

**SDLC Supports CMM-SW Level 2**

**Mapping of the SOM System Development Lifecycle to the Software Engineering Institute (SEI) Software Capability Maturity Model (CMM) Level 2**

<b>KPA Activity Number</b>	<b>KPA Activity</b>	<b>ID</b>	<b>SDLC Section</b>	<b>SDLC Deliverables</b>
<b>REQUIREMENTS MANAGEMENT</b>				
RM-1	The software engineering group reviews the allocated requirements before they are incorporated in the software process.		Develop High-Level Project Requirements	Project Plan
			Establish Functional Baseline	Requirements Specification Document
RM-2	The software engineering group uses the allocated requirements as the basis for software plans, work products, and activities.		Develop High-Level Project Requirements	Project Plan
			Develop Requirements Tracability Matrix	Requirements Traceability Matrix
			Establish Functional Baseline	Revised Project Plan
			Revise Project Plan	
RM-3	Changes to the allocated requirements are reviewed and incorporated into the software project.		Requirements Management	Revised Software Requirements Specification
			Establish Functional Baseline	

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<b>SOFTWARE PROJECT PLANNING</b>				
SPP-1	The software engineering group participates on the project proposal team.		Define Project Objectives	Project Plan
			Define Project Scope	Project Profile
			Establish Communication with Functional Areas	Feasibility Review or Feasibility Study
SPP-2	Software project planning is initiated in the early stages of, and in parallel with, the overall project planning.		Lifecycle Model	Project Plan
			Define Project Objectives	Project Profile
			Define Project Scope	Work Breakdown Structure (WBS)
			Develop Project Plan	
SPP-3	The software engineering group participates with other affected groups in the overall project planning through the project's life.		Establish Communication with Functional Areas	Project Plan
			Develop Project Plan	Project Profile
				Quality Assurance Plan
SPP-4	Software project commitments made to individuals and groups external to the organization are reviewed with senior management according to a documented procedure.		Lifecycle Model	Project Plan
			Develop Project Plan	WBS
				Quality Assurance Plan

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<b>SOFTWARE PROJECT PLANNING</b>				
SPP-5	A software life cycle with predefined stages of manageable size is identified or defined.		Lifecycle Model Develop Project Plan	Project Plan
SPP-6	The project's software development plan is developed according to a documented procedure.		Lifecycle Model Project Sizes Adapting the Lifecycle Develop Project Plan	Project Plan WBS
SPP-7	The plan for the software project is documented.		Develop Project Plan	Project Plan WBS
<b>SOFTWARE PROJECT PLANNING</b>				
SPP-8	Software work products that are needed to establish and maintain control of the software project are identified.		Develop Project Plan Develop Software Configuration Management Plan	Project Plan Software Configuration Management Plan
SPP-9	Estimates for the size of the software work products (or changes to the size of the software work products) are derived according to a documented procedure.		Project Sizes Adapting the Lifecycle Develop Project Plan Develop the Project Estimate	Project Plan

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<b>SOFTWARE PROJECT PLANNING</b>				
SPP-10	Estimates for the software project's efforts and costs are derived according to a documented procedure.		Determine Project Feasibility	Feasibility Review or Study
			Conduct Feasibility Review	Analysis of Benefits and Costs
			Conduct Feasibility Study	WBS
			Conduct analysis of benefits and costs	
			Develop the Project Estimate	
SPP-11	Estimates for the project's critical computer resources are derived according to a documented procedure.		Develop High-Level Project Requirements	Project Plan
			Determine Project Feasibility	Feasibility Review
			Investigate Software Alternatives	Requirements Specification Document
			Investigate Hardware Alternatives	
			Formulate Platform Options	
			Conduct Feasibility Review	
			Define Project Requirements	
SPP-12	The project's software schedule is derived according to a documented procedure.		Develop Project Plan	Project Plan
			Develop Software Project Schedule	WBS
SPP-13	The software risks associated with the cost, resource, schedule, and technical aspects of the project are identified, assessed, and documented.		Conduct a Feasibility Review	Feasibility Review
			Develop Project Plan	Project Plan

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<b>SOFTWARE PROJECT PLANNING</b>				
SPP-14	Plans for the project's software engineering facilities and support tools are prepared.		Conduct a Feasibility Review	Feasibility Review
			Develop Project Plan	Project Plan
			Define Implementation Requirements	Implementation Plan
SPP-15	Software planning data are recorded.		Develop Project Plan	Project Plan
			Develop the Project Estimate	
<b>SOFTWARE PROJECT TRACKING AND OVERSIGHT</b>				
SPTO-1	A documented software development plan is used for tracking the software activities and communicating status.		Software Project Tracking and Oversight	Project Plan
			Develop Project Plan	
SPTO-2	The project's software development plan is revised according to a documented procedure.		Software Project Tracking and Oversight	Revised Project Plan
			Revise Project Plan	
SPTO-3	Software project commitments and changes to commitments made to individuals and groups external to the organization are reviewed with senior management according to a documented procedure.		Software Project Tracking and Oversight	Project Plan
			Develop Project Plan	
SPTO-4	Approved changes to commitments that affect the software project are communicated to the members of the software engineering group and other software-related groups.		Software Project Tracking and Oversight	Project Plan
			Revise Project Plan	Stage Exit Meeting
			Conduct State Exit	

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<b>SOFTWARE PROJECT TRACKING AND OVERSIGHT</b>				
SPTO-5	The sizes of the software work products (or sizes of the changes to the software work products) are tracked, and corrective actions are taken as necessary.		Software Project Tracking and Oversight	Requirements Specification Document
			Establish Functional Baseline	Software Configuration Management Plan
			Develop System Design	
			Establish Development Baselines	
SPTO-6	The project's software effort and costs are tracked, and corrective actions are taken as necessary.		Software Project Tracking and Oversight	Project Plan
			Develop Project Plan	Revised Project Plan
			Revise Project Plan	
SPTO-7	The project's critical computer resources are tracked and corrective actions are taken as necessary.		Software Project Tracking and Oversight	Software Configuration Management Plan
			Develop Software Configuration Management Plan	
<b>SOFTWARE PROJECT TRACKING AND OVERSIGHT</b>				
SPTO-8	The project's software schedule is tracked, and corrective actions are taken as necessary.		Software Project Tracking and Oversight	Project Plan
			Develop Project Plan	WBS
SPTO-9	Software engineering technical activities are tracked, and corrective actions are taken as necessary.		Software Project Tracking and Oversight	Project Plan

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<b>SOFTWARE PROJECT TRACKING AND OVERSIGHT</b>				
SPTO-10	The software risks associated with cost, resource, schedule, and technical aspects of the project are tracked.		Software Project Tracking and Oversight	Feasibility Review or Study
			Determine Project Feasibility	Project Plan
			Develop Project Plan	
SPTO-11	Actual measurement data and replanning data for the software project are recorded.		Software Project Tracking and Oversight	Project Plan
			Develop Project Plan	Project File
SPTO-12	The software engineering group conducts periodic internal reviews to track technical progress, plans, performance, and issues against the software development plan.		Software Project Tracking and Oversight	Project Plan
			Conducting structured walkthroughs	In-Stage Assessments
			In-Stage Assessment Process Guide	Stage Exit Meetings
			Stage Exit Process Guide	Structured Walkthroughs
SPTO-13	Formal reviews to address the accomplishments and results of the software project milestones according to a documented procedure.		Software Project Tracking and Oversight	Project Plan
			Stage Exit Process Guide	Stage Exit Meetings

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<b>SOFTWARE SUBCONTRACT MANAGEMENT</b>				
SM-1	The work to be subcontracted is defined and planned according to a documented procedure.		Project Management	Project file
			Subcontractor Management	
SM-2	The software subcontractor is selected based on an evaluation of the subcontract bidders' ability to perform the work, according to a documented procedure.		Project Management	Project file
			Subcontractor Management	
SM-3	The contractual agreement between the prime contractors and the software subcontractor is used as the basis for managing the subcontract.		Project Management	Project file
			Subcontractor Management	
SM-4	A documented subcontractor's software development plan is reviewed and approved by the prime contractor.		Project Management	Project file
			Subcontractor Management	
SM-5	A documented and approved subcontractor's software development plan is used for tracking the software activities and communicating status.		Project Management	Project file
			Subcontractor Management	

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<b>SOFTWARE SUBCONTRACT MANAGEMENT</b>				
SM-6	Changes to the software subcontractor's statement of work, subcontract terms and conditions, and other commitments are resolved according to a documented procedure.		Project Management Subcontractor Management	Project file
SM-7	The prime contractor's management conducts periodic status/coordination reviews with the software subcontractor's management.		Project Management Subcontractor Management	Project file
SM-8	Periodic technical reviews and interchanges are held with the software subcontractor.		Project Management Subcontractor Management	Project file
SM-9	Formal reviews to address the subcontractor's software engineering accomplishments and results are conducted at selected milestones according to a documented procedure.		Project Management Subcontractor Management	Project file
SM-10	The prime contractor's software quality assurance group monitors the subcontractor's software quality assurance activities according to a documented procedure.		Project Management	Project file

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			Subcontractor Management	
<b>SOFTWARE SUBCONTRACT MANAGEMENT</b>				
SM-11	The prime contractor's software configuration management group monitors the subcontractor's activities for software configuration management according to a documented procedure.		Project Management	Project file
			Subcontractor Management	
SM-12	The prime contractor conducts acceptance testing as part of the delivery of the subcontractor's software products according to a document procedure.		Project Management	Project file
			Subcontractor Management	
SM-13	The software subcontractor's performance is evaluated on a periodic basis, and the evaluation is reviewed with the subcontractor.		Project Management	Project file
			Subcontractor Management	
<b>SOFTWARE QUALITY ASSURANCE</b>				
SQA-1	A SQA plan is prepared for the software project according to a documented procedure.		Develop Software Quality Assurance Plan	Software Quality Assurance Plan
SQA-2	The SQA groups' activities are performed in accordance with the SQA plan.		Develop Software Quality Assurance Plan	Software Quality Assurance Plan
SQA-3	The SQA group participates in the preparation and review of the project's software development plan, standards and procedures.		Quality Reviews	Software Quality Assurance Plan

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			Develop Software Quality Assurance Plan	In-Stage Assessments
			Conducting Structured Walkthroughs	Stage Exit Meetings
			In-Stage Assessment Process Guide	Structured Walkthroughs
			Stage Exit Process Guide	
<b>SOFTWARE QUALITY ASSURANCE</b>				
SQA-4	The SQA group reviews the software engineering activities to verify compliance.		Quality Reviews	Software Quality Assurance Plan
			Develop Software Quality Assurance Plan	In-Stage Assessments
			Conducting Structured Walkthroughs	Stage Exit Meetings
			In-Stage Assessment Process Guide	Structured Walkthroughs
			Stage Exit Process Guide	
SQA-5	The SQA group audits designated software work products to verify compliance.		Quality Reviews	Software Quality Assurance Plan
			Develop Software Quality Assurance Plan	In-Stage Assessments
			Conducting Structured Walkthroughs	Stage Exit Meetings
			In-Stage Assessment Process Guide	Structured Walkthroughs
			Stage Exit Process Guide	
<b>SOFTWARE QUALITY ASSURANCE</b>				
SQA-6	The SQA group periodically reports the results of the activities to the software engineering group.		Quality Reviews	Software Quality Plan
			Develop SQA Plan	In-Stage Assessments
			In-Stage Assessment Process Guide	Stage Exit Meetings
			Stage Exit Process Guide	

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SQA-7	Deviations identified in the software activities and software work products are documented and handled according to a documented procedure.		Lifecycle Model	Project Plan
			Project Sizes	Software Quality Plan
			Adapting the Lifecycle	In-Stage Assessments
			Develop SQA Plan	Stage Exit Meetings
			Develop Project Plan	
			In-Stage Assessment Process Guide	
			Stage Exit Process Guide	
<b>SOFTWARE QUALITY ASSURANCE</b>				
SQA-8	The SQA group conducts periodic reviews of its activities and findings with the customer's SQA personnel, as appropriate.		Quality Reviews	Software Quality Plan
			Develop Software Quality Assurance Plan	In-Stage Assessments
			Conducting Structured Walkthroughs	Stage Exit Meetings
			In-Stage Assessment Process Guide	Structured Walkthroughs
			Stage Exit Process Guide	
<b>SOFTWARE CONFIGURATION MANAGEMENT</b>				
SCM-1	A SCM plan is prepared for each software project according to a documented procedure.		Develop Software Configuration Management Plan	Software Configuration Management Plan
SCM-2	A documented and approved SCM plan is used as the basis for performing the SCM activities.		Develop Software Configuration Management Plan	Software Configuration Management Plan
SCM-3	A configuration management library system is established as a repository for the software baselines.		Develop Software Configuration Management Plan	Software Configuration Management Plan

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<b>SOFTWARE CONFIGURATION MANAGEMENT</b>				
SCM-4	The software work products to be placed under configuration management are identified.		Develop Software Configuration Management Plan	Software Configuration Management Plan
SCM-5	Change requests and problem reports for all configuration items/units are initiated, recorded, reviewed, approved, and tracked according to a document procedure.		Develop Software Configuration Management Plan	Software Configuration Management Plan
SCM-6	Changes to baselines are controlled according to a documented procedure.		Develop Software Configuration Management Plan	Software Configuration Management Plan
SCM-7	Products from the software baseline library are created and their release is controlled according to a documented procedure.		Develop Software Configuration Management Plan	Software Configuration Management Plan
SCM-8	The status of configuration items/units is recorded according to a documented procedure.		Develop Software Configuration Management Plan	Software Configuration Management Plan
SCM-9	Standard reports documenting the SCM activities and the contents of the software baseline are developed and made available to affected groups and individuals.		Develop Software Configuration Management Plan	Software Configuration Management Plan
SCM-10	Software baseline audits are conducted according to a documented procedure.		Develop Software Configuration Management Plan	Software Configuration Management Plan