



# Integrated Computer Solutions Project Management Methodology

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## Document Revision History Block

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## Purpose

The objective of this Project Management Methodology (PMM) is to serve as the guide by which all projects are managed. There are several reasons why a PMM is necessary:

1. A PMM ensures that IT projects are governed and managed with cohesive, clear, and consistent project management policies, standards, processes, and procedures that are aligned with corporate strategies, goals, and objectives.
2. A PMM presents to stakeholders, customers, and staff a documented plan that communicates to them explicitly how their requests, needs, and expectations will be met.
3. A PMM establishes a solid foundation for replication and of appropriate project management processes that, over time, promotes project management maturity. (As an organization's project management processes mature, it sees more projects delivered on time and within budget, and thus increased customer satisfaction.)

When modifications or additions are required to the PMM the ICS Project Management Practice Area Lead should be notified. The Lead will review the requested change and modify the PMM if the change is needed.

## Introduction

Project Management is the application of knowledge, skills, tools and techniques applied to project activities to meet sponsor and stakeholders requirements. Effective project management is necessary to ensure the successful delivery of objectives identified for all projects, regardless of size. A project management methodology establishes the framework for building consistent application of the processes employed in achieving that effective project management. Project management methodologies need to address the philosophy and approach for the areas of:

- Schedule Management
- Issue Management
- Scope Management
- Communication Management
- Risk Management
- Quality Management
- Closure Management



Not all projects will require the full application of every detail of the methodology; indeed the methodology should be tailored to fit the needs of the specific project objective.

The Project Management Methodology that has been developed by ICS describes the discrete steps and practices to be undertaken to see that the principles of project management are uniformly applied and carried out throughout the life of the project. It provides a streamlined, flexible approach to project management. Through years of experience it has been determined which deliverables of the plan can be omitted and which deliverables are required in order to increase the likelihood of project success.

## **Project Initiation Phase**

The Project Management Institute defines a project as a temporary endeavor, undertaken for specific purposes with a definite begin and end point. The first phase of any project, regardless of size or complexity, is the Initiation Phase. Project Initiation activities facilitate the formal definition and authorization to start a new project. In the ICS environment many times that definition and authorization is derived from a bid award, but the activities described below are equally applicable to an internal project that may be undertaken to improve an ICS business process. Regardless of the reason a new project is initiated, the activities needed to initiate it will be consistently similar.

The procurement method used and the size of the project will dictate which Initiation activities will be needed. In some cases, only a Statement of Work (SOW) will be needed, for others a Project Charter and a SOW will both be needed, and for others it may be best to use a Project Charter format that combines the information for a Project Charter and a SOW into one physical document. For many clients, a formal Project Charter is not used, or is developed internal to their organization before they decide to procure the services of a contractor. Once they procure a contract and award it, the winning vendor's response becomes the basis for a formalized SOW. For these types of contracts ICS will not create a Project Charter (unless required as a Deliverable). However, it is a good practice to request a copy of the client's Project Charter, if available, to include in the Project notebook.

The most important outcome of these Initiation activities is to have an understanding of what the project is, who is participating, the anticipated start and completion dates, what will it cost, how it will be managed and how everyone will know when it is complete – i.e., what will be delivered and how will it be accepted and/or approved by the client.



### **Initiation activities may include:**

- Creation of a Project Charter
- Creation of a Statement of Work (SOW)
- Creation of a Work Breakdown Structure
- Creation of a project schedule
- Determination of a project budget
- Establishing the Project Management Tracking System

Forms for the initiation phase can be found in Appendix 1.

Before determining which pieces of the PMM need to be applied, a thorough review of the proposal or documentation that was submitted to award the project to ICS should be done. A review of the proposal will help the Project Manager to determine which deliverables are required, some may be part of the PMM, and which deliverables are optional or not mentioned.

The proposal, or bid document, may also highlight assumptions and constraints that were made by ICS. These assumptions and constraints should be added to the Project Charter or the Statement of Work. While a specific area is not defined in either of these documents, the Project Manager has the option to add any additional information that is needed.

### **Assumptions and Constraints**

Assumptions are factors that, for planning purposes, are considered to be true, real, or certain without proof or demonstration. In the initiation phase assumptions are initially identified and included in the Project Charter or the SOW based upon the project team's current knowledge of the project.

Constraints are any restrictions applied to the project. For example, a fixed price budget, a pre-defined completion date, a requirement that all work be done on-site, a requirement that work products be in compliance with a specific industry standard, etc. Constraints usually have specific impact on the project cost, schedule, or quality. They may impact staffing and training needs, operational environment, or deliverable specifications. Therefore, it is important that project constraints are recognized, understood and incorporated into the project planning exercise.

As the project progresses, assumptions and constraints may change or new ones may be identified. The Project Manager will update the Project Management Plan (PMP) as needed to ensure a current list of assumptions and constraints are maintained throughout the project life cycle.





## **Escalation Process**

Although the ICS project manager will be the primary point of contact for all team members and will manage the majority of project communications, various lateral communications will occur throughout the lifecycle of the project.

If the team cannot resolve an issue, an Escalation Process must be defined which can be used to escalate the issue for resolution. The short duration of most of our projects dictate the need for quick turnaround in the resolution of issues. Issues must be resolved as quickly as possible to prevent negative project impacts and possible change requests.

The Escalation Process should be structured to facilitate resolution of issues or problems at the lowest level possible. Project team members should try to resolve an issue within the team first.

If the issue must be resolved outside the ICS project team, the ICS Project Manager is responsible for escalating the issue to the Client Project Manager for resolution. If they cannot resolve the issue, then they each escalate the issue to the next level of management within their respective organizations. All ICS projects should have the maximum issue resolution authority to reside within the ICS business unit responsible for the project outcome – that is usually the Practice Area Manager.

Escalation levels may vary from client to client, but again there should be equal levels of escalation between the client and ICS management. The required levels of communication and escalation must be understood for each project and that understanding used to implement both a Client Escalation Procedure and an ICS Escalation Procedure. It is very important that everyone understands and follows these procedures in order for issues or problems to be resolved in the most efficient and effective manner.

The Acceptance process and Escalation process should be clearly defined and reviewed with the client representatives and project team members during the Project Kick-off meeting.

## **Project Charter**

In order for a project to be successful all parties involved must fully understand the project, why it is needed and who authorizes work on the project. All projects have a sponsor and other stakeholders whose needs and expectation must be addressed in order for the project to be considered a success.

The project Sponsor is the person, or group, who provides the financial resources for the project and has ultimate accountability and responsibility for the project outcome. The Sponsor has full project approval authority and defines the objectives for the project.

A Project Charter lays the foundation for the project and should:

- Provide a project description. This section should provide the project background, scope, critical success factors, governance roles and risks for the project
  - Scope can be articulated most specifically by identifying the major deliverables and boundaries that are to be observed in conducting the project. It's important for scope to be defined and agreed upon. If the project charter is not a deliverable for your project then scope should be defined and agreed in a separate document.
- Identify personnel involved:
  - Sponsor authorizing the project
  - Key Stakeholders impacted by the project
  - Project Manager responsible for managing the project
  - Key members of the Project Team
- State the desired project start and end dates.
- Create a budget based on estimated hours, duration and associated costs. Usually the budget is stated in the contract award document, or for internal projects, may be set by the C-level management.
- Provide information on the project management methodology and reporting that will be provided for the project.
- State the deliverable acceptance policy that will be utilized.

## Project Description

This section of the charter should provide a background of the project – why the project was initiated and what the business hopes to achieve upon completion. The scope of the project (what is in and out of scope) should be clearly stated. Objectives of the project and critical success factors are also elements of the project description. Governance roles and responsibilities should be stated so there is no disagreement amongst project team members as to decision-making authority. Known project risks should be stated.

**Note** that project risks become more defined as the project moves forward. Since the project charter is not a living document, a risk register should be used to manage all risks identified for the project. See the Risk Management section of the document.

## **Stakeholder Involvement**

The Project Charter should identify stakeholders, their responsibilities and expected involvement level to ensure the project is successful and completed within the schedule and budget identified in the Project Charter.

## **Project Reporting**

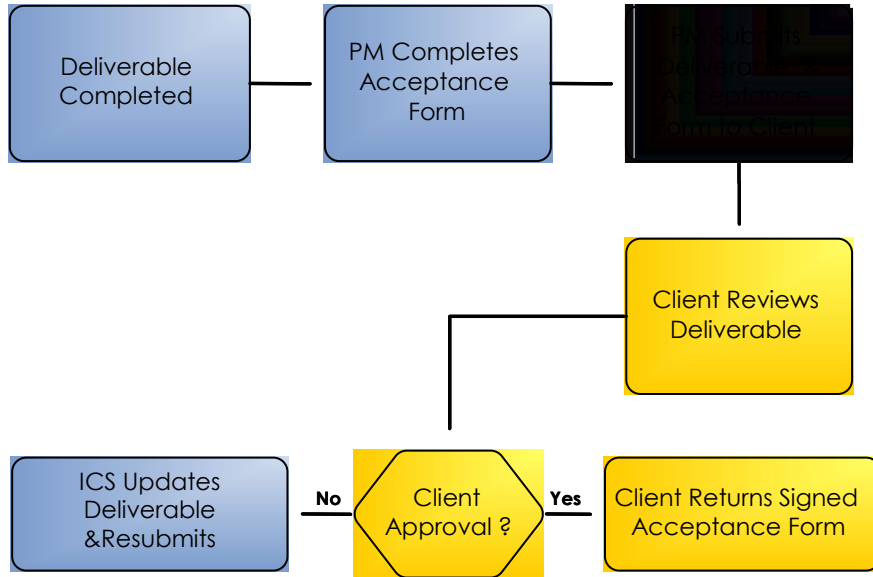
Each project, regardless of size, will require project status reporting. All projects will require a Weekly Project Status report. The SOW will define additional reporting that will be required for the project. Short-term or small projects may need no more than the Weekly Project Status reports. Larger or more complex projects may require additional project reporting of a specific nature such as: Project Cost Reporting, Project Schedule charts, Risk and Issue Resolution Reports, etc.

Samples of project reporting templates should be included in the presentation of the SOW review whenever possible as a picture is worth a thousand words. Examples allow the Sponsor, stakeholders and project team members to more readily understand what is important to track and report related to the project, and how project progression will be measured throughout the project. Consistent, accurate, and timely project reporting will prevent project scheduling surprises and better manage stakeholder expectations.

## **Acceptance Process**

All projects, regardless of size, must have a defined Acceptance Process. Everyone involved in the project must understand what criteria are to be met for a deliverable to be approved and how a deliverable is submitted for approval and acceptance. A timeframe must be explicitly defined for the client to accept or reject a deliverable. It is recommended that all ICS projects use a five business day acceptance timeframe, unless contractual requirements otherwise dictate an explicit acceptance timeframe.

The ICS Project Manager will initiate the acceptance process with each project deliverable. The acceptance process helps mitigate risk for the client and ICS as the project proceeds by requiring the client to formally declare that products meet their requirements. A sample deliverable acceptance form should be submitted during the Project Kick-off Meeting. The following diagram shows the recommended ICS Acceptance Process:



The Project Charter should be reviewed with the Sponsor and Key Stakeholders to achieve a mutual understanding. The Sponsor should agree to and sign the Project Charter which will indicate the project manager has the authority to begin the project.

## Statement of Work (SOW)

A Statement of Work (SOW) defines a more detailed understanding of a project, its scope, who is involved in the project and how it will be managed. Processes to be used in the project are defined and documented. The SOW will identify the assumptions and constraints that will influence work on the project. Project deliverables and a schedule with milestones will be defined. The sections included in the SOW may vary depending on the size, length and complexity of the project.

Subcomponents of the SOW may include:

- Description of the work to be performed
- Deliverables
- Project Schedule with Milestones
- Acceptance Process
- Project Reporting
- Assumptions and Constraints
- An Escalation Process

## Description of work

The SOW should provide a description of the work to be performed.

## **Deliverables**

All projects have deliverables of some type. A deliverable is defined as any unique and verifiable product, result or capability to perform a service that must be produced to complete a process, phase or project. Deliverables usually require acceptance outside the project team. Many projects have pay schedules tied to the completion and acceptance of deliverables. The SOW should list each deliverable and if possible, the estimated completion dates for each deliverable. The contract should be reviewed for a list of deliverables.

## **Project Schedule with Milestones**

For small to medium projects a detailed Microsoft Project Schedule will not be required but the project manager should always have a perspective of the schedule and process approach for every project, regardless of size. The contract should be reviewed to determine project deliverables/milestones<sup>1</sup> that have been defined. If deliverables have been defined, the schedule from the contract should be added to the Statement of Work and the Project Management Plan. If not, the project team should review the deliverables and establish a timeframe for delivery.

For large projects the Work Breakdown Structure (see discussion below) should be used to begin building the project schedule. The major components should be sub-divided to their lowest level (work packages). The low level data should be input into a Microsoft Project Schedule. It is recommended that the work packages be no larger than 40 hours of work and no smaller than 8 hours of work. Keeping the work at these levels will be easier to status the project to determine if it remains on schedule each week.

There are many “rules” that should be followed during the creation of a Microsoft Project Schedule and they will not be discussed in this methodology document.

## **Work Breakdown Structure**

A Work Breakdown Structure (WBS) breaks the project work into smaller, more manageable pieces of work, eventually ending with the most detailed pieces of work that can be scheduled, cost-estimated, monitored and controlled. These are called work packages. Inputs to this activity include a product breakdown structure, system architecture or other technical information that will assist in defining the project work.

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<sup>1</sup> A schedule milestone is a significant event in the project that restrains future work or marks the completion of a major deliverable.



Note: The WBS is only required for large projects.

## **Project Budget**

The purpose of estimating a budget is to establish a cost baseline against which project progress may be measured. As proposals and bids for services are initiated, a cost build-up excel worksheet is completed and provided to senior management for review and approval during the bid-no-bid decision process. The cost build-up worksheet indicates the level of effort and cost of the engagement. Keep in mind there may be costs associated with things that may not be deliverables or tasks to the client, such as licensing fees or hardware, so keeping an additional spreadsheet with all associated costs is recommended.

Initial project plans and Deltek project initiation forms should be developed to match the cost build-up worksheet. Project managers must then track and manage project hours and expenditures against the cost build-up worksheet, along with any supplemental cost estimates. Discrepancies found anytime after project initiation should be reported immediately to the engagement service delivery manager, who will in-turn, notify the COO and CFO.

The Statement of Work should be discussed with and signed by the customer and will provide the Project Manager with the authority to begin the project.

## **Project Management Tracking System**

The Project Manager will establish a Project Management Tracking System to ensure project assets are stored securely, documented for future reference, and readily available for access by project team members, stakeholders, auditors and possibly the public. Many government contracts require full client access to all project assets. Other projects, depending upon the confidentiality or data security needs related to a project, may impose access restrictions to project assets. It is important that the Project Manager fully understand the project restrictions in this area as it will dictate where and how project assets are stored, recorded and retrieved.

It is recommended that a Project Notebook be kept for every project, regardless of size. The Project Notebook may be in hardcopy, but should also be stored electronically whenever possible. Many project assets will contain signatures and original documents should always be stored in the official project repository; it is preferable that hardcopy documents with signatures be scanned into the electronic repository.



The Project Manager should create a Project Management folder within the Project Management Tracking System to house all Project Management related project assets.

Examples of the types of documents that should be electronically stored in this folder include, but are not limited to:

- Copy of Request for Quotation (RFQ), Request for Proposal (RFP) or similar type to document used to procure project services.
- ICS response to the procurement request.
- Contract documents, if applicable – may be simply a purchase order, a task order or an actual full blown contract.
- Copy of ICS Deltek Account setup related documents.
- Project Charter and Project Statement of Work.
- Project status reports and reporting documents, including template or blank samples.
- Project Meeting Agendas and Meeting Minutes.
- Project Risk Register, including risk assessment documents.
- Project Issue Register, including issue resolution documents.
- Project Change Requests or Change Orders.
- Project Deliverables and related Work Products, including templates or blank samples, if applicable.
- Project staffing plan and training plan, if applicable.
- Any other document that is submitted to the client, used in managing the project, or generated in the course of the project delivery life cycle.

Unless explicitly prohibited by contractual language all project assets should be uploaded into the ICS File Share and stored within the Customers folder, labeled appropriately to uniquely identify specific Project assets.

The Project Manager must develop a process for managing the Project Management Tracking System to ensure project assets are maintained accurately and in a timely, consistent manner. In small or medium sized projects the Project Manager may assume this responsibility personally. In larger, more complex projects the Project Manager may delegate this responsibility to one, or more, project team members. When delegated the Project Manager should periodically perform quality assurance to be sure that project assets are up to date.

There should always be an Archive folder within the Project Management Tracking System in order to better manage version control of project assets. This will ensure draft or previous final versions of project assets are not lost by being inadvertently overwritten with a newer version.



The value of the Project Management Tracking System will prove priceless should the project be audited, either by the client or by an ICS internal quality management audit. A well organized project repository will enable the Project Team to work more efficiently and effectively when previously produced project assets are needed, especially in answering questions from the Sponsor or stakeholders. It will also facilitate an efficient knowledge transfer to new team members, as they are added to the project.

### Phase Completion

You are ready to move to the next phase (Planning) if you have completed the following:

	Complete	Archived
Project Charter	<input type="checkbox"/>	<input type="checkbox"/>
Statement of Work	<input type="checkbox"/>	<input type="checkbox"/>
Project Schedule with Milestones	<input type="checkbox"/>	<input type="checkbox"/>
Work Breakdown Structure	<input type="checkbox"/>	<input type="checkbox"/>
Project Budget	<input type="checkbox"/>	<input type="checkbox"/>
Project Reporting	<input type="checkbox"/>	<input type="checkbox"/>
Project Tracking System	<input type="checkbox"/>	<input type="checkbox"/>



## **Project Planning Phase**

The purpose of the Planning phase is to define the exact parameters of a project and ensure that all the prerequisites for project execution and control are in place. The primary objective of the project team during this phase is to plan the project to meet the stated business need(s).

Forms for the Project Planning Phase can be found in Appendix 2.

## **Resource Management**

### **Resource Allocation**

Resources for this phase were identified during the Initiation Phase. If resources were not secured during the last phase, then they should be acquired at this time. Typically during the Project Planning Phase the team remains limited to the smallest number possible. The team should concentrate on planning how the project will be delivered and what tools and techniques will be employed to achieve the project goals. Resource needs for the execution phase, as well as their availability for use on this project should be determined at the end of the planning phase.

For technical projects, the planning phase is also used to create the designs for the system. This should entail studying the current system, if there is one, reviewing the requirements for the new system and identifying coding / module changes that must be made in order to deliver the project.

Once complete, the estimates for project delivery should be reviewed (and revised if needed) to ensure the project can still be delivered within the previously estimated time and budget. If the project cannot be delivered as originally expected, you should escalate to your manager immediately.

### **Team Member Orientation**

It is the responsibility of the Project Manager (or Team Leader, if appropriate) to meet with each new project team member to discuss what his/her role and responsibilities will be on the project, as well as what the other roles and responsibilities on the project are and who is filling them. Each new team member should be provided with access to all project materials, including any deliverables produced to date. This should include information from the Initiation phase as well as information about how/why the project is being undertaken.

If the new team member is also new to the organization, it would be useful to provide him/her with the logistics for the project (where to park, working hours, dress code, building layout, etc.). The Project Manager must ensure that the new team member is aware of time-tracking procedures for the project as well as any pertinent leave policies and procedures.

### **Project Kick-off Meeting**

The Project Manager should schedule a Project Kick-off meeting once the Project Charter and/or a high level Statement of Work has been approved and accepted. The purpose of the kick-off meeting is to formally notify all team members, clients, and stakeholders that the project has begun and to ensure everyone has a common understanding of the project and their roles and responsibilities. The meeting should have an agenda and be scheduled in advance to ensure needed staff is available and informed.

There are a number of specific things the Project Manager will accomplish at this meeting:

- Introduce the people at the meeting, noting whether they are the sponsor, a stakeholder or a project team member.
- Recap the information in the Project Charter and/or the Statement of Work, including the purpose of the project, the scope, the major deliverables, the risks, the assumptions and the schedule.
- Discuss the roles and responsibilities of the project team, clients and stakeholders. Ideally all of the people that will work on the project should be in attendance. If there is confusion about the role of any person or organization, it should be discussed and clarified during this meeting.
- Review the general approach and timeline of the project to communicate to attendees how the project will progress. Ensure attendees understand their specific responsibilities in support of the project.
- Discuss the project management processes to be used by the Project Manager to manage the schedule, issues, scope, risk, etc., explaining particularly the role others will have in the execution of these processes. For example, a process is needed to manage change requests, to determine their impact, and to submit them for approval. This process can potentially involve several people both within and outside of the project.
- Ask for feedback to ensure everyone understands and agrees to the proposed project management procedures. This will minimize, or eliminate, confusion later in the project related to responsibilities, processes and expected outcomes.



- Discuss and answer any outstanding questions. The purpose of the discussion is not to rehash the purpose of the project, but to allow people to voice specific questions or concerns they have as the project begins.
- Confirm that the project is now underway and announce the next planned meeting.

In general, the project team, client, and stakeholders should be in attendance. Most kickoff meetings can be conducted in an hour or two, but more complex projects may require more time. If a very large project is divided into major phases it may be wise to have a short Project Phase Kick-off meeting before each phase begins, especially if stakeholders or project team members change significantly between phases.

The Project Manager will prepare meeting minutes, noting any actions and assignments for follow-up. The meeting minutes should be distributed to all invitees, not just those in attendance. The meeting minutes should note those in attendance, and invitees who were absent.

## **Risk Management**

### **Risk Management Plan**

All projects have some level of risk. Project risks must be identified and discussed with the client to increase the probability for success in any project. The ICS project team must be committed to managing the risks to ensure the best possible product for the client; however, many risks are beyond the team's control and must be openly communicated with the client. The process that will be used for the management of risks should be documented and discussed with the team.

A risk is an item which might happen, and if the risk occurs may have an impact on scope, schedule, budget or quality. Items initially classified as risks may become issues or may lead to change requests. As the project progresses additional information may resolve some risks or help mitigate known risks.

When a risk is identified, the Project Manager must determine if it is a low, medium, or high risk using the guidelines established for the project. Normally, a high risk will require formal mitigation steps, whereas a low or medium risk should be watched closely to make sure it doesn't negatively influence the outcome of the project.

Four distinct steps may distinguish risk management planning: Risk Identification, Qualitative Risk Assessment, Risk Response Planning, and Risk Monitoring and Control. Each of these steps is described below.

**Risk Identification:** As a follow-on to the Project Kickoff Meeting, the PM should facilitate a session of key stakeholders to discuss risks associated with this project. This risk assessment will form the basis of the risk management plan. By gathering the key stakeholders to discuss these potential risks of the project all at once, it gets the key stakeholders thinking about the project at the same time and it is more likely to end up with a more exhaustive list of real project risks.

Risks may have been identified during the proposal phase so the proposal should be reviewed and any additional risks should be captured in the risk register if the risks are still valid.

The product of the risk identification session is a risk register that will be used in the subsequent steps of risk management.

**Qualitative Risk Analysis:** The next step assigns a qualitative risk level to each risk identified. The risk level is referred to as qualitative since it is a quick approximation and does not reflect the rigor of a detailed, numerical analysis. The risk level determined to be high, medium, or low, depending on the severity of impact and the probability of the event occurring. The following table is a starting point for classification. For instance, a highly likely / high impact event is a high risk. However, each event must be evaluated individually.

SEVERITY OF RISK IMPACT	PROBABILITY OF RISK OCCURRING	Assigned RISK LEVEL
High negative impact to project	Highly likely to occur	High
High negative impact to project	Medium likely to occur	High
High negative impact to project	Not likely to occur	Low
Medium negative impact to project	Highly likely to occur	Medium
Medium negative impact to project	Medium likely to occur	Medium/Low
Medium negative impact to project	Not likely to occur	Low
Low negative impact to project	Highly likely to occur	Low
Low negative impact to project	Medium likely to occur	Low
Low negative impact to project	Not likely to occur	Low

**Risk Response Planning:** After the risk register has been created and the qualitative assignment of risk has been made, determine a response plan for each high-level risk that was identified to ensure the risk is managed successfully. This plan will include the impact if the risk occurs, how the Project Manager or team will know the risk has been triggered, what the response to the risk will be, the mitigation strategy, contingency plan, risk owner and the date the risk will be reviewed

There are four major responses to a risk – Acceptance, Avoidance, Mitigation, and Transfer<sup>2</sup>. After the high level risks are addressed, evaluate the medium-

<sup>2</sup> There are 4 risk responses typically used in risk management.

1. Acceptance – the risk will occur so plan for it.



level risks to determine if the impact is severe enough that they should have a risk response plan created for them as well. Finally, look at any low-risk items and see if they should be listed as assumptions instead of risks.

**Risk Monitoring and Control:** The last step in Risk Management is to move the activities associated with risk response planning to the project schedule. Moving the activities to the schedule helps ensure that the work is actually completed. The project manager monitors the Risk Management Register/Plans to ensure the risks are managed successfully. New risk plan activities may be added if it looks like a risk is not being managed successfully. The Project Manager periodically should evaluate risks throughout the project based on current circumstances. New risks may arise as the project is unfolding and some risks that were not identified upfront may become visible at a later date. This ongoing risk evaluation should be performed on a recurring basis and at the completion of major milestones

The project Risk Register should be reviewed with the client on a regular basis. An electronic copy of the Risk Register should be saved within the project management tracking system.

Where appropriate, risks will be escalated to the Project Sponsor when critical success factors are potentially jeopardized. This escalation of high factor risks is required to help facilitate actions to reduce the negative impacts of risks

## Quality Management

### Quality Management Plan

Integrated Computer Solutions has implemented an ISO 9001:2000 compliant quality management system. The quality system is fully documented, implemented and maintained, and is continually improved through the use of corrective action, internal auditing and management review processes.

ICS has adopted a process-oriented method of management. For each process identified in use at ICS, the sequence and interaction of processes has been determined, and the process controlled by way of criteria and methods specific to that process. Objectives are set for each process, and then measured and monitored, with appropriate data gathered and analyzed to ensure process effectiveness. During Management Review, process resources

- 
2. Avoidance – the risk should be avoided so change the plan in order to lower the possibility of occurrence.
  3. Mitigation – strategies are developed to lower or eliminate the risk.
  4. Transfer – transfer the risk to another part of the project / group or organization.



are discussed and allocated by management, as applicable. Corrective and preventive action is taken to ensure the processes achieve the desired results, and continually improve.

## **Issue Management**

### **Issue Management Plan**

Issues typically arise from an action item that has been unresolved and is affecting the project cost and/or schedule. The process that will be used for management of the issues should be documented and discussed with the team. Typically this is documented in a Project Management Plan. The process should describe the method of reporting, recording, tracking and resolving issues that arise during the course of the project.

The Project Manager will add the issue to the issue register and assign an owner. The Project Manager should make sure the issues are closely managed as they can potentially grow into major problems if not addressed.

An example of an issue management plan, an issue register and an issue form can be found in Appendix 2. Either the register or the form can be used and presented to the client. Both are not required.

## **Communications**

### **Communication Plan**

A communications plan should be developed to document how and when the project team will communicate with one another, the project sponsor and stakeholders. The project reports section that was developed during Initiation should be included in the Communications Plan as that section details the types of reports that will be generated for the project.

## **Change Management**

### **Change Management Plan**

During the course of the project, end users and stakeholders will often make the determination that a change to a developing product is needed. A clearly defined methodology for change must be utilized in order to ensure that complete consensus for change exists on the part of the customer.

A typical change management plan will state how a change request will be submitted, who can submit a change request, to whom it should be submitted and who can approve it.



It is important that the change management process be created, documented, reviewed and agreed at the beginning of every project. Once agreed, the process should be followed. This will allow the ICS Project Manager to manage the expectation of the customer for all deliverables of the project. Further, all changes must be tracked and logged so when closing out the project they can be reviewed with the customer.

When a change request is submitted, the Project Manager should work with the team to evaluate it and determine impacts to the project; including scope, schedule and budget. The Project Manager will then present the complete change request information to the customer for a determination on how to proceed. Implementation of the change only occurs on an approved Change Request.

All changes should be logged in one location (the change request log) for historical purposes. The change request log should also include any differences between when a deliverable was projected to be provided to the customer and when it was actually provided.



## Phase Completion

The Planning phase may be the last chance the Project Manager has to plan for the events that will unfold as the project moves forward, so the time spent in planning should be well spent in order to produce thorough, detailed documentation.

You are ready to move to the next phase (Execution) if you have completed the following:

	Complete	Archived
Risk Management Plan	<input type="checkbox"/>	<input type="checkbox"/>
Issue Management Plan	<input type="checkbox"/>	<input type="checkbox"/>
Communication Plan	<input type="checkbox"/>	<input type="checkbox"/>
Change Management Plan	<input type="checkbox"/>	<input type="checkbox"/>
Quality Management Plan	<input type="checkbox"/>	<input type="checkbox"/>

## **Project Execution and Control Phase**

The purpose of the Project Execution and Control phase is to develop the product or service that the project was commissioned to deliver. Execution and Control plans which were established during the planning phase (change control, deliverable acceptance, organizational change management, action items, issue management and escalation, risk management) demand the Project Manager's focus and should be utilized to monitor progress during this phase.

Unanticipated events and situations will inevitably be encountered and the Project Team will have to deal with them while minimizing any impact on the project. During this phase efforts should be extended toward fulfillment of the tasks and work products that were identified in the planning phase.

In addition to the plans developed earlier, the project schedule and/or the milestone schedule should be used to monitor progress. If issues with progress against the schedule are identified, then adjustments / corrections to the plan may need to be made. If it becomes apparent that the project will not be delivered within the timeframe promised, the ICS management team should be notified immediately.

Two kinds of deliverables will be produced throughout this phase: project management deliverables (status reports) and project deliverables (concrete portions of the final product of the project). While only project (product) deliverables require formal approval in this phase, the project manager should pay just as much attention to team status reports, for they can signal, far ahead of time, how timely – and even how good – the project deliverables are likely to be.

At the end of this phase the product of the project is fully developed, tested, accepted, implemented and transitioned to the Customer.

For examples of the forms to be utilized during this phase, see Appendix 3.

## **Earned Value Management**

Earned value, when implemented and managed properly, will allow the project manager to report meaningful metrics about the project to the project stakeholders and management. Projects that will be required to use earned value are large projects that are within the control of ICS. Note that staff

augmentation projects cannot, by definition, be reported on via earned value since rarely are the project participants “in control” of the project.

What needs to be done to allow earned value to be implemented for your project?

1. Define what constitutes 100% of the assumed project scope
  - a. First, develop a Work Breakdown Structure
  - b. Second, decompose the structure to the individual task level. It is recommended that the tasks be scheduled in hours for easy statusing and reporting.
  - c. Third, assign resources to each task
2. Prepare a detailed project plan. The tool of choice for this is Microsoft Project.
3. Resource costs are required. This cost can be a blended rate however the cost for each resource must be known and added to the Microsoft Project Schedule.

Once the schedule has been prepared, as outlined above, it should be discussed with the customer. Once approved, the schedule should be baselined.

#### Statusing the project schedule

In order to do accurate reporting, you need to keep a good status of the project activities. Project team members should report status on the project schedule based on the individual tasks being worked on and should be reported in number of hours spent on each task. Percent complete is usually an inaccurate measure and is not recommended. It is recommended that the project schedule be statused every week.

#### Reporting on the project using earned value

The project manager needs to be able to answer the following questions in order to report on the project using earned value.

1. Planned Value –
  - a. How much work has been scheduled to be completed at a specific point in time?
  - b. What is the authorized budget for the work that has been scheduled to be completed by this specific time?
2. Measure earned value –
  - a. How much of the authorized work is actually complete?



b. How much of the authorized budget was spent accomplishing the work?

By determining and analyzing the schedule variance (the difference between earned value minus the planned value) the project manager can forecast how long it will take to complete the project – if the project continues on the current trend.

By determining the cost variance (the difference between earned value minus actual costs incurred) the project manager can forecast how much money it will take to complete the project – if the project continues on the current trend.

This information will allow the project manager to make corrective actions if the trends indicate that the project will be delayed or over budget.

Earned value, if done properly, will give the project manager, stakeholders and management early warnings that the project is not on track.

Let's take a look at an example. The project budget is \$1,000,000. There are ten milestones to be accomplished, each valued at \$100,000. So, once a milestone is complete, the project will earn \$100,000. Performance through the first quarter requires that three milestones be accomplished for a budgeted value or \$300,000 of work scheduled. Planned value consists of two elements: (1) the work scheduled and (2) the budget for the work scheduled.

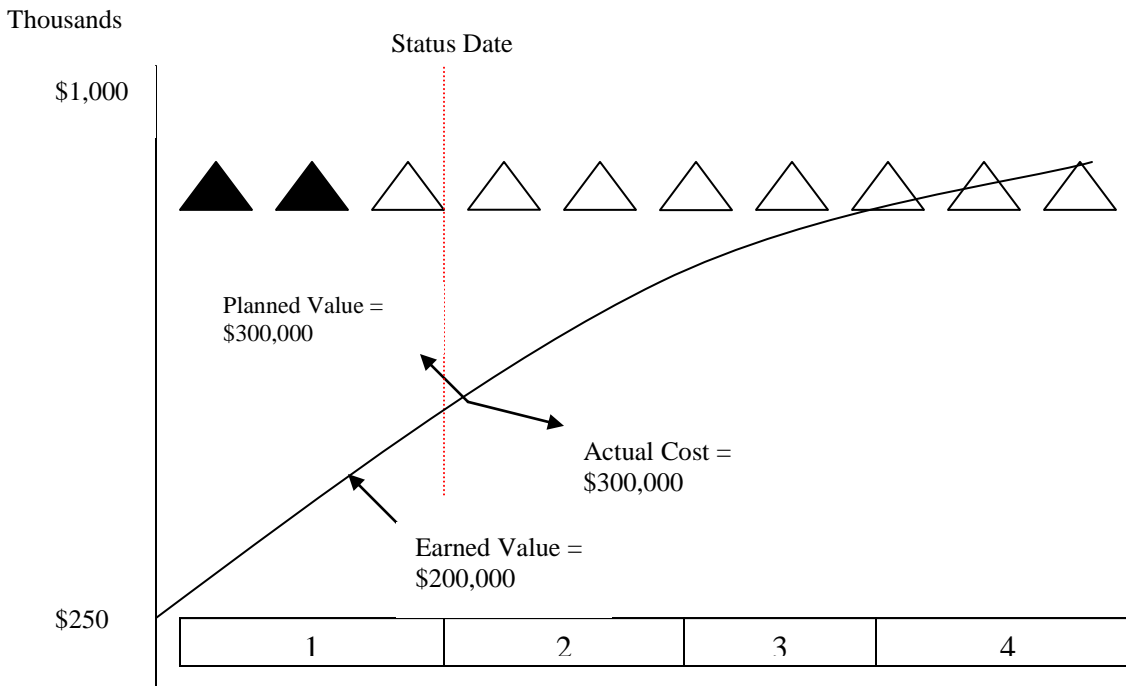
Earned value for our example reflects that at the end of the first quarter only two milestones have been accomplished for a value of \$200,000. The earned value also consists of two elements (1) the scheduled work that was completed and (2) the original budget for the completed work.

We can immediately see that the project is running behind the work that was to be accomplished at the end of the first quarter.

Calculation is Earned Value – Planned Value = Schedule variance

$$\$200,000 - \$300,000 = (\$100,000)$$

See Figure below:



The project is in a cost overrun situation and corrective action is required.

### Corrective Actions

Corrective actions are not simple. Now is the time to present the project situation to your Practice Area Lead. In the alternative, you can contact the Project Management Lead to discuss options before going to the lead.

The “triple constraint” comes into play with corrective action. In order for the project manager to have some control over a project they must be responsible for budget, schedule or scope. Knowing the items in which you have control will allow you to determine options on corrective actions.

### Corrective action examples:

- De-scope the project, if possible.
- Add resources. Clearly this will increase budget but can allow the project schedule to get back on track.
- Re-examine project estimates with the staff responsible. Determine if there are any tasks that may have been over-estimated.

## **Deliverable Acceptance Log**

The Deliverable Acceptance Log should indicate whether the acceptance procedures are being followed correctly. All discrepancies between the milestone schedule and original Project Schedule should be explained in the Change Control Log.

During Project Planning, the Project Manager, Project Sponsor and Customer Decision-Makers agreed on a process to accept project deliverables. Customer Decision-Makers take on the responsibility to review and approve or reject deliverables within a certain period of time. The acceptance management process must be followed throughout the lifecycle of the project. The sooner the process begins, the sooner everyone will understand how it works and what to expect.

The key to project acceptance is to understand Customer expectations and manage them. The Description section of the Deliverable Acceptance Form should explicitly state the criteria that must be met in order for the deliverable to be considered acceptable; those criteria should have been identified before the deliverable was developed.

The Approver Information section of the form should list ALL Customer Decision-Makers from business units that required the particular deliverable to be developed, and should bear their signatures.

A deliverable acceptance form should be submitted along with each project deliverable. Each deliverable should also be logged and tracked in the deliverable acceptance log.

## Phase Completion

You are ready to move to the next phase (Closing) if you have completed the following:

	Complete	Archived
Project Deliverables have been completed and approved.	<input type="checkbox"/>	<input type="checkbox"/>
Deliverable Acceptance Log	<input type="checkbox"/>	<input type="checkbox"/>

## **Project Closure Phase**

This process involves performing the project closure portion of the project management plan. This process includes finalizing all activities completed across all Project Management Process Groups to formally close the project and transfer the completed project as appropriate. Procedures are established in this process to coordinate activities needed to verify and document the project deliverables, to coordinate and interact to formalize acceptance of those deliverables by the customer or sponsor, and to investigate and document the reasons for actions taken if a project is terminated before completion.

For examples of forms / templates for the Project Closure Phase, see Appendix 4.

## **Closing Activities**

### **Conduct contract closing activities**

This step includes all activities and interactions needed to settle and close any contract agreement established for the project, as well as define those related activities supporting the formal administrative closure of the project. This procedure involves both product verification and administrative closure. Contract terms and conditions can also prescribe specifications for contract closure that must be part of this procedure.

This procedure is developed to provide a step-by-step methodology that addresses the terms and conditions of the contract and any required completion or exit criteria for contract closure. It contains all activities and related responsibilities of the project team members, customers, and other stakeholders involved in the contract closure process. The actions performed formally close all contracts associated with the completed project.

### **Project Acceptance Form**

A Final Customer Acceptance Form will be created and delivered to the client for signature at the project closure meeting. This form signifies formal acceptance by the client that:

- All agreed-upon deliverables, per the contract vehicle, have been completed and accepted.
- All appropriate materials have been turned over to the Client.
- ICS has no further obligations from the contract for this project.



## **Project Satisfaction Survey**

As part of the closing project process a Satisfaction Survey should be performed with the client to ensure expectations were met and the project was a success. Information from this survey will provide input to the lessons learned phase of this section.

## **Update skills inventory**

Any new skills that were developed during the project will be identified and the skills database will be updated accordingly.

## **Project Lessons Learned**

This process requires the project team to meet and discuss what went well during the project and identify things that could be improved upon in future projects. A report will be generated from this meeting and all lessons learned will become part of the project documentation.

Note: A lessons learned report might be completed at any point in the project if there is a significant event that should be captured. The project manager and/or project team may request lessons learned at the end of each phase but this is not required unless it's a large project and significant events warrant it.

## **Project Closure Summary**

This report will summarize the activities of the project and will be used during the project closure meeting as a formal document for the client to sign off that the project has been completed.

## **Project Closure Meeting**

A meeting should be held after the project is complete with all project members. This meeting will serve as the official closure for the project. The project closure summary report should be presented to the customer at the meeting along with the Project Satisfaction Survey.

## **Project Past Performance Document**

Upon completion of the project, a past performance document should be updated detailing the tasks that were performed during the project.



### **Archive Project Records**

Documentation resulting from the project's activities: for example, project management plan, scope, cost, schedule and quality baselines, project calendars, risk register and planned risk response actions should all be archived and stored electronically for use in other projects.

## Project Management Deliverable Requirements

The deliverables for each project will vary based on client requirements however ICS is requiring certain deliverables based on the size of the project. Requirements are listed below:

Deliverable	Small	Medium	Large
Project Charter			✓
Statement of Work	✓	✓	✓
Microsoft Project Schedule			✓
Schedule with Milestones	✓	✓	
Status Reports	✓	✓	✓
Project Budget Report			✓
Risk Management Plan, Process & Register		✓	✓
Issue Management Plan, Process & Register		✓	✓
Project Management Plan			✓
Change Control Plan, Process & Form	✓	✓	✓
Roles & Responsibilities Chart			✓
Work Breakdown Structure			✓
Meeting Agendas & Minutes	✓	✓	✓
Scope Statement	✓	✓	✓
Deliverable Acceptance Form	✓	✓	✓
Project Final Acceptance Form	✓	✓	✓
Customer Satisfaction Survey	✓	✓	✓
Past Performance Document	✓	✓	✓
Project Closure Form	✓	✓	✓

## **Project Size:**

The following guideline should be followed when determining the size of your project and the PMM deliverables for the project.

- Small Project: < \$50,000 and/or  
< 4 months duration
  
- Medium Project: > \$50,000 < \$250,000 and/or  
> 5 months < 18 months duration
  
- Large Project: > \$250,000 and/or  
> 18 months duration

## APPENDIX 1

- 1-1: [Project Charter](#)
- 1-2: [Statement of Work](#)
- 1-3: [Project Schedule Milestones](#)
- 1-4: [Budget](#)
- 1-5: [Weekly Status Report](#)

## APPENDIX 2

- 2-1: [Agenda Template](#)
- 2-2: [Meeting Minutes Template](#)
- 2-3: Risk Register
- 2-5: [Project Issue Form](#)
- 2-6: Project Issue Register
- 2-7: [Communications Plan](#)
- 2-8: [Change Request Form](#)



## APPENDIX 3

- 3-1: [Change Request Log](#)
- 3-2: [Deliverable Acceptance Form](#)
- 3-3: [Deliverable Acceptance Log](#)

## APPENDIX 4

- 4-1: [Customer Acceptance Form](#)
- 4-2: [Client Satisfaction Survey](#)
- 4-3: [Lessons Learned](#)
- 4-4: [Project Closure Summary Report](#)
- 4-5: [Past Performance](#)

## Glossary

Term	Definition
<b>Acceptance</b>	The formal process of accepting delivery of a product or a deliverable.
<b>Acceptance Test</b>	A test usually performed by the user, after the completion of development and prior to implementation, which demonstrates and confirms that a system or component complies with predetermined requirements and operational use.
<b>Activity</b>	Any work performed on a project. May be synonymous with task but in some cases it may be a specific level in the WBS (e.g., a phase is broken down into a set of activities, activities into a set of tasks). In general, activities share the following characteristics: a definite duration, logic relationships to other activities in a project, use resources such as people, materials or facilities, have an associated cost, and result in one or more deliverables.
<b>Actual Cost</b>	The cost actually incurred.
<b>Actual Dates</b>	Actual dates are entered as the project progresses. These are the dates that activities really started and finished as opposed to planned or projected dates.
<b>Actual Finish</b>	Date on which an activity was completed.
<b>Actual Start</b>	Date on which an activity was started.
<b>Actuals</b>	The cost or effort incurred in the performance of tasks. Also, the dates that tasks have been started or completed, and the dates that milestones have been reached.
<b>Assumption</b>	Something taken as true without proof. In planning, assumptions regarding staffing, complexity, learning curves and many other factors are made to create plan scenarios. These provide the basis for estimating. Remember, assumptions are not facts. Make alternative assumptions to get a sense of what might happen in your project.

Term	Definition
<b>Authority</b>	The ability to get other people to act based on your decisions. Authority is generally based on the perception that a person has been officially empowered to issue binding orders.
<b>Baseline</b>	A copy of the project schedule for a particular time (usually before the project is started) that can be used for comparison with the current schedule as a point of reference and for project control reporting. There are three baselines in a project—schedule baseline, cost baseline and product (scope) baseline. The combination of these is referred to as the performance measurement baseline.
<b>Budget</b>	The amount allotted for the project that represents the estimate of planned expenditures and income. The budget may be expressed in terms of money or resource units (effort).
<b>Business Requirements</b>	A detailed description of the purpose, form and components of a product from a business perspective. The customer should use business requirements as the basis for acceptance of the product.
<b>Calendar Date</b>	A specific date shown on the calendar (e.g., September 24, 2004).
<b>Change</b>	Difference in an expected value or event. The most significant changes in project management are related to scope definition, availability of resources, schedule and budget.
<b>Change Control</b>	The process of managing scope, schedule and budget changes to the plan. See Scope Change Control.
<b>Change Control Board (CCB)</b>	A formally constituted group of stakeholders responsible for approving or rejecting changes to the project baselines.
<b>Change Request</b>	A documented request for a change in scope or other aspects of the plan. Change requests may arise through changes in the business or issues in the project. Change requests should be logged, assessed and approved before any work is performed.



Term	Definition
<b>Close Out</b>	The process of gaining formal acceptance for the results of a project or phase and bringing it to an orderly end, including the archiving of project information and post-project review. The completion of work on a project.
<b>Communication</b>	The transmission of information so that the recipient understands what the sender intends.
<b>Communications Planning</b>	Determining project stakeholders' communication and information needs.
<b>Completion Date</b>	The date calculated by which the project could finish following careful estimating.
<b>Constraint</b>	A restriction or limitation that will affect the scope of the project and influence the project plan or schedule. For example, a target date may be a constraint on scheduling. A schedule may be constrained by resource limitations.
<b>Contingency</b>	A contingency is the planned allotment of time and cost for unforeseeable elements that may affect a project. Addressing contingencies generally increases confidence in the overall project.
<b>Contingency Planning</b>	The development of a management plan that uses alternative strategies to ensure project success if specified risk events occur.
<b>Corrective Action</b>	Changes made to bring future project performance in line with planned activities.
<b>Cost</b>	Cost can be divided into internal and external expenses. External costs can be controlled by contracts and budgets for each phase of a project and for each deliverable or work product. Internal cost is the cost of project resources.
<b>Cost Variance</b>	The difference between the budgeted and actual cost of work performed.
<b>Critical Path</b>	Series of consecutive activities that represent the longest total time required to complete the project. A delay in any activity in the critical path causes a delay in the completion of the project. There may be more than one critical path and the critical path(s) may change during the project.
<b>Customer</b>	The person or organization that is the principal beneficiary of the project.

Term	Definition
	Generally the customer has significant authority regarding scope definition and whether the project should be initiated and/or continued.
<b>Deliverable</b>	Any measurable, tangible, verifiable outcome, result, or item that must be produced to complete a project or part of a project. The project deliverable is differentiated from interim deliverables that result from activities within the project. Every element of the WBS (activity or task) must have one or more deliverables.
<b>Dependency</b>	A relationship between two or more tasks. A dependency may be logical (see Logical Relationship) or resource based (see Resource dependency). Also see Link.
<b>Duration</b>	The length of time required or planned for the execution of a project activity. Measured in calendar time units—days, weeks, months.
<b>Escalation Process</b>	The process by which issues or information is distributed within a project team hierarchy to increase or intensify visibility and to leverage project team insights and influence.
<b>Estimate</b>	An assessment of the required duration, effort and/or cost to complete a task or project. Since estimates are not actuals, they should always be expressed with some indication of the degree of accuracy.
<b>Finish Date</b>	The actual or estimated time associated with an activity's completion.
<b>Gantt (Bar) Chart</b>	A time-phased graphic display of activity durations. It is also referred to as a bar chart. Activities are listed with other tabular information on the left side with time intervals over the bars. Activity durations are shown in the form of horizontal bars.
<b>Implementation</b>	A phase in the project life cycle in which a product is put into use.
<b>In Progress</b>	An activity that has been started, but not yet completed.
<b>Initiating (Project)</b>	The process of committing the organization to begin a project (or phase) and authorizing the Project Manager to expend resources, effort and money.

Term	Definition
<b>Integration</b>	The process of bringing people, activities and other resources together to perform effectively.
<b>Issue</b>	A point of discussion, debate or dispute that must be documented, managed, and resolved. An issue is an obstacle to the successful completion of a deliverable that cannot be resolved independently and may impact project progress. Issues may often require management intervention to obtain resolution to ensure project success. Issues are not unanswered questions.
<b>Kick-Off Meeting</b>	A meeting at the beginning of the project or at the beginning of a major phase of the project to align understanding of project objectives, procedures and plans, and to begin the team building and bonding process.
<b>Methodology</b>	A well defined, organized, repeatable, structured, and documented process for managing projects.
<b>Metrics</b>	Quantitative measures (e.g., the number of on time projects) used to determine if goals and objectives are being met, or to determine if improvement has taken place.
<b>Milestone</b>	A significant event in the project, usually completion of a major deliverable. An activity with zero duration that marks a major project event such as the completion of a phase or set of critical activities (deliverable). A milestone is an event; it has no duration or effort. It must be preceded by one or more tasks
<b>Milestone Plan</b>	A plan containing only milestones that highlight key points of the project.
<b>Mitigation</b>	Action taken to reduce risk by lowering the probability of a risk event occurring, or by reducing its effect on a project if it occurs.
<b>Objectives</b>	Objectives are the desired outcomes of the project or any part of the project, both in terms of concrete deliverables and behavioral outcomes (e.g., improved service, more money, etc.) toward which effort is directed.
<b>Phase</b>	The framework within which project activities and tasks are planned,

Term	Definition
	performed, and completed. Phases are a grouping of activities in a project that are required to meet a major milestone by providing a significant deliverable, such as a requirements definition or product design document. A project is broken down into a set of phases for control purposes and phases are common across all projects. The phase is usually the highest level of breakdown of a project in the WBS.
<b>Planned Activity</b>	An activity not yet started.
<b>Planning</b>	The process of establishing and maintaining the definition of the scope of a project, the way the project will be performed (procedures and tasks), defining roles and responsibilities, and estimating the time and costs by identifying the necessary means, resources and actions to accomplish project objectives.
<b>Predecessor</b>	An activity that must be started or finished before another task can begin. The combination of all predecessor and successor relationships among the project activities forms a network. This network can be analyzed to determine the critical path and other project scheduling implications.
<b>Probability</b>	The likelihood of a risk event occurring.
<b>Process</b>	A set of interrelated work activities in which value is added to the inputs to provide specific outputs in order to accomplish something.
<b>Program Management</b>	The management of several individual but related projects.
<b>Program Management Office aka Project Management Office</b>	The organization responsible for the business and technical management of programs or projects. An organization that maintains a staff of project management professionals (project and/or program managers, schedulers, etc.) and then assigns them to new projects as funded by the organization.
<b>Project</b>	A set of activities directed to an overall goal within finite time and cost constraints.
<b>Project Champion</b>	A senior manager who gains support and resources for the project.
<b>Project Charter</b>	A document that describes the project at a high level of detail and is used to authorize the Project Manager to begin work.



<b>Term</b>	<b>Definition</b>
<b>Project Closure</b>	The formal end of a project.
<b>Project Management</b>	The process of managing a project incorporating the application of planning, team-building, communicating, controlling, decision-making and closing skills, principles, and project tools and techniques.
<b>Project Manager</b>	Person accountable for the completion of the project within the cost, schedule, and performance criteria established and agreed upon by the Sponsor and key stakeholders. The Project Manager's accountability includes, but is not limited to, issue assessment, resolution and escalation; project planning and control; effective communication; and team administration. The Project Manager owns the project effort and is the single point of accountability for a project.
<b>Project Monitoring</b>	Project monitoring is the process of analyzing and reporting project performance as compared to the plan.
<b>Project Plan</b>	Document defining the project scope and required effort to achieve a specific undertaking.
<b>Project Schedule</b>	Specifies the resources, tasks, deliverables, and milestones for a project. The Project Manager uses this tool to manage and monitor the work.
<b>Project Start</b>	The official START of an IT project is when the Business Owner approves the Project Request. Once the Business Owner or his or her designate approves the project request, the Initiating Phase begins and the IT team members can log TIME to the project.
<b>Project Team</b>	A group consisting of the Project Manager and one or more people working interdependently to complete the project work.
<b>Project Team Meetings</b>	A meeting held with all resources assigned to the project.
<b>Project Team Members</b>	Individuals, reporting to the project manager, who are responsible for some aspect of project activities.
<b>Quality Assurance</b>	Planned and systematic patterns of activities (i.e., testing and reviews) designed to ensure that standards and procedures are effective and are being complied with, and that deliverables comply with acceptance

Term	Definition
	criteria.
<b>Quality Plan</b>	A plan that defines specific requirements for quality in the process including the definition of specific quality control points in the project life cycle.
<b>Request for Proposal (RFP)</b>	A document that describes a need for products and/or services and the conditions under which they are to be provided. The purpose of the RFP is to solicit bids or proposals from prospective sellers of products or services.
<b>Requirements</b>	The statement of detailed product objectives that describes the features and functions and performance constraints to be delivered in the product. The requirements provide the basis for accepting the product.
<b>Resource</b>	Anything that is assigned to an activity or needed to complete an activity. Resources can be people, equipment, facilities, funding or anything else needed to perform the work of a project.
<b>Resource Assignment</b>	A specific resource assigned to work on an activity related to a project.
<b>Resource Availability</b>	The level of availability of a resource, which may vary over time.
<b>Responsibility</b>	The obligation to perform or take care of something, usually with the liability to be accountable for loss or failure. Responsibility may be delegated to others but the delegation does not eliminate the responsibility or accountability of the delegator.
<b>Risk</b>	An event that could jeopardize the successful completion of the project. Risks should be identified and assessed for probability of occurrence and impact on the project. Risk usually has a negative connotation (e.g., project failure), but may also be a positive event, like the early completion of a task.
<b>Risk Analysis</b>	A technique designed to quantify the impact of uncertainty.
<b>Risk Assessment</b>	Part of risk management in which planners identify potential risks and describe them, usually in terms of their symptoms, causes, probability of occurrence and potential impact.
<b>Risk Avoidance</b>	Planning activities to avoid risks that have been identified.

<b>Term</b>	<b>Definition</b>
<b>Risk Event</b>	A discrete occurrence that affects a project.
<b>Risk Identification</b>	The determination of risk events that may affect a project.
<b>Risk Management</b>	The art and science of identifying and assessing the risk factors during a project and responding to them in the best interests of the project objectives.
<b>Risk Management Plan</b>	Document that records all known risks related to the project and the actions to be taken to mitigate them, or plan for contingencies should risk events occur. .
<b>Risk Prioritizing</b>	Process of ordering risks according to their risk value, and then by the action to be taken (i.e., risk reduction, risk avoidance, and risk transfer).
<b>Risk Response</b>	Action taken to address the occurrence of a risk event.
<b>Risk Tolerance</b>	An accepted level of risk in order to achieve certain benefits.
<b>Risk Transfer</b>	An arrangement between two parties where the liability for the costs of a risk is transferred from one party to the other.
<b>Schedule</b>	The project timeline, identifying the dates that project tasks will be started and completed, resources will be required, and upon which milestones will be reached.
<b>Schedule Development</b>	The process of determining when project activities will take place depending on defined durations and precedent activities. Schedule constraints specify when an activity should start or end based on duration, predecessors, external predecessor relationships, resource availability, or target dates.
<b>Scope</b>	A description of the work to be accomplished in order to meet project goals and objectives.
<b>Scope Change</b>	Any change in the definition of the project scope. Scope change can result from changes in client needs, discovery of defects or omissions, regulatory changes, etc., that affects the project's cost or schedule.
<b>Scope Change Control</b>	The process of making sure that all changes to the project scope are consciously evaluated and their implications to the project plan are considered in making a decision to make the change, postpone it, or reject

Term	Definition
	it.
<b>Scope Creep</b>	The unconscious growth of the project scope resulting from uncontrolled changes to requirements.
<b>Scope Definition</b>	Breaking down the project's major deliverables into small, more manageable components to make verification, development and project control easier. This may be part of requirements definition and/or design.
<b>Stakeholders</b>	Stakeholders are the people who have a vested interest in the outcome of the project.
<b>Statement of Work (SOW)</b>	Document describing the work to be performed during a project that describes the requirements and major deliverables to achieve project goals and objectives.
<b>Status Reports</b>	Written reports provided on a regular basis to facilitate control of the project and to keep management informed of project status.
<b>Task</b>	A unit of work requiring effort, resources and having a concrete outcome (a deliverable). A task may be of any size (a project is a very large task). Sometimes the term is used to denote a piece of work at a particular level in a Work Breakdown Structure (WBS) hierarchy e.g., a phase is broken into a set of activities, and an activity into a set of tasks. Except for this hierarchical usage, activity is synonymous with task.
<b>Value</b>	A standard, principle or quality considered worthwhile or desirable.
<b>Variance</b>	The difference between estimated cost, duration or effort and the actual result of performance. It can also be the difference between the initial or baseline product scope and the actual product delivered.
<b>WBS Dictionary</b>	Document describing the work content of each WBS element.
<b>Work</b>	The total number of hours, people or effort required to complete a task.



Term	Definition
<b>Work Breakdown Structure (WBS)</b>	A hierarchical task list created by decomposing the project based on the breakdown of the product into components and the breakdown of the project process into increasingly detailed tasks. These end units of the WBS become the activities in a project. The WBS is depicted as a tree diagram (or hierarchy chart) or as a list in outline form with detailed items subordinated to higher-level items. Once implemented, the WBS facilitates summary reporting at a variety of levels.
<b>Work Package</b>	A task at a low level of the Work Breakdown Structure identified to accomplish work required to complete a project. The criteria for defining work packages is as follows: 1) Each work package is clearly distinguishable from all other work packages in the project; 2) Each work package has a scheduled start and finish date; 3) Each work package has an assigned budget that is time-phased over the duration of the work package; 4) Each work package either has a relatively short duration, or can be divided into a series of milestones whose status can be objectively measured; and 5) Each work package has a schedule that is integrated with higher-level schedules.
<b>Work Products</b>	Work Products are the results or deliverables that need to be produced in order to complete the project and meet defined requirements.

## Document Control Block

Revision	Date	Person / Organization	Description/Changes
1	3/8/2008	Rick Peffer / ICS	Initial Document
2	10/23/2009	Keith Young / ICS Royal Bennett / ICS	Moved forms out to individual documents and linke to them for ease of access. Updated tracking information , header, footer and fonts.
3	01/04/2010	Linda Leiwig ICS	Modified to comply with version 6 Documentation Style Requirements and Usage Procedure