

Requirements Management Plan

<Project Name>

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# Introduction

The Requirements Management Plan is a necessary tool for establishing how requirements will be collected, analyzed, documented, and managed throughout the lifecycle of a project. Depending on the type of project there may be both project and product requirements. It is easy to unintentionally omit requirements, fail to document them, or leave requirements incomplete without a tool to properly manage them.

The purpose of the ABC Requirements Management Plan is to establish a common understanding of how requirements will be identified, analyzed, documented, and managed for the ABC fiber optic cable project.

Requirements will be divided into two categories: project requirements and product requirements. Project requirements are the requirements identified to meet the needs of the project and ensure its completion and readiness to hand over to operations. These consist mostly of non-technical requirements. Product requirements are the requirements identified to meet the technical specifications of the product being produced as a result of the project: the ABC fiber optic cable. These will consist of requirements to ensure that performance specifications are met, cable properties are properly documented, and manufacturing thresholds are identified and documented.

The inputs for the requirements management plan include the ABC Project Charter and Stakeholder Register.

# Requirements Management Approach

The requirements management approach is the methodology the project team will use to identify, analyze, document, and manage the project’s requirements. Many organizations use a standard approach for all projects, but based on the characteristics of each project, this approach may require some changes. The BABOK defines this approach as “The activities that control requirements development, including requirements change control, requirements attributes definition, and requirements traceability. The PMBOK defines this approach as "How requirements activities will be planned, tracked, and reported."

# Configuration Management

In order to effectively manage a project, communication must be managed and controlled. Additionally, every effort must be taken to identify requirements thoroughly during project initiation and planning. However, there are often situations which require changes to a project or its requirements. In these situations it is important to utilize configuration management to consider proposed changes, establish a process to review and approve any proposed changes, and to implement and communicate these changes to the stakeholders. As stated in the PMBOK, components of the requirements management plan can include: "Configuration management activities such as how changes to the product, service or result requirements will be initiated, how impacts will be analyzed, how they will be traced, tracked, and reported, as well as the authorization levels required to approve these changes."

Many of these functions and models have redefined configuration management from its traditional holistic approach to technical management. Some treat configuration management as being similar to a librarian activity, and break out change control or change management as a separate or stand-alone discipline.

Some of the items that should be addressed in the Configuration Management plan are:

* Project document versioning
* Project document repository & security
* Change Management
* WBS identification scheme
* Activity List ID scheme
* Project document approval processes
* Project team structure
* Project update process, tools and cadence
* Scheduling tool reports and their usage
* Identification of Organizational Process Assets

For the ABC Project, the Requirements Management Plan will utilize the configuration management activities outlined in the Configuration Management Plan. Key items include documentation/version control and change control:

**Documentation and Version Control**: All project documentation will be loaded into the Configuration Management Database (CMDB) as the central repository for the ABC Project. Appropriate permissions will be granted to the project team for editing and revising documentation. **Any proposed changes to project requirements must be reviewed by the Configuration Control Board (CCB) and have written approval by the project sponsor before any documentation changes are made.**  Once these proposed changes are approved and the documentation is edited, the project manager will be responsible for communicating the change to all project stakeholders.

**Change Control**:

# Requirements Prioritization Process

Prioritizing requirements is an important part of requirements management. Developers or service providers do not always know what requirements are most important to a customer. Conversely, customers do not always understand the scope, time, and cost impacts of their requirements on a project. Collaboration among all stakeholders is a necessary part of establishing project requirement priorities. If cuts need to be made to scope, time, or cost, this list of priorities will provide a better understanding of where the team should focus to deal with the constraints placed upon the project. One way to do this is to group requirements into priority categories such as high, medium, and low priority based upon the importance of the requirement. There may be hundreds of requirements in a large project so this type of categorically-based method is helpful.

NOTE: There are many methods by which requirement priorities are determined. Depending on the size and complexity of the project, further prioritization methods should be explored.

The ABC project manager will facilitate stakeholder meetings in order to establish priorities for all project requirements. This project will use a three-level scale in order to prioritize requirements. The chart below illustrates these levels and defines how requirements will be grouped:



Table : Three-level scale

As the project moves forward and additional constraints are identified or there are issues with resources, it may be necessary for the project team and stakeholders to meet in order to determine what requirements must be achieved, which can be re-baselined, or which can be omitted. These determinations will be made in a collaborative effort based on the priorities of the requirements and which level they are assigned in accordance with the chart above. As any changes in requirements are made, all project documentation must be updated in the CMDB and communicated to all project stakeholders.

# Product Metrics

Product metrics are an important part of determining a project’s success. To gauge the progress and success of the project, there must be quantitative characteristics against which to measure. Product metrics are typically technical in nature and may consist of performance, quality, or cost specifications. Metrics can also be based on the product requirements identified for a given project. Example metrics include response times, process timings, network throughput, and minimum hardware configurations.

Product metrics for the ABC project will be based on cost, quality, and performance requirements as outlined in the project charter. In order to achieve project success, the ABC product must meet or exceed all established metrics.

Cost:

* ABC cable product must cost less than $6,000 per linear kilometer for fiber counts of 12-72 fibers; less than $8,000 per linear kilometer for fiber counts of 84-180 fibers; less than $10,000 per linear kilometer for fiber counts of 192-288 fibers.

Quality:

* ABC cable product must achieve less than 10% attenuation in temperature cycle testing
* ABC cable product must achieve a minimum bending radius of less than 10 feet
* ABC cable product must weigh less than 1.0 lb. per linear foot for fiber counts of 12-180 fibers and less than 2.0 lbs. for fiber counts greater than 180

Performance:

* ABC cable must achieve an average attenuation of less than 0.1% per linear kilometer at 1550nm
* ABC cable must achieve an average attenuation of less than 0.5% per linear kilometer at 1610nm
* ABC cable must have a diameter of less than 1.0” for 12-72 fiber cables; less than 1.5” for 84-180 fiber cables; and less than 2.0” for 192-288 fiber cables

# Requirements Traceability Matrix

The requirements traceability matrix is a tool to ensure that deliverables meet the requirements of the project. The matrix provides a thread from the established and agreed upon project requirements, through the project’s various phases, and through to completion/implementation. This ensures that the product specifications and features satisfy the requirements on which they were based. Any interim project tasks associated with the requirements should be included. Examples of this are test cases which will utilize metrics, based on the product requirements, which are linked to the project charter and design document. This allows a team member or stakeholder to follow a requirement through all tasks required for its completion.

# Appendix