Subject	Type	Standard
Project Management Plan	Identifier	S–1052
	Effective Date	June 2002
	Revision No.	2

Approval

CISSCO Program Director

A. PURPOSE

This standard specifies the content and format requirements for a Project Management Plan (PMP).

B. APPLICABILITY

A Project Management Plan (PMP) is prepared for all Projects for which IT is a component that are developed using the SDLCM Methodology.

The Overall Project Manager is responsible for developing and maintaining the overall PMP, key managers and quality assurance personnel for reviewing it, and the Executive Sponsor for approving it. The plan is made available to all members of the Project team preferably in electronic form. This Plan shall address all aspects of the Project from staffing to development of policy and guidance documents associate with the business rules of the Project and/or its approval and status (Management Directives, Rule Changes, Commission Papers, etc.) to deliver dates for products and acquisitions (contract awards, Hardware/Software acquisitions, training, etc.) and critical reviews. It shall incorporate the milestones and risks of the Software Development Plan within the Work Breakdown Structure and the Risk Management Processes. It should further define critical path items and dependencies.

C. REFERENCE PUBLICATIONS

The following publications contain related information:

- *SDLCM Methodology Handbook*, Component 1, Outputs and Deliverables
- *SDLCM Methodology Handbook*, Component 2, Outputs and Deliverables
- *SDLCM Methodology Handbook*, Component 3, Outputs and Deliverables
- *SDLCM Methodology Standard*, S-1051, Project Charter
- *SDLCM Methodology Standard,* S-3051, System Requirements Specification
- *SDLCM Methodology Standard*, S-3052, Current System Assessment Document
- *SDLCM Methodology Standard*, S-3053, System Operations Concept
- *SDLCM Methodology Standard*, S-3162, Context Diagrams
- *SDLCM Methodology Standard*, S-3151, Data Models
- *SDLCM Methodology Standard*, S-2001, Quality Assurance Plan
- *SDLCM Methodology Standard*, S-2501, Configuration Management Plan
- *SDLCM Methodology Standard*, S-1057, Software Development Plan

D. STANDARD

The Project Management Plan (PMP) communicates to the NRC Senior Management, Business Advocates, Stakeholders, and Project Team members the overall plan for performing and managing the Project from start to end. It is a working document that is created initially as an activity within Component 1 of the SDLCM Methodology. The PMP grows and is updated at defined milestones during the Project's life cycle and as the Project matures.

The Project Management Plan, defines the activities to be accomplished to satisfy Project requirements (both those that are to result in automated and manual approaches to production, as well as, guidance and policy that is needed to support or guide these systems, and environment changes to support these systems, training, etc.), provides a master schedule (for the overall Project) and a staffing plan for the performance of these activities, and describes the management and technical approach to accomplish the Project objectives.

The level of detail and content of the PMP may vary with Project size and complexity, development approach, or management style.

This standard should be tailored to be consistent with the size, scope, and complexity of the Project. Add sections and subsections for special topics. Sections and subsections that are not applicable should *not* be deleted; they should indicate "not applicable." Include a level of detail that allows for successful management of the Project. An example of tailoring this standard is:

> The PMP for a Project that is for a study to create an automated system but not the actual development of the automated systems, may include only sufficient detail to manage these activities. If additional work is authorized following this effort, the PMP is updated to include the remainder of the Project's activities.

Some of the information contained in the PMP is based on information developed for the Project Charter, Quality Assurance Plan, Configuration Management Plan, Current System Assessment Document, System Operations Concept and the System Requirements Specification. Copy and build on this information as appropriate; do not redevelop it. When appropriate, use references and pointers to other documents and plans rather than repeating material unnecessarily. However, repeat important material as necessary to clarify or to emphasize aspects of the plan.

The following paragraphs describe the content of each section of the PMP.

1. INTRODUCTION

This section contains an abstract of the Project. Using the Project Charter as a starting point, identify the applicable Project, define the scope of the PMP, specify the applicable references to other Project documents (such as the Project Charter, Software Development Plan, Current System Assessment Document, System Operations Concept, System Requirements Specification), and define any terms unique to this plan or to the Project.

1.1 Background

Describe the background for the Project from the client's perspective. Explain why the Project is being initiated, its importance to the client, the specific results or long-term objectives that are desired, and this Project's contribution to the overall strategy. Include the problem to be solved or the products to be developed in sufficient detail to support planning.

Refer to the Project Charter, Current System Assessment Document, System Operations Concept and the System Requirements Specification, as appropriate, for background material. If necessary, copy important information from these documents and build on it to clarify or emphasize aspects applicable to this plan.

1.2 Objectives

Specify the objectives that this Project is to support from the customer's perspective, the critical functions the Project should achieve, and the quantifiable criteria the Project must meet to succeed. If the PMP is for a new system or service, identify any high-level requirements or, if applicable, reference an existing document (such as the System Requirements Specification) that contains the requirements.

Refer to the Project objectives contained in the Project Charter, Quality Assurance Plan, Configuration Management Plan, Current System Assessment Document, System Operations Concept and the System Requirements Specification, as appropriate. If necessary, copy important information from these documents and build on it to clarify or emphasize aspects applicable to this plan.

1.3 Scope

Define for whom the work is being done (office, business functional area, etc.) and describe any necessary activities, acquisitions, policy and procedures verification, accesses, and interfaces are required. Describe any management agreements on which the success of the plan is based.

Describe any external influences and impacts, such as all organizations involved in implementing the Project Management Plan (commission approvals, rule changes, publishing of management directives, infrastructure support for automation efforts, etc.), data and system interfaces, customer or other business needs, and regulatory requirements that are addressed by the Project.

Specify any constraints, or restrictions, associated with the Project. A constraint may relate to Project approach, priorities, personnel, time, technologies, environments, decision cycles, tools, and techniques, or other aspects of the Project. In addition, discuss how management will control identified constraints to ensure Project success.

Refer to the Project scope contained in the Project Charter, Alternatives Analysis, Current

System Assessment Document, System Operations Concept and the System Requirements Specification, as appropriate. If necessary, copy important information from these documents and build on it to clarify or emphasize aspects applicable to this plan.

1.4 Assumptions and Risks

1.4.1 ASSUMPTIONS

Specify the major assumptions used to establish the Project estimates, plans, and approach.

> Note: Assumptions that apply to the PMP are items that form the basis for Project decisions, but have not been explicitly stated as requirements or background to the Project.

Include each identified open issue if the Project is to continue while issues remain unresolved. Include the degree of criticality in the description of each assumption.

Refer to the assumptions contained in the Project Charter, Configuration Management Plan, Quality Assurance Plan, Current System Assessment Document, System Operations Concept and the System Requirements Specification, as appropriate. If necessary, copy important information from these documents and build on it to clarify or emphasize aspects applicable to this plan.

1.4.2 RISK MANAGEMENT

Describe the overall activities that the Project will undertake to reduce risk. Describe the Project's approach to risk management.

1.4.3 RISK DESCRIPTION

Describe the Project's level of risk. Identify major Project risks, their areas of impact, and their potential effect on Project success. Describe the risks from the perspective of both customer and Project team.

1.4.4 RISK MANAGEMENT PROCESS(ES)

Describe the process established to manage risks, including the monitoring of risks and identification of activities to reduce the occurrence of specific risks. Specify the level of involvement of business area customer, Office of the Chief Information Officer (OCIO) personnel, and contractor personnel in managing the identified risk factors.

1.4.5 RISK MITIGATION

Describe the process established to mitigate risks. Include the development of appropriate risk mitigation plans for each risk identified.

1.5 Applicable Documents

Specify any documentation used to support the creation of the PMP (e.g., budget planning, CPIC screening form, Commission Papers, etc.), to provide additional information related to the Project, or to be used in completing the Project, including standards and process

documentation (e.g., Management Directives, 10 CFR, Strategic Plans, Operating Plans, Industry standards, Generic Communications, SDLCMM, etc.)

List the documents. Cite documents by publisher or source; document number or other unique identifier (if any); title, version or release designator (if any); and date. Note, that any documents actually cited in the text should be listed in the references section at the end of the document.

1.6 Document Overview

Discuss the organization of the PMP. Describe each major section of the plan in terms of its basic content and relationship to the Project.

Describe how the plan will be maintained throughout the life of the Project (for example, via document change notices). Identify Project milestones at which the PMP will be updated.

1.7 Relationship to Other Plans

This paragraph is used when the Project is a documented part of a higher level effort such as the Agency Strategic Plan or an Operating Plan, etc. Describes the relationship, if any, of the PMP to related program, service, enterprise, or Project plans.

1.8 Definition of Terms

List the terms/acronyms and corresponding definitions specific to the Project planning process and the Project.

2. APPROACH

Describe the framework for managing and integrating the Project and specify the overall schedule and organization critical to the Project's success**.**

2.1 Management Approach

Describe the management approach for ensuring that Project commitments are met. Define the rationale for this approach. Identify the applicable policies, directives, procedures, and standards to be employed on the Project.

2.2 Technical Approach

Describe the technical approach to be followed for this Project. Identify the delivery method or the life-cycle model (for example, the waterfall, incremental, evolutionary, package-based life-cycle models) that will be used in developing the Project. (Life-cycle models are addressed in the *SDLCM Methodology Handbook*.) Include a high-level description of the approach and the levels of testing that will be performed to ensure that the Project meets its requirements.

3. PROJECT OVERVIEW

3.1 Description

Document the agreement between the Overall Project Manager and the Executive Sponsor about the breadth and depth of the work required to complete the Project.

If applicable, paraphrase information included in the Current System Assessment Document, System Operations Concept, and the System Requirements Specification that defines this agreement or references the documents that contain the appropriate information.

Define the work to be performed. If applicable, describe the work in the same terms as any related Project(s).

Identify the high-level system(s), both existing and proposed (for automated systems include System No and Acronym and for manual systems name organizational structures and process and any defining policy), included in the Project. Refer to the Current System Assessment Document, System operations Concept, and the System Requirements Specification for the context diagram and any other high-level diagrams needed to show the relationship of components of the systems included in the Project.

Provide background and technical summary information so that the overall scope of the Project is understandable.

3.2 Constraints and Limitations

Identifies all known constraints and limitations, such as technology, schedule, budget, NRC or customer facilities and/or equipment.

3.3 Cost Estimation Profile

Identify any background and assumptions associated with the Project cost estimation process. This should include identification of any methods used for cost estimation (for example, tools, historical information, experience, industry standards). Each method employed should be associated with the portion of the Project, or work agreement where the method was applied. Be sure to identify this information for all portions of the Project, including recurring cost, if applicable.

4 PROJECT ORGANIZATION

Describe the organization of the Project that will implement the PMP. Include an organization chart of the Project team.

4.1 Organizational Responsibility and Authority

4.1.1 ROLES AND RESPONSIBILITIES

Describe the team members' responsibilities, accountabilities, and reporting relationships. Use standard (*SDLCM Methodology, Appendix A*) role descriptions and responsibilities.

4.1.2 SKILLS

Identify any special skills needed to perform the work described in this PMP. Address how these skills are being met (for example, assignment of skilled personnel, training).

4.1.3 INTERFACES

Describe the interfaces, both management and technical, between the Project team and the customer (business area) organization.

Identify any steering committees, working groups, or boards that will be used to help govern or to provide for technical interchange during Project implementation.

4.1.4 STAFFING PROFILE

Include the staffing profile proposed for the Project. The staffing profile should identify the number and type of personnel needed for the Project, broken down by role and time period. If skills are to be addressed through the use of contractor personnel, define the personnel and skills needed and approach to be taken to establish such contracts, evaluate these personnel, etc.

4.2 Quality Assurance, Configuration Management, Data Management, and Records Management

Describe Quality Assurance (QA), Configuration Management (CM), Data Management (DM), and Records Management as they apply to the Project.

4.2.1 QUALITY ASSURANCE

If this plan covers a maintenance Project for which a QAP has been developed, i.e., the QAP exists, then update and/or reference that document, as appropriate. Otherwise, describe the approach to quality assurance in Appendix A, using the QAP Standard outline (S-2001). The approach should ensure that all development products (documentation, hardware, software, and data) meet Project requirements and applicable standards. Describe the organization, methods, and standards used to ensure the quality of the Project's processes and products.

4.2.2 CONFIGURATION MANAGEMENT

If this plan covers a maintenance Project for which a CMP has been developed, i.e., the CMP exists, then update and/or reference that document, as appropriate. Otherwise, describe the configuration management approach for the Project in Appendix B, using the CMP Standard outline (S-3501). Identify the Project baselines to be established. Identify the Project-specific documents and Project databases that will be used to accomplish configuration management. Identify the person(s) responsible for CM and describe their roles. Describe the tools and procedures used to ensure the integrity of the system configuration; how changes are requested from the baseline and how such changes are approved and implemented, and who makes the changes.

4.2.3 DATA MANAGEMENT

Describe the process for creating, accessing, copying, and maintaining Project documents and other Project-related data. Identify the person(s) responsible for DM and describe their roles. Specify the documents and data to be managed, and their storage locations; and describe rules about retaining Project documents once the Project is completed.

Explicitly identify the DM activities that will be performed on the Project and the schedule for their performance. The schedule may be provided separately in this section or it may be included as part of the overall Project schedule.

4.2.4 RECORDS MANAGEMENT

Describe the records management approach for the Project. Specify the records to be managed, and their storage locations; and describe the records management rules for retention once the Project is completed. Reference the appropriate records management procedures and standards that will be followed on the Project. Identify a specific point of contact for coordination within the Records Management Branch.

4.3 SDLCM Methodology Tailoring

Specify any tailoring of the *SDLCM Methodology* applicable to the Project. The tailoring may be done incrementally as approval is granted to perform work in each component area of the methodology. Include the checklist for new Projects from the *SDLCM Methodology Handbook, Appendix D*, as an appendix to this plan to indicate at the component and activity levels the tailoring that has taken place.

Identify any exceptions, and approvals of any exceptions, to NRC and SDLCM Methodology policies, directives, procedures, and standards that apply to this Project.

4.4 Training

Identify training requirements, if any are required (examples would be training to achieve certification of agency personnel in process and business knowledge to use the system, end-user automated application training, training on the overall system (automated and manual portions), operations training for infrastructure operations personnel, training for Systems Administrators and Data Administrators, etc.). It is especially important that NRC operations center training be coordinated with affected personnel. Training considerations include:

- Operations personnel training in the User Manual
- Maintenance personnel training in the Operator Manual
- Contractor training, as necessary.

4.5 Contractors

Details the role and responsibilities of contractors in the program or Project organization. Identify subcontract management procedures. Descriptive material may either be included in this section of the PMP or included by reference to another document. When applicable, Independent Verification and Validation (IV&V) is described in this section. By reference, include the agency's central CM and IV&V approach.

5 WORK BREAKDOWN STRUCTURE

Include a Work Breakdown Structure (WBS). Describe how the Project has been decomposed into major units of work. Include all components of the solution and identify those that have been authorized for work.

Include a description of the units of work (or activities) and the deliverables that one or more persons are to complete within a given period of time.

5.1 Deliverables

Identify and briefly describe the major work products whose satisfactory delivery is necessary for Project completion. Include NRC staff developed products (e.g., rule changes, Commission Papers, Management Directives, etc), contract deliverables, etc.

5.2 Project Schedule

The Project schedule addresses the entire Project, including automated and manual processes. Include both depictions of the Project schedule, as applicable. The Gantt or milestone charts show the timing of all activities (inclusive of the Software Development Plan and other milestones for development of manual processes, equipment orders, equipment placement, training sessions, etc.) within the Project. The task assignment schedules show how units of work are assigned to team members.

If appropriate, include a network diagram that shows all key interdependencies or critical paths.

5.2.1 GANTT OR MILESTONE CHARTS

Include Gantt or milestone charts (or similar diagrams) to show the start and finish dates, as well as the duration of the development and delivery of all major activities of the Project . The top level is a one-page chart that shows the approximate start and end dates of each major component over the anticipated duration of the Project. The detailed level shows the major units of work that make up the Project.

5.2.2 TASK ASSIGNMENT SCHEDULES

Include task assignment schedules to show how units of work identified in the detailed schedule have been assigned to team members. Use task assignment schedules to show each major activity or unit of work, its budgeted time for completion, and its planned start and end dates.

6 REPORTING AND COMMUNICATIONS

6.1 Project Reviews and Reporting

Specifies the formal and informal interfaces between the Technical Project Manager and the overall NRC organization. Also specifies the policies and intervals of reporting status data, problem areas, and workarounds. The Program Management procedures contained in SDLCMM (?) should be referenced for further guidance in determining the complement and frequency of reviews.

6.2 Project Tracking

Specifies the mechanism for tracking the progress of the tasks of the Project. Specify mechanism for tracking cost, schedule, task progress, action items, contractor issues, reviews, etc. Include metrics collection and consider statistical techniques, as appropriate, to assess the status of the Project and to provide historical data for future Projects. In cases where outputs from Project tracking software is to be used in Project tracking and/or reporting, identify the particular outputs, including where and how they will utilized. Refer to *CPIC Guidance (MD 2.2)* for explanation of required metrics collection.

6.3 Internal Communications

Specifies the method of ensuring effective communications for the Project. A standard Project management software package is an example of the type of communication to be described.

6.4 External Communications

Specifies all formal communication mechanisms between the Project team and outside parties, such as contractors and vendors.

Document the Program Manager responsibility for communications with contractors and vendors. This entails documenting contractor contacts affecting cost, schedule, and technical requirements; coordinating program staff contacts with the contractor; coordinating modifications with the contractor; and ensuring that NRC employees document significant technical or program management discussions held with contractors.

When the Project includes contractors, ensure that only the contract specialist, on the advice of the Program Manager, has the authority to give direction to contractors or vendors.

7 DEVELOPMENT CYCLE DOCUMENTATION

A figure illustrating the documentation tree should be included in this section to show the relationships among the Project deliverables. The documentation suite identified in the *SDLCMM Handbook* should be followed. If a document required by the SDLCMM is omitted, or if two or more documents are combined, a short justification of the exclusion should be provided with explanation of where the information that would have been provided in that document resides and appropriate requests for waivers/deviations from the SDLCMM shall be applied for and approval obtained.

REFERENCES/APPENDIXES

List all cited references. Include the following appendixes, and others, as necessary.

Appendix A - Quality Assurance Plan (use S-2001)

Appendix B - Configuration Management Plan (use S-2501)

Appendix C - SDLCM Methodology Tailoring (if applicable)