Project Classification and Tailoring Guidelines

Contents

[Purpose 2](#_Toc424313335)

[Project Classification 2](#_Toc424313336)

[Typical Project Lifecycle 2](#_Toc424313337)

[Guidelines for Tailoring 3](#_Toc424313338)

[Tailorings (Projects) 3](#_Toc424313339)

[Planning 4](#_Toc424313340)

[Design 5](#_Toc424313341)

[Verification and Validation 5](#_Toc424313342)

[Tailorings (Training) 6](#_Toc424313343)

[Tailorings (Quality Assurance) 6](#_Toc424313344)

[Tailorings (PEG Function) 6](#_Toc424313345)

# Purpose

This document lists down the various types of projects and their classification in order to govern how a certain project’s planned activities will be carried out.

The objective of this document is also to describe the various lifecycles and the models that can be used for development in Genus.

The document is also a general guideline for tailoring.

# Project Classification

|  |  |  |  |
| --- | --- | --- | --- |
| S. No | Project Type | Definition | Description |
|  | Major | Entirely new product development | A project involving a significant development of technological capabilities and an addition to the company’s product portfolio can be classified as a Major Project. |
|  | Minor | Addition to existing features with available information | A project involving a significant addition or modification of capabilities to an existing product but not adding significantly to the company’s product portfolio can be classified as a Minor Development Project. |
|  | Maintenance | Warranty support or Query resolution. | A project involving a modification to a delivered product to either correct faults, or improve performance, or adapt the product to a modified environment is classified as a Maintenance Project. |

# Typical Project Lifecycle

# Guidelines for Tailoring

Projects vary from prototypes to full-scale development to maintenance; often require reengineering or working with legacy design; have different application domains; come in a variety of different sizes and budgets; require different platforms and languages; and serve different customer communities with varying product and process related requirements with respect to documentation and standards. Our organization has the full range of variability among its projects.

An organization’s process improvement initiatives must embrace this diversity. A key process improvement strategy is to define a standard development process that will be used by all projects. This organization standard process needs to be designed to accommodate all of its product intensive business needs. However, since one standard process often cannot fit all of an organization’s projects, how this standard can most effectively be implemented on each project is an integral part of the planning process that needs to be explicitly addressed. The solution to this problem is usually to allow for tailoring of the standard process to accommodate the attributes and characteristics of individual projects. Taking an analogy, assume that the processes are a length of (unstitched) cloth, which will have to be modified to fit your body. The process of this modification will involve elimination of extraneous parts of the cloth, and addition of specific pieces of other cloth for linings etc.

The tailoring process steps are:

* Specify project attributes - what are the unique attributes of the project that will affect the tailoring?
* Systematically plan project management activities and tasks.
* Examine the standard activities for each development phase - what will need to be tailored?
* Choose a project lifecycle.
* Have tailoring decisions been evaluated and approved?
* Plan the project.

Below are the guidelines for a few areas that are candidates for tailoring. This is by no means and exhaustive list, and is merely suggestive in nature. In all cases, the tailorings shall be permitted only with the consent of the PEG.

## Tailorings (Projects)

The QMS consists of Policies, Procedures, templates, tools and guidelines. The policies and procedures are largely inviolate and must not be deviated from, except with utmost deliberation. The guidelines are suggestive and explanatory in nature and do not mandate compliance. However, almost all tools and templates are tailorable, i.e. suitable substitutes may be selected and used based on the project’s requirements and considerations.

A most notable exception is the Planning Template, which is mandatory. The components of the same may, however, be added/not used/amended with due approvals.

The PEG will carefully consider the desired tailorings with respect to the impact on the project’s processes and its rationale. The PEG shall also collect the data with regards to the applied for tailorings and provision the most frequent/pertinent, for incorporation in the QMS. Project Audits will ensure that no unapplied-and-unapproved tailorings are used in the respective projects.

### Planning

The planning phase of a project is highly tailorable based on the project requirements and considerations of Safety, Quality, Delivery, and Cost. Considering the impact potential of planning on the project’s success, care must be taken to ensure that the tailoring results in an optimal selection of critical-to-success factors. Some examples of possible tailorings are as under. Please note that the below are for illustrative purposes only and are not intended to be an exhaustive list of all permissible tailorings. In all cases, due approvals from the PEG must be sought. Also, the rationale of all tailoring must be clearly and reasonably worked out and ascertained.

1. Project Lifecycle- The only acceptable lifecycle currently is waterfall in line with Genus Product Development Process. However, phase merger, phase repetition and phase elimination may be permissible. For example
   * In case of a project with no major design changes, integration testing and validation testing phases may be merged. Correspondingly, reviews and phase end audits may be suitable eliminated due to phase merger in this case. Care must, however, be taken that the defect leakage is considered in phase elimination/merger.
   * For projects that are not externally integrated with other systems, integration phase may be eliminated.
   * For a project with an entirely new technological challenge, the Project may decide to create a prototype in the design phase itself, and get it tested before implementation so as to generate detailed design parameters. The prototype testing phase in this situation is an example of phase repetition.
2. Estimation- The project may decide to estimate the efforts for a subset of project requirements, with only top level estimates for other requirements. This may be done in case the project is a build-up on an existing product.
3. Audit Planning- The milestones selected for Audit must take the selected Project Lifecycle into consideration. Audits for consecutive phases may also be merged if the phase in question is very small in terms of the effort budget.
4. Reviews- All reviews except peer review of source code can be tailored out. This may include
   * review merger- such as having just one design review at the end of design to review the entire design, in case of very few complex changes/developments or
   * reviewing just a small subset of the design in case of localised criticality

In no condition can the peer review of code may be completely skipped. However, a decision may be taken and planed for to review only a subset of the code. The reason for such a selection must also be clearly spelled out.

The entire set of reviews planned for and the reviews that are decided to be not conducted must be a part of the Review Plan subsection of the Project Plan.

1. Project Monitoring and Reviews- The milestones selected for project monitoring must take the selected Project Lifecycle into consideration.
2. Test Planning- Genus Product Development Process provisions multiple types of testing processes based on the lifecycle stage of the project viz. unit testing, integration testing, validation/customer acceptance testing. The project, after careful consideration of the impact on product quality and schedule constraints may choose to modify, append, eliminate and/or merge any or all of the above. Validation/Customer Acceptance testing is mandatory and must be conducted. However, a project may choose to do the same less formally in case of, for example, internal productivity/debugging tools development.
3. Configuration and Data Management- Identify the tools for Storage and Retrieval of Configurable Items. Suggested tools are:

* Enterprise Project Management Tool (EPM) for storing and version controlling of the project related documents.
* Visual Source Safe for storing and version controlling of the Source Code.
* Subversion for storing and version controlling of the project related documents.
* Subversion for storing and version controlling of the Source Code, Schematic, Layout, Mechanical drawings.

The use of any combination of the above tools is a tailorable option that must be clearly spelled out in the plan for the project.

### Design

All elements of design may not be required in all projects. Conversely, the elements of design provisioned for, may not be sufficient to address specific and special requirements of the project. The choice of an appropriate set of design elements is a tailorable option.

### Verification and Validation

#### Reviews

All reviews except peer review of module design can be tailored out. This may include

1. review merger- such as having just one design review at the end of design to review the entire design, in case of very few complex changes/developments or
2. reviewing just a small subset of the design in case of localised criticality

In no condition can the peer review of module design may be completely skipped. However, a decision may be taken and planned for to review only a subset of the module design. The reason for such a selection must also be clearly spelled out.

The entire set of reviews planned for and the reviews that are decided to be not conducted must be a part of the Review Plan subsection of the Project Plan.

#### Testing

Genus Product Development Process provisions multiple types of testing processes based on the lifecycle stage of the project viz. unit testing, integration testing, validation/customer acceptance testing. The project, after careful consideration of the impact on product quality and schedule constraints may choose to modify, append, eliminate and/or merge any or all of the above. Validation/Customer Acceptance testing is mandatory and must be conducted. However, a project may choose to do the same less formally in case of, for example, internal productivity/debugging tools development.

## Tailorings (Training)

The Scope of tailorings in the training function is limited to tools and templates used for the facilitation of conduction and planning the training events. For example, paper based feedback forms may be used in place of Email based feedback collection.

## Tailorings (Quality Assurance)

The Scope of tailorings in the QA function is limited to tools and templates used for the facilitation of conduction and planning the QA activities.

## Tailorings (PEG Function)

The scope of tailoring in the PEG function is very limited, as the activities of the PEG are geared towards new process definition and interpretation. The scope of tailoring for the PEG activities is limited to the details pertaining to the release and maintenance of OSSP. For example, the PEG may decide to eliminate QMS release Audit for a particular release with only a few documents with editorial/typographical changes only.

The above has been compiled for elucidation of the concept of tailoring and is, by no means, a list of all possible tailoring. The practitioners should be able to use the above to guide their own efforts to arrive at the most optimal combination of the same. They should also look at the various process interdependencies and risks introduced as a result if tailoring.