

Effective, CMMI-Compliant Project Plans (in Less Than 10 Pages)

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- Most CMMI adopters continue to write plans the traditional way -- hundreds of pages long, filled mostly with boilerplate
- This approach is not consistent with the CMMI model, and makes the plans difficult (and time-consuming) to create, use, and maintain
- This presentation will describe a simple, easy to use method for creating a short (less than 10 pages), effective, CMMI-compliant project plan

- CMMI planning practices (PP, IPM, GP 2.2)
- Policy, plans, process descriptions, procedures – what's the difference?
- A 10-page (or less) planning template
- Lessons learned

CMMI Planning Practices

- Planning is mentioned both as a process area and as a generic practice in all process areas

		Requirements Management	Project Planning	Project Monitoring and Control	Supplier Agreement Management	Measurement and Analysis	Process and Product Quality Assurance	Configuration Management	Requirements Development	Technical Solution	Product Integration	Verification	Validation	Organization Process Focus	Organization process definition	Organizational Training	Integrated Project Management	Risk Management	Decision Analysis and Resolution	Organizational Process Performance	Quantitative Project Management	Organizational Performance Management	Causal Analysis and Resolution	
GP 2.1	Establish an Organizational Policy																							
GP 2.2	Plan the Process																							
GP 2.3	Provide Resources																							
GP 2.4	Assign Responsibility																							
GP 2.5	Train People																							
GP 2.6	Control Work Products																							
GP 2.7	Identify and Involve Relevant Stakeholders																							
GP 2.8	Monitor and Control the Process																							
GP 2.9	Objectively Evaluate Adherence																							
GP 2.10	Review Status with Higher Level Management																							
GP 3.1	Establish a Defined Process																							
GP 3.2	Collect Process Related Experiences																							



What Might Be Included in a Plan?

GP 2.2 Plan the Process

Establish and maintain the plan for performing the process.

The plan for performing the process typically includes the following:

- Process description **GP 3.1**
- Standards and requirements for the work products and services of the process
- Specific objectives for the execution of the process and its results (e.g., quality, time scale, cycle time, use of resources)
- Dependencies among the activities, work products, and services of the process
- Resources (e.g., funding, people, tools) needed to perform the process **GP 2.3**
- Assignment of responsibility and authority **GP 2.4**
- Training needed for performing and supporting the process
- Work products to be controlled and the level of control to be applied
- Measurement requirements to provide insight into the execution of the process, its work products, and its services
- Involvement of relevant stakeholders
- Activities for monitoring and controlling the process
- Objective evaluation activities of the process
- Management review activities for the process and the work products

CMMI Planning Process Areas

Project Planning

SG 1 Establish Estimates

- SP 1.1 Estimate the Scope of the Project
- SP 1.2 Establish Estimates of Work Product and Task Attributes
- SP 1.3 Define Project Lifecycle Phases
- SP 1.4 Estimate Effort and Cost

SG 2 Develop a Project Plan

- SP 2.1 Establish the Budget and Schedule
- SP 2.2 Identify Project Risks
- SP 2.3 Plan Data Management
- SP 2.4 Plan for Project Resources
- SP 2.5 Plan Needed Knowledge and Skills
- SP 2.6 Plan Stakeholder Involvement
- SP 2.7 Establish the Project Plan

SG 3 Obtain Commitment to the Plan

- SP 3.1 Review Plans that Affect the Project
- SP 3.2 Reconcile Work and Resource Levels
- SP 3.3 Obtain Plan Commitment

Integrated Project Management

SG 1 Use the Project's Defined Process

- SP 1.1 Establish the Project's Defined Process
- SP 1.2 Use Organizational Process Assets for Planning Project Activities
- SP 1.3 Establish the Project's Work Environment
- SP 1.4 Integrate Plans
- SP 1.5 Manage the Project Using Integrated Plans
- SP 1.6 Establish Teams
- SP 1.7 Contribute to Organizational Process Assets

SG 2 Coordinate and Collaborate with Relevant Stakeholders

- SP 2.1 Manage Stakeholder Involvement
- SP 2.2 Manage Dependencies
- SP 2.3 Resolve Coordination Issues

Other CMMI Planning Implications

Words like “selected”, “identify”, in practices imply a choice to be made in planning

GP 2.6 Place selected work products of the process under appropriate levels of control.

GP 2.7 Identify and involve the relevant stakeholders of the process as planned.

PPQA SP 1.1 Objectively evaluate selected performed processes against the applicable process descriptions, standards, and procedures.

How do Plans and Process Descriptions Differ?

Plan

- Description of activities
- Resources (including funding, people, and tools)
- Schedule
- Assignment of responsibility and authority

GP 2.3

GP 2.4

Process Description

GP 3.1

- Process roles
- Applicable standards
- Applicable procedures, methods, tools, and resources
- Process performance objectives
- Entry criteria
- Inputs
- Verification points (e.g., peer reviews)
- Outputs
- Interfaces
- Exit criteria
- Product and process measures

At Level 2, plans describe what to do

At Level 3, the existence of a process description means plans become much shorter

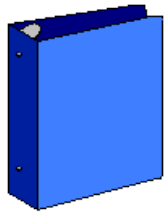
- Focus is on instantiating the process (e.g., how often a process executes)

A Top-Level Comparison



Policy

**High-level “what” to do
(organizational guidance)**



Process

**High-level “how” to do
(organizational standard, tailored by projects)**



Procedure

**Low-level “how” to do
(details needed to follow a strategy)**



Plan

**Instantiation of the process
(how often, when, etc.)**

Documenting Choices in Plans

- Policies identify what must happen
- Process descriptions and procedures describe the steps to be performed
- Plans describe how the process is instantiated



- For Maturity Level 3 and higher organizations, the existence of a process description means the typical “boilerplate” process descriptions included in a plan (e.g., DOD-STD-2167A) can be eliminated
- Plans simply describe the instantiation of the process
 - Who, how often, what resources
- Plans capture the decisions about how to best fit the process to the task at hand
 - By creating a short, table-based template, the decisions are highlighted

The work products to be controlled for each project process, their level of control, and the control authority authorized to make changes to the work product are defined in Table 2.10. The levels of control are defined in Table 2.11

Table 2.10. Work Products, Documents, and Records

PROJECT PROCESS	WORK PRODUCT	LEVEL OF CONTROL	AUTHORITY
Project Planning	Project Management Plan	Project	Project Manager
	Engineering Change Proposals (CDRL A017)	Project	Project Manager
Project Monitor and Control	Work Breakdown Structure	Project	Project Manager
	Technology Control Plan (CDRL A001)	Project	Project Manager
	Contract/Funds Status Report (CDRL A003)	Project	Project Manager
	Cost-Schedule Status Report (CDRL A004)	Project	Project Manager

- All CMMI-required decisions are captured in the template
- The template can include either blanks to fill in, “typical” values to be reviewed/modified as needed, or mandatory values set by the organization

- The template has been a very useful tool for explaining CMMI concepts
- The table approach encourages Project Managers to be more conscientious in their process decisions
- Shorter plans are easier to create – helps CMMI buy-in
- Shorter plans are easier to read – no more shelfware

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