropriate revisions to the plan.

Also, at this point in the project, sufficient information is most likely known to allow the Project Manager to describe in further detail what the distribution structure will look like. Part of the Communications Plan describes how communications will be managed. Depending on the project, communications management may be very informal or highly sophisticated. When deciding how to manage communications on a project, a Project Manager solicits information from the Project Team and Stakeholders and together they decide:

■ How project information will be collected and stored, and what procedures will be followed to disseminate the information. If an electronic filing structure will be used, someone must be responsible for its setup and maintenance. Information access should be defined.

■ The distribution structure, specifically detailing what, how, and when information will flow to Stakeholders. For

Internal Stakeholders, communication channels currently established in the organization should be used. For External Stakeholders, different channels may be required for each discrete Stakeholder group. The team must decide when it should occur, what information should be communicated, and how it should be delivered. The distribution structure for External Stakeholders must take into account how the particular Stakeholder group will be affected by this project. New York State projects also have to be concerned with the Freedom of Information Law (FOIL) and the potential impact of the release of project information.

■ The method by which information will be accessed if it is needed between regularly scheduled communications.
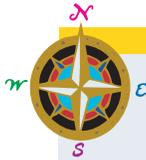
Sometimes communications break down. To try to avoid these disconnects, you should:

■ Be as concise and clear as possible in both written and verbal messages.

■ Solicit feedback to determine if your messages have been received by the appropriate parties and interpreted correctly.

When there are problems, try to learn from them so that you can do better in the future. (See Communication, Section II:2.1.)

Information requiring communication comes from different sources. Sometimes it is already documented in hard copy or electronic form, but sometimes it is conveyed during formal meetings, informal gatherings, or simple conversations. The Project Manager must be aware that this information exists and be prepared to convey it using the communications management system. Some sources of project information that may require communication include:

■ Status Meetings

■ Status Reports

■ Memos

■ Newsletters

■ Executive Correspondence

■ Meeting Notes

■ Executive Meetings

■ Steering Committee Meetings

Conducting a status meeting regularly with your Customer is a great habit to adopt. If you plan to discuss a certain subject area during the meeting, don't be afraid to invite members of the Project Team with expertise in that area. It's also not a bad idea to invite other Stakeholders who have something constructive to contribute. Use the status report to drive the meeting discussion points. (See Figure 2-10, Project Status Report.) Remember, there can never be TOO MUCH communication!

3.4.5 Define Organizational Change Management Plan

When planning the project, the Project Manager and Customer must consider the impact the resulting product will have on the Performing Organization. The organization must be prepared to accept and use the product once it is implemented.

The Project Manager needs to define and document a plan to manage the changes to the organization that could occur as a result of implementing the product. This Organizational Change Management Plan becomes part of the Project Plan. Organizational change management must be explicitly planned if it is to be effective. (See Figure 3-7, Organizational Change Management Plan template.)

Items to include as part of an Organizational Change Management Plan are:

■ **People:** The plan must consider how the individuals using the product will be affected by its implementation. The organization may initiate reductions or expansions in the workforce, and shift rote clerical activities to automated processing; decision-making power may be distributed further down the chain of command, or even regionally. If specific job duties are being added or removed, staff reductions or increases are anticipated, or the organizational structure itself will change, the plan must identify the steps to be taken. For example, the human resources manager in the Performing Organization must be involved in planning for and performing many of these change management tasks. Labor/management committees, union representatives, the external agencies involved, such as Civil Service and the Governor's Office of Employee Relations, may all need to be included in planning for such changes, depending on the scope of the changes.

■ **Process:** The plan must consider how the product of the project will affect already existing business processes in the Performing Organization. Business processes may take advantage of streamlined workflows to reduce the flow of

paper, or technology advances may enable electronic com-munications to more quickly deliver information. Procedures will need to be redesigned to align with the change. The new procedures may effect changes in the way the Performing Organization develops, documents, and trains staff, and must be addressed in the Organizational Change Management Plan.

■ **Culture:** The plan must consider how severe the project's "culture shock" will be. The Project Manager must deter-mine how much the project will affect the Performing Organization's business strategy, established norms for performance, leadership approach, management style, approach to Customers, use of power, approach to decision making, and the role of the employee. Plans might include performing an assessment of the Performing Organization's "readiness for change," and include development of action plans to increase the organization's readiness and ability to adapt to change through education and training.

In cases where implementing a project will result in a signifi-cant change to the way an organization will conduct business, the Project Manager, Customer, and Project Sponsor must be able to anticipate when and how the major impacts will occur, and plan for the specific activities that will adequately prepare the Performing Organization. (See Leading the Change Management Effort, Section II:2.2 for additional information on change management.)

Figure 3-7 New York State Organizational Change Management Plan

New York State
Organizational Change Management Plan

PROJECT IDENTIFICATION

Project Name: _____   Date: _____

Project Sponsor: _____   Project Manager: _____

> *Enter the **Project Name**.*
> *Enter the current **Date**.*
> *Enter the name of the **Project Sponsor**.*
> *Enter the name of the assigned **Project Manager**.*

Figure 3-7 (Continued)

New York State
Organizational Change Management Plan

PEOPLE CHANGE MANAGEMENT

Organizational Change Activities	Individual/Group(s) Affected	Individual/Group(s) Responsible for Implementation	Required Completion Date	Status

Describe any **Organizational Change Management Activities** specific to **PEOPLE** that must be completed in order to ensure that the organization is ready to accept and use the product once it has been implemented. Examples of **PEOPLE** activities include: developing a plan for timing and interaction with Civil Service and Unions; decreasing staff in a specific unit; preparing unit for reduction in workforce.
Identify the **Individual/Group(s)** that will be affected by the activity and the **Individual/Group(s) Responsible for Implementation** of the activity. Include the **Required Completion Date**.

When managing this Organizational Change Management Plan during Project Execution and Control, remember to update the status of each activity in the **Status** column.

Figure 3-7 (Continued)

New York State
Organizational Change Management Plan

PROCESS CHANGE MANAGEMENT

Organizational Change Activities	Individual/Group(s) Affected	Individual/Group(s) Responsible for Implementation	Required Completion Date	Status

*Describe any **Organizational Change Management Activities** specific to **PROCESS** that must be completed in order to ensure that the organization is ready to accept and use the product once it is implemented. Examples of **PROCESS** activities include: rewriting process and procedures; conducting training. Identify the **Individual/Group(s)** that will be affected by the activity and the **Individual/Group(s) Responsible for Implementation** of the activity. Include the **Required Completion Date**.*

*When managing this Organizational Change Management Plan during Project Execution and Control, remember to update the status of each activity in the **Status** column.*

Figure 3-7 (Continued)

New York State
Organizational Change Management Plan

CULTURE CHANGE MANAGEMENT

Organizational Change Activities	Individual/Group(s) Affected	Individual/Group(s) Responsible for Implementation	Required Completion Date	Status

Describe any **Organizational Change Management Activities** specific to **CULTURE** that must be completed in order to ensure that the organization is ready to accept and use the product once it is implemented. Examples of **CULTURE** activities/tasks may include: identifying individuals impacted by the project; prepare and educate individuals regarding the impact. Once you have documented the activities, identify the **Individual/Group(s)** that will be affected by the activity and the **Individual/Group(s) Responsible for Implementation** of the activity. Include the **Required Completion Date**.

When managing this Organizational Change Management Plan during Project Execution and Control, remember to update the status of each activity in the **Status** column.

3.4.6 Establish Time and Cost Baseline

A time and cost baseline is a project "snapshot in time," taken at the conclusion of Project Planning, against which performance on the project is measured. It is one way the Project Manager can determine if the project is on track. Using the electronic Project Schedule revised during Refine CSSQ, a baseline is captured. Once the baseline version is approved, the Project Manager should revise it only if a change control is approved that results in a change to the schedule. The time and cost baseline becomes part of the Project Plan. As the project progresses, subsequent schedules may be compared to the baseline version to track project performance.
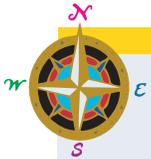
If you revise the baseline as a result of change control, be sure to save the original baseline for historical purposes.

3.4.7 Develop Project Team

To effectively perform the activities required to produce project deliverables, Project Team members must have appropriate levels of skill and knowledge. It is the job of the Project Manager to evaluate the skills of team members and determine whether or not they meet the current and future needs of the project. It is important to remember that there are many kinds of skills. Some are technical and others are "soft skills," such as management, presentation, and negotiation skills. If it is determined that the team needs training, the Project Manager must include training in the Project Schedule and Project Budget. Some skills can be learned on the job, some can be learned through informal mentoring, some can be learned using computer-based courses, and others may require formal classroom training.

When the training needs and the method of training for each team member have been determined and documented, the Project Manager or Team Leader documents the Training Plan, including a training schedule. (See Figure 3-8, New York State Project Team Training Plan.) Subsequently the Project Schedule

must be updated to reflect all added training tasks: when and where training will take place and who will do it. The target date for completion of each team member's training program should be determined. As training takes place, the Project Manager should update the Training Plan with the names of the trainees and actual training completion dates. Not only will this help the Project Manager measure the success of the Training Plan, but it will also help him/her evaluate team members and prepare staff performance appraisals.

Figure 3-8 New York State Project Team Training Plan

New York State
Project Team Training Plan

PROJECT IDENTIFICATION

Project Name: _____   Date: _____

Project Sponsor: _____   Project Manager: _____

> *Enter the **Project Name**.*
> *Enter the current **Date**.*
> *Enter the name of the **Project Sponsor**.*
> *Enter the name of the assigned **Project Manager**.*

TRAINEE INFORMATION

Name	Project Role	Agency	Phone	Email	Skills Required

> *Enter the **Name**, **Project Role**, **Agency**, **Phone Number**, **Email Address**, and **Skills Required** for each member of the Project Team.*

Figure 3-8 (Continued)

New York State
Project Team Training Plan

TRAINING PLAN

Name	Type of Training	Description	Planned Start	Planned Completion	Actual Start	Actual Completion	Certification

Document how each team member will gain the required skills entered above.
*Enter the **Name** of the team member requiring training.*
*Enter the **Type of Training**. Some examples of types of training are "On the Job", "Computer Based", and "Classroom".*
*Enter the training **Description** (i.e., name of the class), **Planned Start** date and **Planned Completion** date information for each training event.*

*As training occurs, maintain this training plan by entering **Actual Start** and **Actual Completion** dates for each training event. If completion of a training event results in the team member gaining some sort of certification (e.g., "Project Management Professional", "Microsoft Certified Systems Engineer", enter it under **Certification**. This information will be useful to the manager doing team member performance evaluations.*

Be sure to record the time required to complete all training tasks in the Project Schedule.

3.4.8 Develop Project Implementation and Transition Plan

The Project Manager must formulate and document a plan for implementing or deploying the product of the project and for transitioning the responsibility for the outcome of the project from the Project Team to the Performing Organization. The Transition Plan must include all the necessary activities to perform and procedures to follow to ensure a smooth and satisfactory hand-off. (See Figure 3-9, New York State Project Implementation and Transition Plan.)

When planning the implementation and transition, the Project Team must consider the impact the resulting product will have on the Performing Organization and Consumers. The Consumers must be prepared to use the product and the Performing Organization must be prepared to support it.

The Project Manager needs to define and document a plan to implement the product, and should consider:

■ What needs to be done to ensure the organization will be ready to receive the product. These steps may include acquiring the necessary physical space, installing appropriate software, obtaining the appropriate building permits, etc.

■ How and when the Customer will test and accept the product and confirm and authorize its implementation.

■ The steps to be taken to ensure Consumers will be ready to use the product once it is transitioned. These steps must be coordinated with the Organizational Change Management Plan, and will include training and orientation on the use of the product. They also may include plans for training Customers or Consumers as trainers for the future. The plan must define which of the Customer(s) require training, the level of training necessary, who will provide the training, and when it will occur.

■ The appropriate strategy for implementing the product into the Performing Organization, given the specific Consumers and Customers. For example – phased by location, phased by specific product functionality, "big bang," etc.

The Project Manager should define and document a plan to transition the ongoing support of the product to the Performing Organization and should consider:

■ The people from both the Project Team and the Performing Organization who need to be involved in the transition, and their associated roles and responsibilities. Examples include Customers, Consumers, and members of other specific support units within the Performing Organization.

■ The steps that should be taken to ensure that the appropriate individuals are ready to support the product once it has been implemented and is in use. This may include negotiating with various internal organizations to determine the appropriate timing of the transition of responsibility, assigning specific organizations and individuals to support the specific products, and providing necessary training.

■ The relationship between the implementation plan and the transition plan. The Project Team and the Performing Organization must agree on the point in implementation at which the Performing Organization takes responsibility for production problems, "help" or trouble calls, and for resolving the problems.

■ The Performing Organization's expectations regarding any documentation that is required as part of transition.
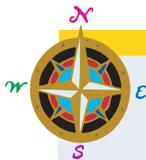
Many otherwise successful projects fail due to a lack of transition planning. Don't let this happen to you!

Deliverable

◆ **Project Plan** – the revised Project Plan (see Figure 2-12, New York State Project Plan) is the main deliverable of the Project Planning Phase, incorporating the revised outputs of all other Project Planning components. The document should now be thorough and accurate enough to be used as the main guide to follow during Project Execution and Control. It is important to remember that the plan will continue to be revised throughout the course of the project.

At the end of Project Planning, the Project Plan should contain the following:

1. Project Charter
2. CSSQ (Cost, Scope, Schedule, Quality)
3. Risk Management Worksheet
4. Description of Stakeholder Involvement
5. Communications Plan
6. Change Control Process
7. Acceptance Management Process
8. Issue Escalation and Management Process
9. Organizational Change Management Plan
10. Time and Cost Baseline
11. Project Team Training Plan
12. Project Implementation and Transition Plan

Figure 3-9 New York State Project Implementation and Transition Plan

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New York State
Project Implementation and Transition Plan

PROJECT IDENTIFICATION

Project Name: _____   Date: _____

Project Sponsor: _____   Project Manager: _____

> *Enter the **Project Name**.*
> *Enter the current **Date**.*
> *Enter the name of the **Project Sponsor**.*
> *Enter the name of the assigned **Project Manager**.*

Figure 3-9 (Continued)

New York State
Project Implementation and Transition Plan

PROJECT IMPLEMENTATION PLAN

Implementation Activity	Owner	Who is Affected?	Who is Involved?	Timing/ Dependency

Implementation Activity *is a step or event that will take place to move the product from the Project Team to the Performing Organization. (An example of an implementation activity is producing a mailing for those affected by the new product, describing when and how the new product will be introduced to them.)*

Owner *is the individual responsible for executing or verifying that the implementation activity takes place.*

Who is Affected? *identifies individuals, groups or organizations that are affected by the implementation activity (e.g., for a mailing, this may be the target audience.)*

Who is Involved? *identifies individuals, groups or organizations that need to be involved as part of executing the implementation activity (e.g., for a mailing, the print design or writing team.)*

Timing/Dependency *describes when the activity must be done, and any other activities that are dependent upon it (e.g. "the mailing must go out before the December 1 power outage.")*

Figure 3-9 (Continued)

New York State
Project Implementation and Transition Plan

PROJECT TRANSITION PLAN

Transition Activity	Owner	Who is Affected?	Who is Involved?	Timing/ Dependency

Transition Activity is a step or event that will take place to transition ongoing support of the product from the Project Team to the Performing Organization.
Owner is the individual responsible for executing the transition activity or verifying that it takes place.
Who is Affected? identifies individuals, groups or organizations that are affected by the transition activity.
Who is Involved? identifies individuals, groups or organizations that need to be involved as part of executing the transition activity.
Timing/Dependency describes when the activity must be done, and any other activities that are dependent upon it.

3.5 CONFIRM APPROVAL TO PROCEED TO NEXT PHASE

Purpose

The purpose of **Confirm Approval to Proceed to Next Phase** is to formally acknowledge that planning activities have been completed and that all deliverables produced during Project Planning have been completed, reviewed, accepted, and approved by the Project Sponsor. Formal acceptance and approval also signify that the project can continue into the next phase, Project Execution and Control.

Roles

- Project Manager
- Project Sponsor
- Project Team Members
- Customer Decision-Maker

The acceptance and approval process is ongoing. As changes are made during Project Planning, the Project Manager should be in constant communication with the Project Sponsor. Keeping the lines of communication open will avoid a situation where a Project Sponsor is surprised by a deliverable or receives something he/she does not anticipate.

In addition, the Project Manager should review the interim deliverables or work products for each process with the appropriate Customer Decision-Maker upon their completion and gain approval before moving on to the next process. These interim acceptances should streamline the final acceptance process.

Tasks

3.5.1 Review/Refine Business Case

At the end of Project Planning, the Project Manager and Project Sponsor should review the Business Case that was developed during Project Origination and revised during Project Initiation. Because more information is now known about the project, the Business Case may need to be refined. Any refinements should be made before proceeding to Project Execution and Control.

The tasks to Confirm Approval to Proceed to Next Phase are:

3.5.1 Review/Refine Business Case

3.5.2 Prepare Formal Acceptance Package

3.5.3 Gain Approval Signature from Project Sponsor

3.5.2 Prepare Formal Acceptance Package

At this time, the Project Manager should schedule a meeting to discuss and gain agreement to secure Project Execution and Control resources. Meeting attendees should always include the Project Sponsor and the members of Performing Organization Management whose resources will be affected. Attendees may also include members of other agencies who are able to provide resources that will add value during Project Execution and Control. During the meeting, resources are formally secured by gaining the signatures of the appropriate Performing Organization managers on the Project Deliverable Approval Form. (See Figure 2-13 for an example of a Project Deliverable Approval Form.)

In addition to reviewing the Business Case, all deliverables produced during Project Planning should first be reviewed by the Project Manager to verify that Customer Decision-Maker approval has been obtained; these are the Refined CSSQ, Risk Management Worksheet, and Refined Project Plan. If approval is not clear and explicit, the Project Manager must pursue it again. When the review has been completed, the Project Manager should organize the deliverables into a cohesive deliverable package and prepare a formal approval form.

3.5.3 Gain Approval Signature from Project Sponsor

Before gaining an approval signature, the Project Manager must review the revised Business Case with the Project Sponsor. Based upon changes to the Business Case and policies within the Performing Organization, the Project Sponsor must decide if a project re-approval cycle is warranted. If project re-approval is necessary, the Project Manager should ensure the appropriate Project Origination processes are followed.

At this point in time, the Project Sponsor may decide to terminate the project. This decision may be based upon factors outside the control of the Project Manager (i.e., the organization may have new priorities that are in direct conflict with the project or increased risk may have been introduced to the project.) Or it is possible that, having done more detailed planning, the costs of doing the work are greater than initially estimated and outweigh any project benefits. Realistically, termination of a project could happen at any point during the project. The

Project Manager must be comfortable and confident enough to approach the Project Sponsor at any time during the course of the project if he/she feels the project has reached a point where termination is the best possible solution.

At the end of this task, the Project Manager must present the acceptance package to the Project Sponsor and obtain his/her signature, indicating approval to proceed to Project Execution and Control. If the Project Sponsor does not approve the package, he/she should indicate the reason for rejection. The Project Manager is then responsible for resolving issues with the deliverables and presenting the updated package to the Project Sponsor.

Sometimes a Project Manager needs to gain approval of a large number of deliverables at the same time. The Project Plan is a good example, as it comprises several very important (and sometimes very complex) documents. Should the Project Sponsor become overwhelmed by the number or volume of documents requiring his/her attention, the Project Manager should take steps to work with the sponsor to streamline the Acceptance Management Process (See Section 3.4.2).

Deliverables

◆ **Project Plan** – a compilation of refined CSSQ, Risk Management Worksheet, and the Refine Project Plan deliverables packaged into a comprehensive plan for the remainder of the project.

◆ **Signed Project Deliverable Approval Form** – a formal document indicating that the deliverable has been reviewed and accepted.

Project Planning
End-of-Phase Checklist

How To Use

Use this checklist throughout Project Planning to help ensure that all requirements of the phase are met. As each item is completed, indicate its completion date. Use the Comments column to add information that may be helpful to you as you proceed through the project. If you elect NOT to complete an item on the checklist, indicate the reason and describe how the objectives of that item are otherwise being met.

Figure 3-10

Item Description	Page	Completion Date	Comments	Reason for NOT Completing
Conduct Planning Phase Kick-off:	**132**			
Ensure team members have whatever is required to perform their tasks	132			
Meet with each team member to convey roles and responsibilities	132			
Mentor or assign Team Leader to mentor new team members	132			
Distribute copies of all project materials and deliverables to all team members	133			
Hold orientation sessions	133			
Review previous deliverables and components of Initial Project Plan	133			
Schedule time and location of kick-off meeting	134			
Prepare materials for distribution at meeting	134			
Invite appropriate attendees	134			
Prepare meeting presentation and agenda	134			
Designate meeting scribe	134			
Conduct kick-off meeting	134			
Distribute meeting notes to all attendees	134			

Item Description	Page	Completion Date	Comments	Reason for NOT Completing
Update the project repository with all project correspondence	134			
Refine CSSQ	**137**			
Refine the Project Scope statement, breaking deliverables into smaller pieces of work	138			
Clearly define each deliverable	138			
Write description of scope change management	139			
Estimate effort and cost for each task and enter into schedule	140			
Define dependencies among tasks	141			
Review quality standards and revise as necessary	143			
Initiate/address procurement	144			
Recalculate budget	145			
Perform Risk Assessment	**149**			
Review identified risks with Project Team and Project Sponsor	149			
Create Risk Management Worksheet	149			
Assess each risk (low/med/high)	153			
Estimate timing of impact on project	153			
Determine mitigation actions	154			
Incorporate actions in Project Schedule and Project Plan	155			
Refine Project Plan	**156**			
Compile detailed descriptions of all work products and deliverables	156			
Define and document change control process	156			
Define and document acceptance management process	161			
Define and document issue management and escalation process	163			

Item Description	Page	Completion Date	Comments	Reason for NOT Completing
Refine Communications Plan	164			
Define and document Organizational Change Management Plan	166			
Capture baseline Project Schedule (effort and cost)	172			
Evaluate team member skills and identify training needs	172			
Establish Training Plan	172			
Define and document Implementation and Transition Plan	176			
Add above items to Project Plan	177			
Confirm Approval to Proceed to Next Phase	**182**			
Review Business Case and refine, if necessary	182			
Review all deliverables from Project Planning	183			
Organize deliverables into package	183			
Prepare formal approval form	183			
Present acceptance package to Project Sponsor for signature	183			
Resolve any issues	183			
Update package as needed to resubmit to Project Sponsor for signature	183			
Gain Approval to Proceed	**183**			

Measurements of Success

The ultimate measurement of success for Project Planning is the successful Project Execution that follows, or a decision to stop the project as, once again, the organization may be best served by deciding that the project should not continue.

Nevertheless, the Project Manager can still assess how successfully the project is proceeding by utilizing the measurement criteria outlined below as it proceeds through Planning. More than one "No" answer indicates a serious risk to the continued success of your project.

Figure 3-11

Process	Measurements of Success	Yes	No
Conduct Project Planning Kick-off	Do your team members have complementary skill sets, with no apparent gaps as per project approach?		
	If not, have you obtained authorization to provide them with necessary and timely training?		
Refine CSSQ	Is your Project Schedule defined according to the the 80-hour Rule?		
	Have the supervisors of all resources assigned to tasks on your project agreed to release those resources on the dates your project is expecting them?		
Perform Risk Assessment	Does your Project Sponsor agree with your risk prioritization?		
	Do the other decision-makers agree with your risk mitigation actions?		
Refine Project Plan	Do your Customers and Stakeholders agree with your definition of what constitutes a change?		
	Have you verified that the folks responsible for signing off on change control items and deliverable approval forms actually have authority, and are willing, to approve the items of expected magnitude and type?		
	Do your Customers understand the pre-determined acceptance criteria for all deliverables?		
	Have the persons you identified as "arbiters" for issue escalation agreed to serve in that capacity? Have the expenditures associated with your team Training Plan been approved?		
	Is your Project Sponsor sure that your organization will be ready to implement the product or service that your project will develop?		
Confirm Approval to Proceed to Next Phase	Do you have an approval form signed by your Project Sponsor authorizing you to proceed to Project Execution and Control, or halting the project?		

Phase Risks / Ways to Avoid Pitfalls

Project Planning may afford the Project Manager the last opportunity to plan for the successes – and prepare for the disasters – that may follow. Once the Project Plan has been accepted (read: set in stone and put aside) the events will unfold in their own due course: following the plan (more or less), or arising spontaneously, haphazardly and perniciously to jeopardize it. Your mission for this phase, should you choose to accept it, is to position the project so as to enable the former and impede the latter, or your plan will self-destruct in no time flat.

What are some of the key elements of Project Planning that require the most attention? The following table identifies processes and tasks that are highlighted in this section.

Figure 3-12

Process	Task	Why is it important?
Conduct Project Planning Kick-off	Orient New Team Members	Choose your Impossible Mission Force wisely – they must be fully prepared and totally committed
Refine CSSQ	Refine Project Schedule	The more impossible the mission, the greater the need for precise planning
Perform Risk Assessment	Develop Risk Management Plan	It matters not what you know about the ambush, but what you will do to avoid, or overcome it
Refine Project Plan	Define Change Control Process	Who has the authority to change mission parameters? When and how?
	Define Issue Escalation and Management Process	What is your "exit strategy?"

PITFALL #1 – YOU HAVE THE WRONG TEAM

Note: certain aspects of this topic are also covered in Section II:2, Leadership.

Before you get to play the leader, you first need to form your team. As a Project Manager appointed to a project, you probably think that you have very little latitude in selecting your team. Most likely, you are right – but it never hurts to try! And considering that these are the people who will define your success (flashback: what is the definition of "management?" –

answer, getting work done through others) you should certainly make every effort to surround yourself with folks who not only have the right alphabet soup on their resumes, but also have the "right stuff" to form a high-performing team.

It is a hard, and maybe even a counter-intuitive lesson to learn, that the right combination of character and intelligence – or, in other terms, of attitude and ability to learn – is far more important than a particular type or even length of experience. Here are some pointers for selecting – and weeding out – team member candidates.

1. When selecting new team members, the first attribute to determine is aptitude. Whatever the technology or tools they will have to use, do they have a "knack," a natural inclination for it? Do they take to it, do they do it on their own time, do they innately like it? Have they chosen – and succeeded at it – in the past? No degree, no level of erudition or IQ, guarantees that a person has an aptitude for a given job. And if they don't – beware. No matter how hard they work, or how much they study – they will still not produce the same results as someone with an aptitude who seems to knock off tasks left and right with nary an effort.

2. The second desirable attribute is work ethic. Whatever your expectations are of the level of effort required on the project, you must be able to answer an emphatic "Yes!" to these two questions about each new team member: (1) in the normal course of events, will the person put in an honest day's work? and (2) when the circumstances require it, will the person do whatever it takes to get the job done? Both questions are equally important, and both demand an affirmative answer.

3. The third requisite attribute is versatility. Despite what you forecast on your schedule, and what you outline in roles and responsibilities, your team members will have to either substitute for one another, or perform some tasks you cannot currently anticipate. The team will need to be able to adapt to different circumstances and to learn new skills. Consequently, people who have a track record of performing well in disparate environments are certainly preferable over fragile personalities who are thrown off their pace for a week when a time sheet format changes, or who cannot function unless they have the right view out their window. Likewise, folks who have a track record of

learning new skills and techniques, especially on their own, are vastly preferable over the types who must attend weeklong vendor seminars (preferably in tropical locales) before they can be persuaded to learn anything new.

4. The fourth, and final, attribute to look for – and look out for! – is temperament. Or disposition, or attitude, or character – whatever you want to call it. It makes a difference between enjoying camaraderie and synergism of a close-knit team and dreading coming to work in the morning.

Another way to "stack your deck" is to make sure you have the right combination of "types" for your team. Every team can benefit from one or more of the following:

■ An "Eager Beaver." This is a person who typically has little experience with whatever technology your project is employing, but more than makes up for it in sheer persistence. You need these folks to carry the load.

■ A "Guru." This is someone who knows everything there is to know about the subject, and is willing to teach anyone everything he or she knows; hopefully, the subject is what your team will actually need the most of. You need these folks to provide expertise and to solve real problems.

■ A "Mother Hen." Male or female, this is a person who will remember everyone's birthday, take up collections for baby showers, and organize extracurricular team activities. Hopefully, they will have time left to do some actual work. You need these folks to maintain morale, provide team cohesion and balance the professional with the personal.

■ A "Gadfly." Only in the sense of "acting as a constructively provocative stimulus" (The American Heritage Dictionary of the English Language, Houghton Mifflin), this person is indispensable in providing creative new ideas and challenging the status quo – when improvement is warranted. You need these folks to help the team come up with creative solutions, and to continuously improve the process.

■ A "Leader." Finally, in addition to yourself, you need senior people on your team to inspire the other team members to accomplish their goals, as well as to hold them accountable when they don't.

PITFALL #2 – YOU PLAN FOR SUCCESS. ONLY.

Let's say you are going on vacation, driving through an unfamiliar area. As you are tuning the radio to a local station, you hear that there's a huge tie-up by Exit 11 of the route you're traveling on. You look up and see that you just passed Exit 10. What good is knowing about the obstacle at that point?

Would hearing the news at Exit 9 or earlier make a difference? Only if you had a local map and could plot your way around the obstruction.

But what if you knew, when you were first planning your trip, that Exit 11 on this highway was under construction? Would you not lay your course differently to avoid the delay?

So it is with risk mitigation. Identifying the risk is good; but planning a wise course of action around it is infinitely better. Planning mitigation actions ahead of time also removes the pressure of the moment, and allows you to clearly see the forest without bumping into the trees.

However, planning ahead for an eventuality that may or may not happen does not quite sharpen the mind with the same clarity that an immediate crisis does. It is not easy to be honest and tough, to avoid pat answers and rosy scenarios.

That's why it is useful to prioritize the risks first (using the Risk Management Worksheet) and start working on the ones that have the greatest chance of sinking the project. The anticipation of a disaster ought to concentrate your mind on a realistic solution, and allow you to plot the best course of action around major obstacles.

PITFALL #3 – YOU ARE OVERCOME BY CHANGE

Some projects resemble the Blob from the eponymous 50's movie (and its unnecessary 80's remake): they absorb any obstacle in their paths, growing larger and less well defined all the time until someone finally puts them out of their misery (usually, by freezing the funds). Unfortunately, a lot of people get hurt in the debacle.

One way to avoid this fate is to know what the project is – and is not – and keep it that way. A good Project Plan is certainly a good start. But either according to the risk mitigation planning you did, or in totally new and unpredictable ways, one thing you can definitely count on during the course of the project: CHANGE WILL HAPPEN. And whether you are prepared for it or not, you will have to take actions that deviate from your Project Plan. However, by the very nature of the dutiful sign-offs you so diligently pursued, you have no authority to undertake actions that deviate from your Project Plan!

That's where the Change Control Process comes in handy. You will need to know:

1. What constitutes a change

2. How to respond when a change occurs

3. Who can approve the new plan of action

What constitutes a change? Simply put – Anything that in any way deviates from the totality of your Project Plan as the Project Sponsor accepted it. If your project approach is not working – for whatever reason – and you need to modify it – it's a change. If your Project Scope changes (beware the scope creep!) – it's a change. If your Project Schedule needs to be modified – either up or down! – it's a change. If the quality standards in the agency change – it's a change. If the budget gets cut – it's a change. If you adapt a different communications mechanism because it works better – it's a change. If your Project Team composition changes – it's a change.

Of course, not all changes require the same level of response. It would be ludicrous to initiate a formal change control process and demand a sign-off when all you are asked to do is to change the date format on your status report. However, if you get fifty contradictory requests for formatting changes that effectively prevent you from getting your status report out on time – you may well need to wake the change control Cerberus.

All changes need to be documented, but it is useful to separate changes into two categories: those that affect the project's CSSQ (Cost, Scope, Schedule and Quality) and those that don't. Just remember that an accumulation of tiny, seemingly insignificant changes can affect CSSQ just as much as one big obstacle: if you remain still long enough, piranhas can get you just as surely as sharks.

So your change control process needs to explicitly state that you will consider any variation to the Project Plan as a change, and will respond to it in one of two ways:

■ Changes that do not affect CSSQ will be documented in your status report.

■ Changes that affect CSSQ will trigger a change control process.

Finally, the change control process needs to explicitly define who has authority to approve a change. Usually, different people have the prerogative to approve changes of a different magnitude or kind. Having it clearly spelled out up front will save you many headaches later.

PITFALL #4 – WHY CAN'T WE ALL JUST GET ALONG?

Your schedule is as tight as a drum; you've defined deliverables until no ambiguities remain; everyone knows what to expect and when. You think you are done? Only for as long as it takes one of the decision-makers to disagree with you. And disagree they will! The Customers will disagree that what you are delivering is what they had in mind "all along." The Stakeholders will disagree that they are not being adversely affected by the new product or service. Your own Project Sponsor – your purported guardian and protector – will disagree that the budget commitments were actually made for next year's budget.

When something like that happens, you need to be able to appeal to a "higher authority." Unfortunately, if you have not obtained the higher authority's OK, and others' concurrence, to appeal to them well ahead of time, you don't stand a chance.

You have to define, right up front, who will arbitrate when you and your Customer, you and your Stakeholder, and you and your Project Sponsor, have a difference of opinion and cannot negotiate a compromise. And the time to plan for it is early on, when you are still their best friend and you have no active issues at stake.

PITFALL #5 – WE DON'T REALLY NEED TO FOLLOW ALL THESE STEPS, DO WE?

In most PM-immature organizations, as soon as the project enters a phase when some real work needs to get done and real resources applied, the questions start:

■ "Do we really need all this methodology junk?"

■ "We should just concentrate on what REALLY needs to get done."

■ "It's crazy to expect us to create all these deliverables!"

■ "We don't have the luxury of making the plans look pretty."

■ "Why do we need to do … (fill in any deliverable/process)."

■ "We need to produce results – not waste time on 'methodology'."

■ "If we produce all this make-work we will not have time to DO anything."

Etcetera, etcetera, ad nauseam.

Of course, what these comments betray is a fundamental lack of understanding of what Project Management is all about.

Project Management (as well as just basic Management) methodologies were developed, all over the world, in response to crises and disasters that resulted precisely from the kind of seat-of-the-pants approach that the doubters actually advocate. To cure the root cause of this attitude would take massive organizational re-education and PM "conscientiousness raising." Unfortunately, you (the "enlightened" Project Manager) don't have either time or authority for that.

What you can do, though, is to say "No" clearly, articulately and resolutely. No, you will not substitute a vague verbal statement of intent for a thoroughly written scope statement. No, you will not take a promise to "let you have our best people when you need them" instead of a signature on the Project Plan.

But let's be realistic – the pressure may get intense, and you may not have a choice. Your own manager, the Project Sponsor, or an influential Customer, may force your hand into short-changing your deliverables or skipping on your tasks. Your only recourse at that point is documentation. Document the specific risks to the project. Document the fact that a business decision was made to accept those risks.

Just don't become a willing accomplice in jeopardizing your own project. Don't "go along to get along." Resist organizational inertia and stick to your principles.

? Frequently Asked Questions

When developing the Project Team, how do you handle different projects competing for the same resources that you have no administrative control over?

In the fight for resources, you have two main allies – your Project Plan and your Project Sponsor. Make sure your Project Plan is well reasoned and detailed enough to specify and justify the number and caliber of resources that your project requires. Then, make sure your Project Sponsor agrees with you (not the least, by signing the Project Plan). Finally, use both to secure the resources the Greater Good of the Project demands. And if you still don't get them – which you may not depending on the priority of competing projects – document that fact, so when the project performance suffers, you have ample justification for the requisite change control.

How much detail should be included in the definition of the deliverables? Should you keep it at a high level until more information is available?

Getting an informed agreement on deliverables ahead of time is one of the most important things you can do to ensure the success of your project. Some of the biggest disconnects that sank many projects before yours involved Customers expecting one thing while the Project Team was developing another.

You should describe the deliverables in excruciating detail. You should dig up examples from other projects and use them to illustrate exactly what will be delivered. If no examples are available, you should prototype the deliverables as closely as possible. And finally, the Customer's signatures must be all over the deliverable descriptions.

Also keep in mind that as the project progresses, the format and/or content of the deliverables may "evolve." Make sure that the Customers are constantly updated as to the latest understanding of what will be delivered! (See the "Project Black Box" Pitfall from the Execution and Control phase for more details.)

What do you do if the team training determined to be necessary cannot be completed within the required timeframe of the project?

Well, it depends on what "necessary" means and who "determined" it. If you have training as a task in your Project Schedule, and Project Team members really cannot function without it, then you should invoke change control until they either get the training, or learn on the job. On the other hand, if you have people that can teach the tool, on-the-job training may be a very viable option. The bottom line is, your resources must be able to produce the results you expect; if they cannot get to that point because of circumstances beyond your control, you have full right to invoke change control.

What do you do when management is making a poor project decision that you as Project Manager feel will doom the project to failure?

This impasse is most likely to occur when management initiates a change to Project Scope, pulls project resources, or alters Project Schedule. Your best course of action, after failing to persuade them of their folly, is to document your objections, including the analysis of the decision and its impact, alternatives you suggested, and all supporting research in a separate document and refer to it in an issues section of the Project Status Report. Subsequent status reports should track the impact of the decision, as well as projections for the potential of continued degradation if the project continues as is.

The best outcome is that as the project progresses, management realizes the impracticality of the situation, and makes changes to the scope, schedule or budget.