

**ORGANIZATIONAL PROCESS DEVELOPMENT AND IMPROVEMENT PROCESS**

**Version History:**

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| --- | --- | --- | --- | --- | --- |
| Version No | Date | Amendments Made | Author | Reviewed By | Approved By |
| 0.1 | 21st May, 2009 | Initial Draft | Abhishek Rautela | Mr. Sudhir Saxena | Mr. Sudhir Saxena |
| 1.0 | 5th April, 2010 | Initial Release | Smiriti | Abhishek Rautela | Mr. Sudhir Saxena |
| 2.0 | 16th  August, 2011 | Update section 5.1 & 5.2.2 | Rahul Raj | Dhananjay Kumar | Mr. Gurinder Dua |

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# Introduction

Organizational Process Development and Improvement Process is to facilitate in developing new processes, identification of process improvements based on periodic review of the deployed Quality Management System and resolve any issues of development or implementation of QMS.

# Entry Criteria

* Periodic Review of quality management system
* Process Change request
* Analysis of metrics data

# Inputs

* Knowledge of the activities in the organization at a broad level
* Business plans and needs
* Change request for process improvement.
* Internal quality audits findings.
* Organizational Quality assurance Plan
* Analysis of metrics data

# Roles and Responsibilities

SEPG has the following roles and responsibilities:

* Process identification and definition
* Process deployment and process training
* Process Improvement
* Conducting Management Review Meetings
* Process Reviews through SEPG meeting periodically.
* Review metrics data

The Head of SEPG will be responsible for preparing/maintaining the QA Plan, updating the SPDB on a periodic basis and coordinating all SEPG activities.

# Tasks

## Software Engineering Process Group

5.1.1 Organizational Quality Assurance Plan for NST

Head SEPG prepares Organizational QA plan for NST. The contents of the QA Plan are as under:

* Detailed Schedule of Quality Assurance Activities
* Process Audit/Internal Audit Plan
* Process development and Improvement schedule
* Process Trainings
* Management Review Meeting schedule
* Establishing and maintaining SPDB

5.1.2 Software Engineering Process Group (SEPG)

SEPG is the group responsible and empowered for coordinating the process improvement and adaptation activities at NST. SEPG comprises members of the projects and is headed by a senior member of the organization. Members of other support groups may be invited when issues pertaining to their group are taken up for discussion. SEPG members are informed of the organization and project’s activities for software process development and improvement.

5.1.3 SEPG’s role and responsibilities include:

* Development, review, and release of QMS elements (procedures, standards, guidelines, records etc.)
* Establishing and maintaining SPDB (Software Process Database)

## Process Assessments

* + 1. Assessment of Processes

Software Engineering Process Group assesses the processes periodically based on:

* Internal Quality Audits findings
* Findings of CMMI based assessment of NST process capability
* Internal Gap Analysis
* Metrics Data Analysis.
* Process improvement suggestions including those for new process change, received from employees
* Review of QMS status including the new releases and the revisions
  + 1. These inputs are discussed in the management review meetings primarily with the objective of:
* Identifying process improvements and devising solutions to the problems identified.
* Assigning responsibilities and due dates to implement the above
  + 1. Minutes of the management review meetings are prepared along with a plan for implementation of action points. Based on these meetings the process improvement and development plan (Part of QA Plan) can be updated if required.
    2. Organization’s standard software process is developed and maintained and the contents are documented in organizational QA plan.
    3. A library of QMS documentation is established and maintained.
    4. Software process database (SPDB) is established & maintained as per annexure1. The use of organization software process database is coordinated at the organization level. SPDB consists of QMS Documents, Project Information and Metrics database.
    5. The recommendations of SEPG and any other unresolved issues are escalated to Country Head. The process performance goals are also reviewed in the SEPG meeting to identify required revisions and for monitoring the status.

## Handling change requests for QMS Documentation.

1. Changes to QMS can take place due to any of the following reasons:

* Modification(s) to meet the changing business needs
* Preventive action initiated by findings of internal audits
* Periodic reviews to ensure suitability and effectiveness
* Problems/issues identified through employee feedback process or reported by employees
* Changes to CMM model.

1. SEPG solicits suggestions from all employees for process improvement. Any employee of NST can initiate a process change request. The process change request shall be updated accordingly.
2. The change request is then evaluated by SEPG in terms of the expected benefits, feasibility, priority and related aspects. Based on the evaluation, the change request is either accepted and prioritised, or rejected. The initiator of the change request is informed of the decision and the reasons for the same.
3. In the case of a change request being accepted, a target date is assigned for closing the change request. SEPG approves the change before it is implemented. Where appropriate, the process is implemented on a pilot basis, to determine the benefits and the impact of the process, before organisation wide implementation. The lessons learnt are documented, and the process is aborted, modified or implemented organisation wide depending on the experience gained in the pilot.
4. SEPG closes the change request once it is implemented or rejected. The modified/new document is then reviewed and approved.
5. SEPG tracks the change request to closure. The change request is closed and the process change request register is updated.
6. When a change request is closed, the originator is informed of the change carried out.

## Documentation Release

1. There will be two folders for QMS, i.e. baseline and working.
2. The Head of SEPG / authorized person designated by the Head of SEPG will have read and write access to the baseline folder whereas other employees will have read only rights to the baseline folder.
3. The respective process champions who are nominated by the Head of SEPG will be responsible for carrying out process changes / writing new process documents. The process champions will have read and write access to the working folder. After review by nominated reviewers, the process shall be checked into the baseline folder.
4. The versioning and naming convention of QMS documents is as per the Documentation Standard.
5. The QMS documents shall be documented according to the Documentation Standard.
6. A Master List of QMS documents shall be maintained to reflect the latest versions and status of the documents. This shall be kept current.
7. The QMS documents shall be documented according to the Documentation standard

## Pilots

New processes, methods and tools in limited use in the organization are monitored, evaluated and where appropriate transferred to other parts of organization.

New processes, methods and tools are introduced on pilot basis for a certain period of time and then the SEPG evaluates the effectiveness of the processes, methods and tools in terms of the effect of the processes, methods and tools on the deliverables of the project. These piloting activities will be carried out as per Process development and Improvement plan.

## Training of Process Improvement

SEPG will be continuously monitoring and executing trainings for continual process improvement in the organization to ensure that the software processes currently implemented in the organization shall remain manageable and effective. SEPG members can take part in Training program as trainer besides other groups. SEPG members will be responsible for facilitation activities in the project.

## To institutionalize Best practices

If during the regular audits any best practices are found to be followed in any project or process apart from the ones that are defined in the Quality Management System or if the Project Manager/ Process Owner himself/ herself informs about a practice followed by them which has a positive impact on the project deliverables then the same is submitted to SEPG for its perusal. The SEPG shall decide if the practice can be institutionalized at the organization level.

## Review of Project level tailored processes

SEPG is responsible for review of standards/operational process tailored by a project from the QMS as per tailoring guidelines. SEPG ensures that description of software lifecycles that are approved for use by the projects are documented and maintained. Any changes proposed in the description of software lifecycle are documented, reviewed and approved by SEPG.

# Outputs

* Baseline processes
* Updated QA Plan

# Exit Criteria

QMS periodically assessed

# Formats & Guidelines

Terms of reference for SEPG

# References

OPF and OPD PAs; CMM ver1.3

# Glossary of Terms

QA - Quality Assurance

SEPG - Software Engineering Process Group

## Appendix 1 – SPDB Structure

Closed

Development Projects

Closed Project 1

Closed Project 2

M3

Metrics DB for Maintenance

& Dev Projects

M1

Closed Project 2

Closed Project 1

Maintenance Project

M1

M2

Database

QMS Documents

Development Projects Repository

Development Project 1

Manuals

Processes

Development Project 3

Development Project 2

Guidelines & Templates

Closed Maintenance Projects

M2