

# Requirements Management

	Key Practice / Notes	ISO 9001:2015 QMS Clauses	Agile Artifacts	SAFe
<b>SG1</b>	<b>Requirements are managed and inconsistencies with plans and work products are identified.</b>			
<b>SP1.1</b>	<b>Develop an understanding with the requirements providers on the meaning of the requirements.</b>			
	<b>Appraisal Considerations:</b> Consider existence of requirements at multiple levels (e.g., to service and service system requirements).			
	<b>Artifact Example:</b> <ul style="list-style-type: none"> <li>- Lists of criteria for distinguishing appropriate requirements providers</li> <li>- Criteria for evaluation and acceptance of requirements</li> <li>- Results of analyses against criteria</li> <li>- A set of approved requirements</li> <li>- Service agreement</li> <li>- Evidence of early allocation of service requirements to service system requirements</li> <li>- A list or characterization of requirements providers authorized to provide direction</li> </ul>			
		5.3: Organizational roles, responsibilities, and authorities: a) ensuring that the quality management system conforms to the requirements of this International Standard;	The Product Vision Statement articulates the goals for the project and must be understood by the project stakeholders, development team, and the Scrum Master.	All team members must understand the Solution Vision, and each level of SAFe develops their own Vision of how they will help meet higher-level objectives.
		6.2: Quality objectives and planning to achieve them; 6.2.1: c) take into account applicable requirements;	The Product Roadmap / Product Backlog identifies and groups requirements for the product and defines high-level estimates for effort, priority, and time frames.	The SAFe Roadmap consists of a the upcoming planned and committed Program Increment (PIs) and the next planned PIs, with upcoming Milestones indicated.
		8.5: Production and service provision: 8.5.1: Control of production and service provision: a) the availability of documented information that defines: 1) the characteristics of the products to be produced, the services to be provided, or the activities to be performed; 2) the results to be achieved;	Requirements may be broken down (decomposed) into Themes, Features, Epic User Stories, User Stories, or Tasks, which describe the requirements in terms of its value to the end user.	Functional system behavior is described and broken down, from Epics to Capabilities, Features, and then Stories at the Portfolio, Value Stream, Program, and Team levels, respectively.
		8.5: Production and service provision: 8.5.2: Identification and traceability		
<b>SP1.2</b>	<b>Obtain commitment to requirements from participants.</b>			
	<b>Appraisal Considerations:</b> <ul style="list-style-type: none"> <li>- Ensure this is performed not only for the initial requirements set, but also for subsequent changes</li> <li>- Consider how commitments to requirements are obtained at multiple levels; this may involve different stakeholders at each level.</li> <li>- The intent of this practice includes consideration of impact upon project stakeholders prior to commitment to requirements (e.g., plans, estimates, schedules).</li> </ul>			
	<b>Artifact Example:</b> <ul style="list-style-type: none"> <li>- Requirements impact assessments</li> <li>- Documented commitments to requirements and requirements changes</li> <li>- Requirements review artifacts</li> <li>- Requirements change request logs and/ or database reports</li> </ul>			
		5.3: Organizational roles, responsibilities, and authorities: a) ensuring that the quality management system conforms to the requirements of this International Standard;	The Product Vision Statement must be understood by the project stakeholders, development team, and the Scrum Master.	All team members must understand the Solution Vision, and each level of SAFe develops their own Vision of how they will help meet higher-level objectives.
			The Product Roadmap / Product Backlog may be created with input from stakeholders and the development team.	
			User stories are created with input from stakeholders and the development team.	Story Points estimate the value and effort for each Story.
			Sprint Planning is performed together by the Product Owner, Scrum Master, and the development team.	Iteration Planning is performed together by the Product Owner, Scrum Master, and the development team.
<b>SP1.3</b>	<b>Manage changes to requirements as they evolve.</b>			

	<p><b>Appraisal Considerations:</b></p> <ul style="list-style-type: none"> <li>- The scope of REQM is to identify and assess the impact of requirements changes, but does not including development and incorporation of revisions.</li> </ul>			
	<p><b>Artifact Example:</b></p> <ul style="list-style-type: none"> <li>- Requirements change request</li> <li>- Requirements change impact reports</li> <li>- Requirements status</li> <li>- Requirements database</li> <li>- Requirements reports with attributes including current state (e.g., approval, source, rationale, revision history, impact)</li> <li>- Requirements change reviews artifacts</li> <li>- Revisions to service system and/or work products resulting from changed requirements</li> </ul>			
		8.2: Requirements for products and services: 8.2.3: Review of the requirements for products and services: 8.2.4: Changes to requirements for products and services	The Product Roadmap / Product Backlog is a living document to which requirements can be added or changed.	The Roadmap is developed and updated by Solution and Product Management as the Vision and delivery strategy evolve.
		8.5: Production and service provision: 8.5.1: Control of production and service provision: a) the availability of documented information that defines: 1) the characteristics of the products to be produced, the services to be provided, or the activities to be performed; 2) the results to be achieved;	Sprint Planning decides whether a new requirement should be a part of the sprint.	New requirements are elaborated into Epics, Capabilities, Value Stream, Program, and Team Backlogs, respectively.
		8.5: Production and service provision: 8.5.2: Identification and traceability		
<b>SP1.4</b>	<b>Maintain bidirectional traceability among requirements and work products.</b>			
	<p><b>Appraisal Considerations:</b></p> <ul style="list-style-type: none"> <li>- Ensure that both vertical and horizontal traceability are included (e.g., across functions or interfaces)</li> <li>- (How do we assess traceability of requirements to "project plans"? This is probably more implicit than explicit, and applies to plans such as test plans, V&amp;V plans, etc. See PP PA for project plans that might be affected. The assessment team must reach consensus on how this is to be assessed for the organization.)</li> </ul>			
	<p><b>Artifact Example:</b></p> <ul style="list-style-type: none"> <li>- Requirements traceability matrix</li> <li>- Requirements tracking system</li> <li>- Criteria and completed checklists and minutes for review of requirements traceability</li> <li>- Revision and maintenance of requirements traceability across the lifecycle</li> <li>- Listings of allocated service requirements included in reviews of project plans and work products across the lifecycle.</li> <li>- Requirements mappings used to support impact assessments</li> </ul>			
		8.7: Control of nonconforming outputs: 8.7.1	A card-based User Story system typically has the requirements on the front side of the card, and the verification steps to confirm the work product meets the requirement on the back side of the card.	
		8.5: Production and service provision: 8.5.1: Control of production and service provision: a) the availability of documented information that defines: 1) the characteristics of the products to be produced, the services to be provided, or the activities to be performed; 2) the results to be achieved;	The Sprint Burndown Chart shows the status of the work that the development team has completed and tracks actual progress to the estimated schedule.	Agile project management tools are used to track the status of stories, defects, test cases, estimates, actuals, burndowns, and more.
		8.5: Production and service provision: 8.5.2: Identification and traceability		
<b>SP1.5</b>	<b>Ensure that plans and work products remain aligned with requirements.</b>			
	<p><b>Appraisal Considerations:</b></p> <ul style="list-style-type: none"> <li>- The scope of the REQM PA is simply to identify, but not correct, requirements issues that must be resolved.</li> </ul>			
	<p><b>Artifact Examples:</b></p> <ul style="list-style-type: none"> <li>- Documentation of identified requirements inconsistencies including sources, conditions, rationales.</li> <li>- Corrective action requirements</li> <li>- Corrective action requests initiated as a result of inconsistencies between requirements and plans / work products</li> <li>- Completed checklists, forms, logs, action items, or minutes substantiation</li> </ul>			

		6.2: Quality objectives and planning to achieve them: 6.2.1: d) be relevant to conformity of products and services and to enhancement of customer satisfaction;	Daily Stand-up Meetings identify issues.	Daily Stand-up Meetings identify issues.
		8.2: Requirements for products and services: 8.2.3: Review of the requirements for products and services: 8.2.4: Changes to requirements for products and services	The Sprint Burndown Chart shows the status of the work that the development team has completed and tracks actual progress to the estimated schedule.	Agile project management tools are used to track the status of stories, defects, test cases, estimates, actuals, burndowns, and more.
		8.5: Production and service provision: 8.5.1: Control of production and service provision: a) the availability of documented information that defines: 1) the characteristics of the products to be produced, the services to be provided, or the activities to be performed; 2) the results to be achieved;	The Product Owner Review verifies that completed user stories meet the Definition of Done, which is captured on the Task Board.	The Product Owner verifies that completed stories meet their acceptance tests, which is captured on the Kanban board/story board.

