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| GENUS INNOVATION LIMITED |
| Review Procedure |
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| **Genus** |

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| Reviews involve a methodical examination of work products to verify them, identify defects and close defects. |

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# Overview

Reviews involve a methodical examination of work products to verify them, identify defects and close defects.

# Objective

The purpose of Reviews is to ensure the completeness of selected work product and also to assure that selected work products and the system fulfill their specified requirements. Specifically, Peer Reviews is to remove defects from work products early and efficiently.

# Scope

This procedure applies to all work products and Projects in Genus.

# Inputs

* Work product to be reviewed
* Review Plan
* The applicable standards, guidelines, and checklists
* Source documents from which the product is derived

# Entry Criteria/Triggers

* The work product is ready for a Review.
* The practitioners have undergone QMS trainings with focus on performing their processes.

# Tasks

| Sr. No | Task | Owner/Role |
| --- | --- | --- |
|  | Plan the Review |  |
|  | Specify the work product to be reviewed. | Project Manager |
|  | Set objectives for review of all work products. | Project Manager |
|  | Identify Review Team members.   * Author * Reviewer   Refer guidelines for understanding roles and responsibilities. | Project Manager |
|  | Prepare the Review plan in the Project Plan. (Refer TMPL\_PRJPLN). | Project Manager |
|  | Review the “Review Plan” section in Project Plan. (Refer TMPL\_PRJPLN). | PPQA Member |
|  | **Preparation for Review** |  |
|  | Share the work product and all necessary materials for e.g. Checklists, Standards to the Reviewers. Also ensure that access of work products and suppotive documents is available to the reviewer. | Author |
|  | Prepare for the Review by becoming thoroughly familiar with standards, checklists and any other information that was provided. | Reviewers |
|  | **Conduct the Review** |  |
|  | Conduct the Review, by referring   * Guidelines to conduct reviews (refer guidelines below). * Review Checklist. * Best Practices guidelines for review. | Review Team |
|  | Log Review findings on “Review and Testing Defect Log” with   * Review defects * Classification of defects (functional and non-functional) | Reviewer |
|  | Take corrective action for the Review defects and resolve the logged defects. | Author |
|  | Ensure that open issues and action items are tracked to closure. | Author |
|  | Re-verify the resolved defects and change the status to “closed” if resolved satisfactorily and “active” if not in “Review and Testing Defect Log”. | Reviewer |
|  | Analyze the defects. The analysis may be performed in a meeting with the technical staff. The techniques that can be used for root cause analysis are Fishbone diagram (Ishikawa Diagram), Why-Why Analysis, FMEA, and others. Identify and document the root causes. Use template “Root Cause Analysis” (TMPL\_ROCSAN). | Project Team |

\* Improvements/Suggestions are solicited on “Process Improvement Proposals Database”.  
\*For details on the Roles and Responsibilities of the practitioners, Refer "Roles and Responsibility" document in the QMS.

# Verification

* Review of “Review Plan” by PPQA Member
* Review of the process and its work products by PPQA members.
* Review of the process and its work products by Senior Management.

# Configuration

Refer "Configuration Management and Release Procedure" (PRCD\_CONFIG) for Access Rights, location of work products, naming convention and types of controls.

# Guidelines

## Peer Review Meeting

The author walks through the work product. The team member(s) may ask questions or raise issues on the work product, and/or document their concerns. The Author writes comments and decisions for inclusion in the Review and Testing Defect Log. The defects identified are logged in the Review and Testing Defect Log for further action. During the Peer Review Meeting, the reviewer(s) may recommend another Peer review be performed if a large number of issues or defects were discovered.

## Definitions

Definitions of terms used throughout this document are listed below:

1. Peer Review - A Peer Review is a methodical examination of a product by the author’s peers to verify them, identify defects and areas where changes are needed. The objective of a Peer Review is to informally evaluate a work product. The major objective is to find defects, omissions, and contradictions; to improve the product; and to consider alternative implementations. Other important objectives of the peer review include exchange of techniques, style variations, and education of the participants. A peer review may point out efficiency and readability issues in the code, modularity issues in design specifications or requirements testability issues. Defect data is systematically collected and stored in a peer review database.
2. Peer - A peer is an individual who is assigned to perform a peer review of the product. The peer has a level of development expertise and product knowledge sufficient to comprehend the product under review. Peers are also called as “inspectors”, “reviewers”, and/or “team members.”
3. Author - The author is responsible for the work product requiring a review and presents the material to the review team.
4. Work Product – it is a useful result of performing a process. A work product can be a document, source code, data etc. For eg. The work product of planning activity is the plan document, or, the work product of High Level design activity is the HLD document.
5. Functional Defects- Defects that affect the functionality of the product e.g. contradiction in requirements, data width issue in DB schema, variable type issues etc.
6. Non-Functional Defects: Defects related to process adherence, aesthetics etc. are Non-Functional Defects e.g. - indentation in code, spelling, grammar, formatting etc.

## Understanding Roles and Responsibilities

The roles and responsibilities for Reviews/Peer Review process are the following:

### Project Manager

Project manager is responsible for approving the review, provide resources and assure that the reviews are conducted in accordance with the approved project plans.

### Author

The author is responsible for the product requiring a review and presents the material to the review team. In all cases, the author is responsible for resolving defects and open issues.

### Peer/Reviewer

A peer/reviewer is assigned to perform a review of the product.

### Quality Assurance

QA ensures that discovered defects are corrected and open issues are resolved. Results are reported to project manager. Review and Testing Defect Log is maintained and updated as necessary.

## Best Practices for Peer review of Source Code

Refer GDLN\_PERREV.pdf for details.

# Applicable Measurements

* Number of defects identified in Peer Review / Number of total defects identified throughout the project lifecycle (Review effectiveness).

# Exit Criteria/Outputs

* Approved Review Plan updated in Project Plan
* Verified Work Product.