

**Version History**

<b>Ver. No.</b>	<b>Authors</b>	<b>Date</b>	<b>Reviewers</b>	<b>Review Date</b>	<b>Release Date</b>
1.0	Project Management Team	27-Aug-2018	QMF	31-Aug-2018	03-Sep-2018
1.1	Project Management Team	4-Dec-2018	QMF	7-Dec-2018	09-Jan-2019
2.0	Project Management Team	2-Dec-2019	QMF	13-Dec-2019	16-Dec-2019
3.0	Project Management Team	2-Nov-2020	QMF	06-Nov-2020	10-Nov-2020

**Change History**

<b>Ver. No.</b>	<b>Section</b>	<b>Date</b>	<b>Change Information</b>	<b>RFC No.</b>
1.0	All	03-Sep-2018	New Release	-
1.1	9.0	09-Jan-2019	Updated Quality Objective for PCR	Doc Modification Form
2.0	All	16-Dec-2019	Annual Review	-
3.0	All	2-Nov-2020	Annual Review	-

## Table of Contents

1.0	Objectives .....	5
2.0	Scope .....	5
3.0	Policy .....	5
3.1	Policy Statement .....	5
3.2	Framework to Support or Implement this Policy .....	5
4.0	References to (checklists, forms, guidelines, lists, standards, templates, other processes) .....	5
5.0	Entry Criteria .....	6
6.0	Responsibilities .....	7
7.0	Process Description .....	8
7.1	Project Initiation .....	8
7.1.1	Identify Project Members .....	9
7.1.2	Prepare Project Initiation Note (PIN) .....	9
7.1.3	Obtain Project ID .....	9
7.1.4	Conduct Project Kick-off Meeting .....	9
7.1.5	Initiate Customer Relationship Management .....	9
7.1.6	Create Project Folder .....	9
7.2	Project Planning .....	10
7.2.1	Preparatory Work .....	10
7.2.2	Define Project Methodology and Project Approach .....	10
7.2.3	Define Deliverables .....	10
7.2.4	Prepare Schedule .....	10
7.2.5	Define Project Organization Structure and Assign Roles .....	11
7.2.6	Resource Planning .....	11
7.2.7	Configuration Planning .....	11
7.2.8	Quality Planning .....	11
7.2.9	Quality Objectives Planning .....	11
7.2.10	Transition Planning .....	11
7.2.11	Product Pilot Planning .....	11
7.2.12	Information-base Management Planning .....	12
7.2.13	Installation Planning .....	12
7.2.14	Data Migration Planning .....	12
7.2.15	Porting Planning .....	12
7.2.16	Parallel Run .....	12
7.2.17	Warranty Planning .....	12
7.2.18	Backup and Archival Planning .....	12
7.2.19	Risk Management Planning .....	12
7.2.20	Training Planning .....	13
7.2.21	Security Planning .....	13
7.2.22	Communication Planning .....	13
7.2.23	Document the Plan .....	13
7.2.24	Review and Rework .....	13
7.2.25	Baseline .....	13
7.2.26	Approval .....	13
7.2.27	Publish and Release .....	13
7.2.28	Revisit .....	14
7.3	Project Estimation .....	14
7.3.1	Study Requirements .....	14
7.3.2	Define Functionality and Complexity .....	14
7.3.3	Document Estimates / Cost .....	14

7.3.4	Define Project Parameters .....	15
7.3.5	Record Assumptions .....	15
7.3.6	Tailor Project Life-cycle .....	15
7.3.7	Define Influencing Factors .....	15
7.3.8	Determine Buffers and Contingency Factors.....	15
7.3.9	Determine Project Roles.....	15
7.3.10	Determine the Initial Schedule and Resource Loading .....	15
7.3.11	Review and Rework Project plan & Estimates.....	16
7.3.12	Approve Estimates.....	16
7.3.13	Freezing of Project Plan & Estimates .....	16
7.4	Test Planning.....	16
7.4.1	Define Deliverables .....	16
7.4.2	Test Strategy Planning .....	16
7.4.3	Define Test Criteria .....	16
7.4.4	Configuration Planning .....	16
7.4.5	Resource Planning .....	17
7.4.6	Training Planning .....	17
7.4.7	Prepare Schedule.....	17
7.4.8	Document the Plan .....	Error! Bookmark not defined.
7.4.9	Review and Rework .....	Error! Bookmark not defined.
7.4.10	Baseline and Approve .....	Error! Bookmark not defined.
7.4.11	Publish and Release .....	Error! Bookmark not defined.
7.5	Test Monitoring & Control .....	17
7.5.1	Test Strategy Management .....	17
7.5.2	Configuration and Change Management .....	17
7.5.3	Human Resource Management.....	18
7.5.4	Work Schedule Management.....	18
7.5.5	Environment Management .....	18
7.5.6	Issue / Defect Management.....	18
7.5.7	Reusability.....	19
7.5.8	Backup and Archival Management .....	19
7.5.9	Test Reporting, Meetings, Communication and Quality Objectives .....	19
7.5.10	Revisit / Update / Revise Plan .....	19
7.5.11	Issue Clearance Certificate .....	19
7.6	Project Monitoring .....	19
7.6.1	Budget Management.....	20
7.6.2	Human Resource Management.....	20
7.6.3	Work Schedule Management.....	20
7.6.4	Customer and Third-party Material Management.....	20
7.6.5	Issue Management .....	21
7.6.6	Risk Management.....	21
7.6.7	Reusability.....	21
7.6.8	Deliverables Management.....	21
7.6.9	Backup and Archival Management .....	21
7.6.10	Customer Relationship Management .....	21
7.6.11	Quality Deliverables.....	22
7.6.12	Quality Audit .....	22
7.6.13	Configuration Management .....	22
7.6.14	Change and Contingency Management .....	22
7.6.15	Project Reporting, Meetings, Communication and Quality Objectives.....	22

---

7.6.16	Revisit / Update / Revise Plan .....	23
7.6.17	Update the Knowledge Base .....	23
7.6.18	Project Folder Maintenance .....	23
7.7	Project Closure .....	23
7.7.1	Complete Project Quality Objectives .....	24
7.7.2	Update Project Information Base .....	24
7.7.3	Conduct Customer Satisfaction Feedback (CSAT) .....	24
7.7.4	Conduct Project Closure Audit .....	24
7.7.5	Conduct Project Closure Meeting .....	24
7.7.6	Approve Project Closure Report .....	24
7.7.7	Release Project Resources .....	24
7.7.8	Archive Project Source Code and Documentation .....	25
8.0	Quality Mechanisms .....	25
9.0	Quality Objectives .....	25
10.0	Identified Risk .....	25
11.0	Exit Criteria .....	25

## Project Management Process

### 1.0 Objectives

The objective of this document is to define the process for the Project Management Activities.

### 2.0 Scope

This process applies to all the processes, and / or sub processes under the purview of the Project Management Practices Team.

### 3.0 Policy

#### 3.1 Policy Statement

- Policy on Project Management
- Policy on Risk Management
- Technical Estimator (TE) at the level of Project Manager shall be nominated by the Delivery Head for estimation at the proposal stage. Project Manager or a person nominated by the Project Manager shall play the role of TE for estimations during the project life-cycle
- Initial estimation shall be done at the proposal stage during the Sales cycle
- Estimation shall be done at least twice during the project life-cycle
- Estimation for development projects may be done at the beginning of following phases of the software life-cycle
  - Initiation
  - Design
- Closure

#### 3.2 Framework to Support or Implement this Policy

- The stated policy is implemented as per the procedure mentioned below

### 4.0 References to (checklists, forms, guidelines, lists, standards, templates, other processes)

#### 5.0

Process Element	Description	ID
Checklists	Checklist for Meeting	QMS-L4-CK-MR-01
	Checklist for Risk Identification	QMS-L4-CK-PM-02
	Checklist for Project Closure	QMS-L4-CK-PM-03
Forms	Risk Management Plan	QMS-L4-FR-MR-03
	Project Initiation Note	QMS-L4-FR-PM-01
	Introductory Mail Format	QMS-L4-FR-PM-02
	Customer Feedback Form	QMS-L4-FR-MR-09
	Minutes of Meeting Form	QMS-L4-FR-MR-04
	Handover Form	QMS-L4-FR-PM-05
	Issue Log	QMS-L4-FR-PM-06
	Reusable Component Log	QMS-L4-FR-PM-07
	Knowledge Base Document Template	QMS-L4-FR-PM-08
	Project Status Report (Dev / Infra)	QMS-L4-FR-PM-09

<b>Process Element</b>	<b>Description</b>	<b>ID</b>
	<i>Project Status Report (Support / Managed)</i>	QMS-L4-FR-PM-10
	<i>Test Status Report Form</i>	QMS-L4-FR-PM-11
	<i>Project Closure Report Template</i>	QMS-L4-FR-PM-12
	<i>Estimation Template</i>	QMS-L4-FR-PRT-02
	<i>Test Plan Template</i>	QMS-L4-FR-PM-13
	<i>Release Note</i>	QMS-L4-FR-PM-15
	<i>Contract Format, SOW Format</i>	Customer Specific
	<i>Project Plan</i>	QMS-L4-FR-PM-18
	<i>Project Plan - Resources N Roles</i>	QMS-L4-FR-PM-19
	<i>Project Plan - Access Rights</i>	QMS-L4-FR-PM-20
<b>Guidelines</b>	<i>Guidelines for Project Classification</i>	QMS-L4-GD-PM-01
	<i>Guidelines for Life-Cycle Selection and Project Approach</i>	QMS-L4-GD-PM-02
	<i>Guidelines for Tailoring</i>	QMS-L4-GD-PM-03
	<i>Guidelines for Quality System Deviation</i>	QMS-L4-GD-PM-04
	<i>Guidelines for Scheduling, Tracking, and Communication</i>	QMS-L4-GD-PM-05
	<i>Guidelines for Quality Objectives</i>	QMS-L4-GD-MR-01
<b>Lists</b>	NA	
<b>Standards</b>	NA	
<b>Other Processes</b>	NA	

## 6.0Entry Criteria

<b>Inputs</b>	<b>Source Processes</b>
Signed SOW	Proposals and Contracts Process
Minutes of conference call with customer	Proposals and Contracts Process
Estimation at proposal stage	Proposals and Contracts Process
Risk Log at proposal stage, if any	Proposals and Contracts Process
Project Initiation Note	Project Initiation Process
Statement of Work (SOW)	Sales Contracting Process
Baselined Project Plan	--
Project Status Report	Project Execution and Control Process
Approved Request for Change (RFC)	Change Management Process
Knowledge Base Document	Project Initiation Process
Project Database	Project Execution and Control Process
Request for Proposal for estimation at proposal stage	Request for Proposal for estimation at proposal stage

Signed Contracts (SOW) for estimation during project life-cycle	Signed Contracts (SOW) for estimation during project life-cycle
Project Status Reports / Triggers for estimation during project life-cycle	Project Status Reports / Triggers for estimation during project life-cycle
Historical / Past Project Data of similar project	Historical / Past Project Data of similar project
Project Plan	Project Planning Process
Baselined Test Plan	Test Monitoring and Control Process
Test Status Report	--
Defect Report	Test Execution Process
Request for Change	Various Processes
Approved Project Plan	Project Planning Process
Knowledge Base Document	Project Planning Process Project Execution and Control Process
Amendments to contract or attachment	--
Review Reports (of various items)	Review Process
Test Status Reports (of various items)	Test execution
Analysis of Measures and Metrics	Metrics Process
Updated Master List of Documents (of projects)	Configuration Management Process
Formal requests for User Acceptance	User Acceptance / Deemed Acceptance
Final Project Status Report	Project Execution and Control Process
Sign-off for all project deliverables	Delivery Process
Filled Customer Satisfaction Feedback Form-Online Tool	Customer Satisfaction Feedback Process
Project Folder	

## 7.0 Responsibilities

<b>Role</b>	<b>Responsibilities</b>
Sales Team	<ul style="list-style-type: none"> <li>Provide contractual details of the project</li> </ul>

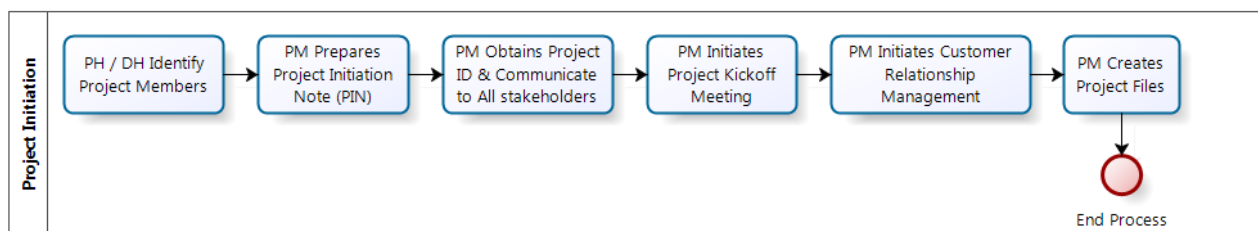
<b>Role</b>	<b>Responsibilities</b>
Practice Head (PH) / Delivery Head (DH) / Delivery Manager (DM)	<ul style="list-style-type: none"> <li>Identify Project Manager</li> <li>Approve Project Plan</li> <li>Responsible for approving the estimate</li> </ul>
Project Manager (PM)	<ul style="list-style-type: none"> <li>Prepare Project Initiation Note</li> <li>Execute and control the project</li> <li>Perform project closure activities</li> </ul>
Practice Head (PH) / Delivery Head (DH)	<ul style="list-style-type: none"> <li>Approve Project Initiation Note</li> <li>Approve Project Summary Report</li> <li>Approve Project Closure Report</li> </ul>
Project Manager (PM)	<ul style="list-style-type: none"> <li>Prepare, maintain and publish the Project Plan</li> </ul>
Project Manager - Quality Assurance (PM – QA)	<ul style="list-style-type: none"> <li>Assign Project SQA</li> <li>Approve tailoring and deviation in the project</li> </ul>
Configuration Manager (CM) / Librarian (CL)	<ul style="list-style-type: none"> <li>Prepare and maintain configuration planning section of the Project Plan</li> <li><i>Baseline</i> and control the Project Plan</li> <li><i>Configuration and Change Management</i></li> <li><i>Create and maintain Configuration Library</i></li> </ul>
Technical Estimator (TE)	<ul style="list-style-type: none"> <li>Responsible for overall Process</li> </ul>
Reviewer	<ul style="list-style-type: none"> <li>Responsible for review of estimation</li> </ul>
Test Lead (TL)	<ul style="list-style-type: none"> <li>Responsible for overall process</li> </ul>
	<ul style="list-style-type: none"> <li>Prepare and control the Test Plan</li> </ul>
	<ul style="list-style-type: none"> <li>Manage overall testing activities</li> </ul>
Test Manager	<ul style="list-style-type: none"> <li>Approve Test Plan</li> </ul>
SQA	<ul style="list-style-type: none"> <li>Responsible for Internal Quality Audit</li> <li>Conducting Project Closure Audit</li> </ul>
Sales / Account Manager (AM)	<ul style="list-style-type: none"> <li>Manage a customer account</li> </ul>

## 8.0 Process Description

### Overview Diagram

Refer below to specific process for flowchart.

### 7.1 Project Initiation





**7.1.1 Identify Project Members**

- PH / DH analyses the signed contract
- PH / DH identifies PM
- PM reviews the signed contract and revisits estimates, if required, the initial estimates given at the time of proposal as per the Estimation Process
- PM in consultation with Resource Management representative identifies team members
- PM – QA in consultation with the PM assigns a Project SQA
- PM identifies Onsite Coordinator / Resource, if required

**7.1.2 Prepare Project Initiation Note (PIN)**

- PM obtains a copy of SOW and all customer supplied materials from the sales team
- PM analyses the SOW, and prepares the PIN using Project Initiation Note
- PH / DH approves the PIN

**7.1.3 Obtain Project ID**

- PM obtains the Project ID from the PMO

**7.1.4 Conduct Project Kick-off Meeting**

- PM prepares the project information base using the Knowledge Base Document Template,
- PM identifies the agenda for project kick-off meeting using the Checklist for Meeting, and communicates the schedule to all the stakeholders
- PM conducts the project kick-off meeting and obtains commitment from all the stakeholders
- PM prepares minutes of meeting using Minutes of Meeting Form, and circulates it to all the stakeholders

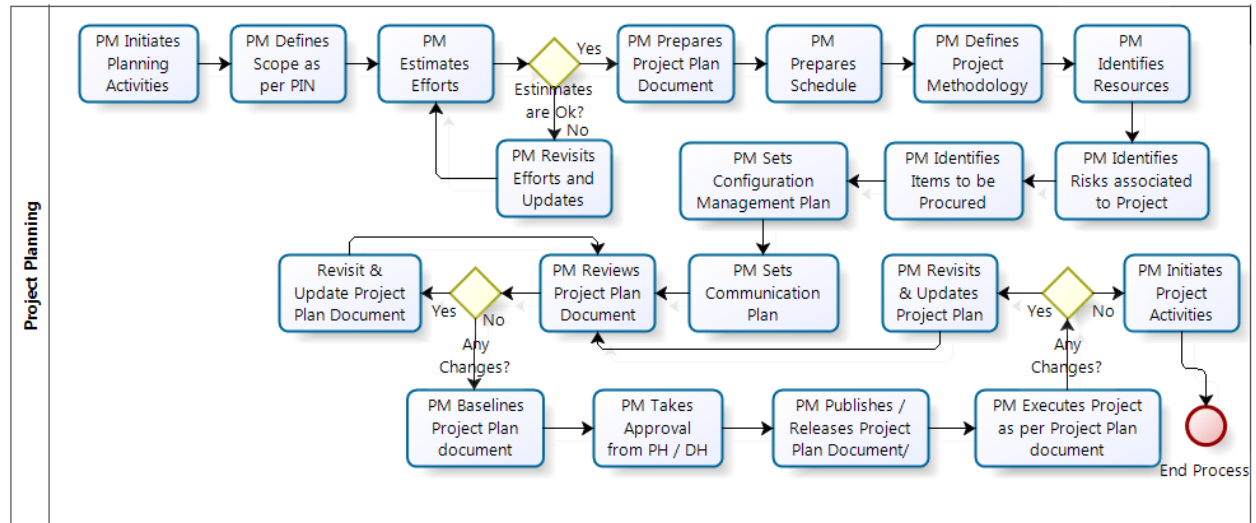
**7.1.5 Initiate Customer Relationship Management**

- PM, if required, sends an introductory mail using the Introductory Mail Format, to the customer specifying the high level delivery schedule
- PM in consultation with PH / DH identifies the frequency and period in which the Customer Satisfaction feedback activity has to be performed

**7.1.6 Create Project Folder**

- PM creates Project Folder and maintains all the project related documents in it

## 7.2 Project Planning



### 7.2.1 Preparatory Work

- PM identifies team members who would participate in project planning activities
- PM with the help of team members identifies the past projects to be referred for estimation and maps the sections of the contract to the ones in the Project Plan
- PM ensures that all the project related issues, dependencies, constraints and assumptions are adequately addressed

### 7.2.2 Define Project Methodology and Project Approach

- PM selects the project life-cycle as per the Life-Cycle Selection and Tailoring Process, defines project approach and phases using the Guidelines for Life-Cycle Selection and Project Approach
- PM identifies the customer supplied processes as per the contract, the QMS processes and tailors the processes, if required using the Guidelines for Tailoring, as per the Process Tailoring Process
- PM obtain necessary approval on tailored processes and process elements from Quality Manager / Delivery Manager (DM)

### 7.2.3 Define Deliverables

- PM identifies the deliverables along with its delivery schedule as specified in the contract and lists them in the Project Plan

### 7.2.4 Prepare Schedule

- PM defines the Work Breakdown Structure (WBS) for the activities and tasks based on the identified phases and deliverables considering the following points:
  - Adequate buffer
  - Holidays and leave plan of team members
  - Technical and domain knowledge expertise of team members
  - Productivity of resources
- PM scans the reusable library and identifies the system components that could be used in the project
- PM schedules each of the tasks based on the effort estimated as per the Scheduling section of the Guidelines for Scheduling, Tracking, and Communication
- PM prepares the schedule

- PM, if required, plans and communicates the schedule to the customer

**7.2.5 Define Project Organization Structure and Assign Roles**

- PM defines the Project Organization Structure
- PM identifies the resources and assigns roles to them in the Project Plan

**7.2.6 Resource Planning**

- PM identifies critical Hardware, Software and Networking requirements and raises the requisition, if necessary
- PM identifies the human resources and their training needs based on
  - Defined phases and delivery
  - Skills and experience
- PM records the resources needed in the Project Plan
- PM allocates resources to each of the activities and tasks defined in WBS

**7.2.7 Configuration Planning**

- PM ensures that the Configuration Plan is prepared as per the *Configuration Management Process*

**7.2.8 Quality Planning**

- PM identifies and prioritizes quality objectives of the project as per the contract and in line with the organization's quality objectives and goals
- PM determines the plan for review, inspection and walk-through of the work product of each phase
- PM plans for unit testing activities such as test case:
  - Preparation
  - Review
  - Execution and bug reporting
- PM in consultation PM-QA identifies the QM resources and their respective activities
- PM in consultation with PM-QA specifies the periodicity for conducting internal audits of the project as per the *Internal Quality Audit Process*

**7.2.9 Quality Objectives Planning**

- PM identifies the measures to be collected and defines metrics using the Guidelines for Quality Objectives, and as per the *Metrics Process*
- PM defines method and frequency for collecting, analyzing and reporting of the measures

**7.2.10 Transition Planning**

- PM, if applicable, identifies the activities and defines the tasks to be carried out for transition
- PM updates the schedule accordingly

**7.2.11 Product Pilot Planning**

- PM, if applicable, identifies the activities and defines the tasks to be carried out for piloting
- PM updates the schedule accordingly

**7.2.12 Information-base Management Planning**

- PM identifies the activities and defines the tasks to be carried out for Information-base Management
- PM determines the frequency and periodicity of updating the information-base
- PM updates the schedule accordingly

**7.2.13 Installation Planning**

- PM, if applicable, identifies the activities for installation such as
  - Site readiness
  - Procurement and installation procedures of third party products which are required for the installation of the system, as per the contract
- PM updates the schedule accordingly

**7.2.14 Data Migration Planning**

- PM, if applicable,
  - Identifies the activities and defines the tasks to be carried out for data migration
  - Identifies the data needed for migration, database related issues and data structures
  - Updates the schedule accordingly

**7.2.15 Porting Planning**

- PM, if applicable,
  - Identifies the activities for porting
  - Identifies the porting tools / programs, new data structures, software, hardware, operating system to be ported, and environmental related issues as per the contract
  - Updates the schedule accordingly

**7.2.16 Parallel Run**

- PM, if applicable, identifies the activities and defines the tasks to be carried out for parallel run
- PM updates the schedule accordingly

**7.2.17 Warranty Planning**

- PM, if applicable, identifies the activities and the resources for warranty planning considering the warranty clauses as per the contract
- PM updates the schedule accordingly

**7.2.18 Backup and Archival Planning**

- PM identifies the activities and defines the tasks to be carried out for backup and archival, if required
- PM identifies the location, mode, retention period, frequency of backup and retrieval etc.
- PM updates the schedule accordingly

**7.2.19 Risk Management Planning**

- PM assesses the risks of the project using Checklist for Risk Identification, and its likely phase of occurrence which can impact the project deliverables
- PM identifies the category, impact, probability and ownership of the risks

- PM records the risks using Risk Management Plan, prepares a Mitigation Plan and communicates the same to the risk owners
- PM updates the schedule accordingly

**7.2.20 Training Planning**

- PM identifies the training needs and records the same in the Project Plan
- PM updates the project schedule accordingly and communicates it to the Training Department

**7.2.21 Security Planning**

- PM identifies the activities required for Security Planning and the procedures to implement the identified security measures such as virus protection, prevention of unauthorized access to the project environment etc.
- PM updates the schedule accordingly

**7.2.22 Communication Planning**

- PM determines the frequency of communication and escalation mechanism with the customer
- PM in consultation with Project Sponsor determines the schedule and contact person for obtaining Customer Satisfaction Feedback, if not already done
- PM determines the frequency of the team meetings and internal escalation mechanism
- PM maintains a list of stakeholders using the Project Plan
- PM updates the schedule accordingly

**7.2.23 Document the Plan**

- PM documents the relevant sections of the plan in the selected Project Plan Template
- PM also updates the *Knowledge Base Document Template*, with relevant information

**7.2.24 Review and Rework**

- The identified reviewer reviews the Project Plan
- PM reworks on the Project Plan based on the Review comments, if any

**7.2.25 Baseline**

- PM ensures that the review comments are closed and baselines the Project Plan
- CM / CL places the Project Plan under configuration control as stated in the Configuration Planning Section of the Project Plan

**7.2.26 Approval**

- PM:
  - Incorporates the changes to the Project Plan based on feedback, if any and obtains the approval from the Delivery Manager (DM)
  - In consultation with DM removes the sections of the Project Plan which are not to be shared with the customer and delivers the same as per the Delivery Process, if specified in the MSA / SOW

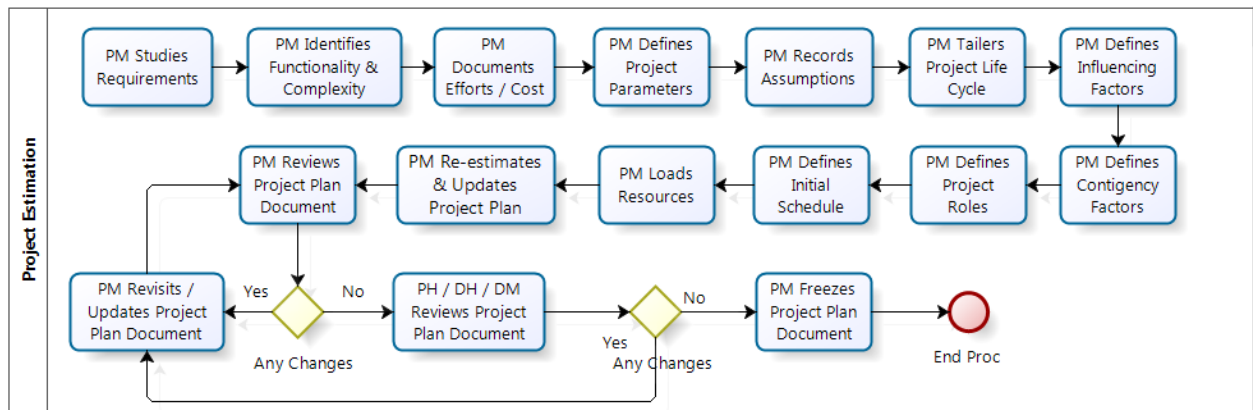
**7.2.27 Publish and Release**

- PM releases the Project Plan to all the stakeholders

### 7.2.28 Revisit

- PM revisits the Project Plan Document based on any of the following:
  - At predefined frequency
  - Request for Change received from the customer
  - Audit Action Request(NC) report
  - Customer Feedback
- PM updates relevant sections of the Project Plan , if required

## 7.3 Project Estimation



### 7.3.1 Study Requirements

- PM/PL:
  - Depending on the stage in which the estimation is being carried out, studies the relevant documents required for estimation such as:
    - ✓ Request for Proposal
    - ✓ Contracting
    - ✓ Specification (Design)
    - ✓ Project end actual data
  - Prepares Functional breakdown of the requirements and determines the non-functional requirements
  - Refers to the past project data, if available, for similar requirements

### 7.3.2 Define Functionality and Complexity

- PM/PL refers to the history / past projects data and the requirements to determine functionality
- PM/PL breaks the functionality into activities and tasks that are needed to meet the requirements
- PM/PL based on the technology selection, determines the complexity for each of the functionalities and computes the effort required

### 7.3.3 Document Estimates / Cost

- PM/PL prepares the estimates as per steps defined and documents the same using the Estimation Template
- PM/PL determines the project cost in terms of direct cost and expenses. The direct cost is derived considering:
  - Role wise and location wise rates

- Role wise and location wise standard cost
- PM/PL determines the other expenses that will be incurred on the project. The other expenses includes:
  - The expenses that are billed to customer
  - The expenses that are not to be billed to the customer

**7.3.4 Define Project Parameters**

- PM/PL defines the project parameters such as:
  - Type of Project in terms of Development or Support
  - Customer expected duration in weeks
  - Standard operating parameters such as # of work day in a month, # of work day in week and # of work hours in a day
  - Project life cycle – Full life-cycle / Part life-cycle

**7.3.5 Record Assumptions**

- PM/PL records the Project / Proposal assumptions based on the information available at the time of estimation

**7.3.6 Tailor Project Life-cycle**

- PM/PL based on the available inputs and nature of the project tailors the project life-cycle;
  - The phase wise percentage effort distribution is tailored based on full / part life-cycle considerations
  - The phase wise efforts distribution for onsite / offshore ratio is tailored as desired

**7.3.7 Define Influencing Factors**

- PM/PL defines / selects:
  - Influencing factors
  - The degree of impact it may cause to the effort
- PM/PL determines the percentage of overall impact of influencing factors that affects the project effort

**7.3.8 Determine Buffers and Contingency Factors**

- PM/PL determines the contingency based on the buffer needed to execute the project

**7.3.9 Determine Project Roles**

- PM/PL defines the roles that would be required for the execution of the project. The role definition is based on the competency and the skills needed to execute the project

**7.3.10 Determine the Initial Schedule and Resource Loading**

- PM/PL determines the initial schedule based on the customer expected duration of the project. The schedule is derived considering the following:
  - Resource Deployment
  - Role
  - Project Phase
  - Locations in terms of on-site / offshore
  - Week wise effort distribution

### 7.3.11 Review and Rework Project plan & Estimates

- PM reviews the Project Plan & Estimates
- PM/PL incorporates the review comments, if any

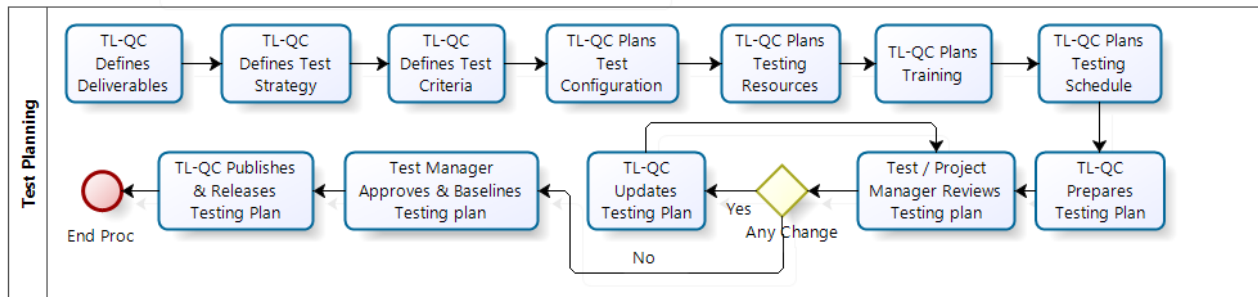
### 7.3.12 Approve Estimates

- PM/PL presents the estimates to the DH/ PH/ DM for approval
- The DH / PH / DM approves the estimates

### 7.3.13 Freezing of Project Plan & Estimates

- PM/PL:
  - Baselines the estimation
  - Adds the estimation to the repository of Practice / organization and to project repository in case the estimates are done during the project life-cycle
  - Releases the estimates for necessary usage

## 7.4 Test Planning



### 7.4.1 Define Deliverables

- TL ensures that all the testing related issues, dependencies, constraints and assumptions are adequately addressed
- TL in consultation with PM and Test Manager, identifies the testing deliverables

### 7.4.2 Test Strategy Planning

- TL:
  - Identifies the artifacts to be reviewed
  - Identifies all the work products that require Customer Approval
  - Identifies the features to be tested and features not to be tested
  - Defines test and re-test strategy
  - Defines the testing approach
  - Determines the hardware and software requirements needed for setting up the test environment
  - Determines the frequency of Test Status Reporting

### 7.4.3 Define Test Criteria

- TL determines the Entry, Exit, Suspension and Resumption criteria for testing

### 7.4.4 Configuration Planning

- TL ensures that the Configuration Plan is prepared as per the *Configuration Management Process*



#### 7.4.5 Resource Planning

- TL in consultation with Test Manager identifies the human resources needs based on the:
  - Defined phases and delivery
  - Skills and experience
- TL in consultation with Test Manager plans for relevant hardware and software needed for testing

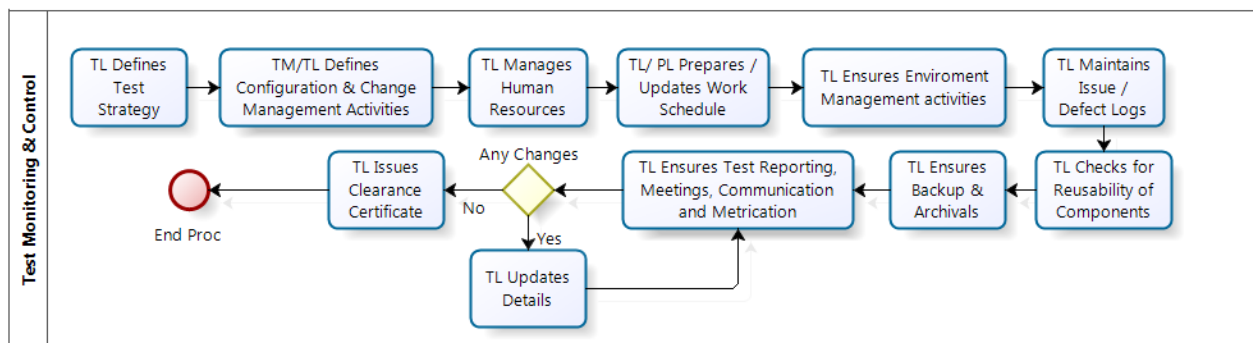
#### 7.4.6 Training Planning

- TL identifies the training needs and records the same in the Training Plan section of the Test Plan
- TL updates the schedule accordingly and communicates it to the Training Department

#### 7.4.7 Prepare Schedule

- TL-QC defines the Work Breakdown Structure (WBS) for the activities and tasks based on the identified phases and deliverables considering the following points:
  - Adequate buffer
  - Holidays and leave plan of team members
  - Technical and domain knowledge expertise of team members
  - Approximately 90 % productivity of resources
- TL scans the reusable library for similar past projects and identifies the Test Cases that could be reused in the project
- TL schedules each of the tasks based on the effort estimated as per the Project Schedule and Tracking section of the *Guidelines for Scheduling, Tracking, and Communication*
- TL prepares the schedule

### 7.5 Test Monitoring & Control



#### 7.5.1 Test Strategy Management

- TL ensures that the test life-cycle is executed in line with the test strategy
- TL ensures that the test strategy is updated in the Test Plan as and when required

#### 7.5.2 Configuration and Change Management

- CM / CL maintains the Configuration Library as documented in the Configuration Plan section of the Test Plan, as per the Configuration Management Process

- CM / CL prepares a Configuration Status Report in the event of suspension of the project on all the activities along with the status of all configurable items including documents, developed code, etc. in accordance with the Configuration Management Process
- TL ensures that changes, if any, are managed as per the Change Management Process
- TL ensures that defects are fixed by the respective development team and the build is resubmitted for subsequent rounds of testing

#### **7.5.3 Human Resource Management**

- TL inducts all the team members allocated to the testing activities
- TL ensures that identified trainings on the testing activities are conducted as specified in the Training Plan section of the Test Plan
- TL assigns tasks to individual team members using an appropriate tool
- Every project team member records the individual time spent on the allocated tasks using an appropriate tool
- TL in consultation with Test Manager conducts team members appraisal at the predefined frequency
- TL in consultation with Test Manager ensures that the following tasks are performed for every team member leaving the testing activities and communicates the same to all the affected groups' atleast 3 days in advance
  - A smooth handover of allocated tasks / activities using the Handover Form
  - The project end review is conducted
- TL performs following administrative duties related to staff:
  - Collection, review and approval of timesheets
  - Scheduling all planned absences from the testing activities
- TL in consultation with Test Manager updates and validates the skills database for team members allocated to testing activities
- TL ensures that the knowledge transfer session is conducted, if planned, as per the *Knowledge Transfer Process*

#### **7.5.4 Work Schedule Management**

- TL-QC tracks the progress of the project against the Test Plan using the *Guidelines for Scheduling, Tracking, and Communication*
- TL-QC obtains progress reports regularly from all the team members
- TL-QC reviews the Test Schedule and updates it using a project management tool as per the defined criteria

#### **7.5.5 Environment Management**

- TL requests for supplies, equipment, workspace, etc. required during the testing life-cycle
- TL makes necessary adjustments to the project hardware, software, machine configuration or architecture of the project site and documents the same in the Test Plan

#### **7.5.6 Issue / Defect Management**

- TL ensures that all issues are logged using the *Issue Log*, or an appropriate tool
- TL analyzes the issues needing detailed analysis as per *Corrective Action Process*
- TL arrives at the root cause of the issue and decides the best possible resolution as per the *Decision Analysis and Resolution Process*

- TL ensures that the activities related to issue resolution are scheduled, allocated and tracked to closure

#### 7.5.7 Reusability

- TL updates the reusable library with the reusable components using the *Reusable Component Log*, as specified in the Project Plan

#### 7.5.8 Backup and Archival Management

- TL ensures that regular backup and retrieval of all testing artifacts is conducted at intervals specified in the Test Plan as per the *Backup and Archival Process*

#### 7.5.9 Test Reporting, Meetings, Communication and Quality Objectives

- TL ensures that defects logged in the Defect Report or any identified tool are tracked to closure
- Test Manager ensures that the TL prepares the Test Status Report using the Test Status Report Form, as per the predefined frequency specified in the Test Plan
- SQA reviews all the data collected for measures and metrics for its appropriateness at the end of testing activities
- TL ensures that regular review meetings are conducted with the Project Team, at predefined frequency, and minutes are prepared using the Minutes of Meeting Form, and circulated to all the participants

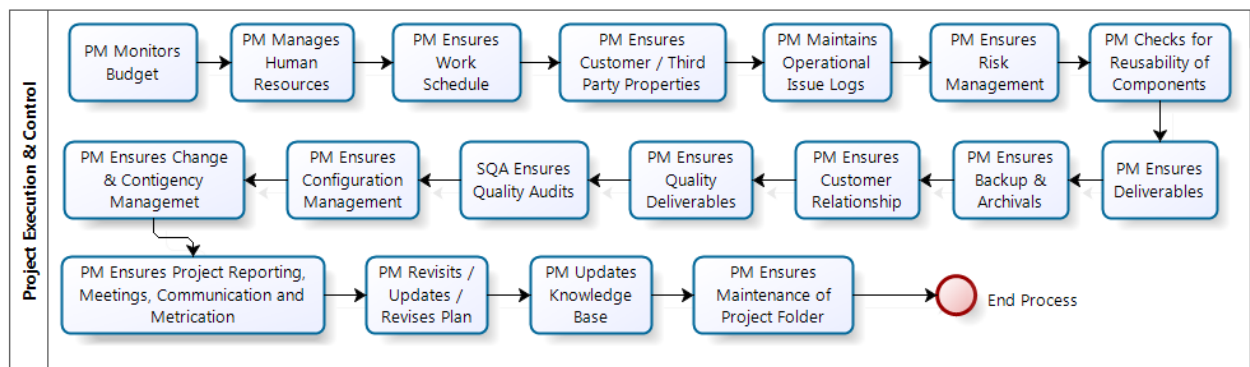
#### 7.5.10 Revisit / Update / Revise Plan

- TL revisits the Test Plan as per the Policies section of the Test Planning Process, and / or updates / revises the Test Plan, if necessary

#### 7.5.11 Issue Clearance Certificate

- TL gives go-ahead, after the final round of testing of each of the builds deliverable to the customer
- Test Manager reviews the Test Status Report and Clearance Certificate and authorizes the work product / product / application for the formal delivery / release
- PM prepares Release Note

### 7.6 Project Monitoring



**7.6.1 Budget Management**

- PM prepares a budget associating all identified costs with the phase / time period in which the expenses would be incurred using an appropriate tool
- PM uses customer financial reporting requirements to collect budget data as per the tracking mechanisms defined in the Project Plan
- PM compiles all the budget and financial information of the Project and updates an appropriate tool

**7.6.2 Human Resource Management**

- PM updates assignment / release of resources using the Annexure-B of the Project Plan and if necessary, raises resource requisition
- PM inducts all the team members allocated to the project
- PM ensures that identified trainings on the project are conducted using the Annexure-E of the Project Plan as per the Training Process
- PM assigns tasks to individual team members using an appropriate tool
- Every project team member records the individual time spent on the allocated tasks using an appropriate tool
- PM conducts team members appraisal
- PM ensures that the following tasks are performed for every team member leaving the project and communicates the same to all the affected groups' atleast 3 days in advance
  - A smooth handover of allocated tasks / activities using the Handover Form
  - The project end review is conducted
- PM performs following administrative duties related to staff:
  - Collection, review and approval of timesheets
  - Scheduling all planned absences from the project
- PM communicates his absence in the project to all the affected groups and designates the person responsible for the project in his absence atleast 3 days in advance
- PM updates and validates the skills database for team members allocated to the project

**7.6.3 Work Schedule Management**

- PM tracks the progress of the project against the Project Plan using the *Guidelines for Scheduling, Tracking, and Communication*
- PM obtains progress reports regularly from all the team members
- PM reviews the Project Schedule and updates it using a project management tool as per the criteria stated in the Project Plan
- PM initiates and closes the phases of the project by conducting team meetings and updates available measures and metrics using *Measures and Metrics Template*
- PM ensures that the knowledge transfer session are conducted if planned as per the *Knowledge Transfer Process*
- PM, if required, re-estimates size, effort and cost after each phase to ensure that they are within the established thresholds as per the *Estimation Process*

**7.6.4 Customer and Third-party Material Management**

- PM schedules and monitors the verification, use and maintenance of all third-party material
- PM discusses about the deterioration / damage / loss, if any, in the project meeting and intimates the same to the customers and records in the Project Plan

- PM with the customer's permission scraps any customer supplied material

**7.6.5 Issue Management**

- PM ensures that all issues are logged using the Issue Log, or an appropriate tool
- PM analyzes the issues needing detailed analysis as per *Corrective Action Process*
- PM arrives at the root cause of the issue and decides the best possible resolution as per the *Decision Analysis and Resolution Process*
- PM ensures that the activities related to issue resolution are scheduled, allocated and tracked to closure

**7.6.6 Risk Management**

- PM ensures that all risks are logged in the Risk Annexure
- PM also assesses for any new risks and derives the mitigation / action plan for the same
- PM ensures that the activities related to Risks are scheduled, allocated and tracked to closure

**7.6.7 Reusability**

- PM updates the reusable library with the reusable components using the *Reusable Component Log*, as specified in the Project Plan

**7.6.8 Deliverables Management**

- PM collects all the components and the supporting documents of deliverables
- PM conducts inspections of the deliverables and sends to the customer as per the Delivery Process, or as stated in the Project Plan
- PM ensures that the *Customer Satisfaction Feedback* obtained for a deliverable is maintained in the project folder
- PM clarifies issues and questions raised by customers during installation and acceptance testing as specified in the Project Plan
- PM analyzes the defects detected during the acceptance testing and classifies them as changes or defects. He / she ensures that the defects are fixed and changes, if any, are managed as per the *Change Management Process*
- PM obtains customer sign-off for all the deliverables

**7.6.9 Backup and Archival Management**

- PM ensures that IT Support conducts regular backup and retrieval of all components of the project at intervals specified in the Project Plan as per the *Backup and Archival Process*

**7.6.10 Customer Relationship Management**

- PM ensures that periodic status reports are sent to the customer as per the Communications section of the Project Plan
- PM ensures that customer complaints if any, are appropriately addressed
- PM with the involvement of AM escalates customer related issues
- PM ensures that the customer satisfaction feedback collection is done as specified in the Project Plan as per the *Customer Satisfaction Feedback Process*
- PM initiates appropriate actions, if any, based on the Customer Satisfaction Feedback, as per the *Corrective Action Process*

**7.6.11 Quality Deliverables**

- PM ensures that standard QMS processes or project specific processes defined in the Quality Plan section of the Project Plan are followed
- PM initiates appropriate corrective actions when the metrics indicate that the predefined goals are not being met
- PM ensures that the Test Lead-TL prepares the Test Status Report is using the *Test Status Report Form*, as per the predefined frequency specified in the Test Plan

**7.6.12 Quality Audit**

- SQA ensures that the PM has made following points clear to every member involved with the Project :
  - Phases, deliverables, QA and QC procedures and outputs of the project
  - Deviations from the standards
  - Configuration Items
  - Configuration Management Procedures
  - Change Management Procedures
- SQA verifies and ensures that all changes are incorporated as per the *Change Management Process, and Configuration Management Process*
- SQA verifies that all required review, inspection, walk through and testing forms are filled up and that these take place as scheduled and prescribed
- SQA prepares a *Project Quality Audit Report* documenting the compliance with the QMS processes and the Project Plan

**7.6.13 Configuration Management**

- CM / CL maintains the Configuration Library as documented in the Configuration Planning Section of the Project Plan as per the *Configuration Management Process*

**7.6.14 Change and Contingency Management**

- PM ensures that changes related to the *contract* are managed as per the *Change Management Process, and Configuration Management Process*. The effect of changes, if any, is communicated to all the affected groups
- CM / CL seeks approval of the concerned Project Manager for any changes in the commitment external to the organization
- PM convenes the meeting to seek approval from Management, sanction for any changes or event in the project which results in an increase in the project duration and cost beyond the stipulated escalation criteria specified in the Project Plan, and decide on the corrective action. PM in concurrence with AM seeks customer approval.
- Concerned AM, if available, is invited for such meetings or is informed about the decisions of the meeting. The meeting is held using the Checklist for Meeting, and minutes are recorded using Minutes of Meeting Form
- CM / CL prepares a Configuration Status Report in the event of suspension of the project on all the activities along with the status of all configurable items including documents, developed code, etc. in accordance with the *Configuration Management Process*

**7.6.15 Project Reporting, Meetings, Communication and Quality Objectives**

- PM prepares the project status report using the Project Status Report form, at a predefined frequency as specified in the project plan

- PM conducts team meetings at predefined frequency specified in the Communications Section of the Project Plan using the *Checklist for Meeting*, and prepares minutes of meeting using the *Minutes of Meeting Form*
- PM generates periodic Project Status Report using the *Guidelines for Scheduling, Tracking, and Communication*, and distributes the same as specified in the Project Plan
- PM collects the measures and metrics as specified in the Quality Objectives Plan Section of the Project Plan
- SQA reviews all the data collected for measures and metrics for its appropriateness at the end of project phase or as defined in the Quality Objectives Plan Section of the Project Plan and generates Project Metrics Report using the *Guidelines for Quality Objectives*, as per the *Metrics Process*
- PM initiates appropriate corrective actions on the basis of analysis of data to ensure that the project's goals are met

**7.6.16 Revisit / Update / Revise Plan**

- PM revisits the Project Plan as per the Policies Section of the *Project Planning Process*, and / or updates / revises the Project Plan, if necessary

**7.6.17 Update the Knowledge Base**

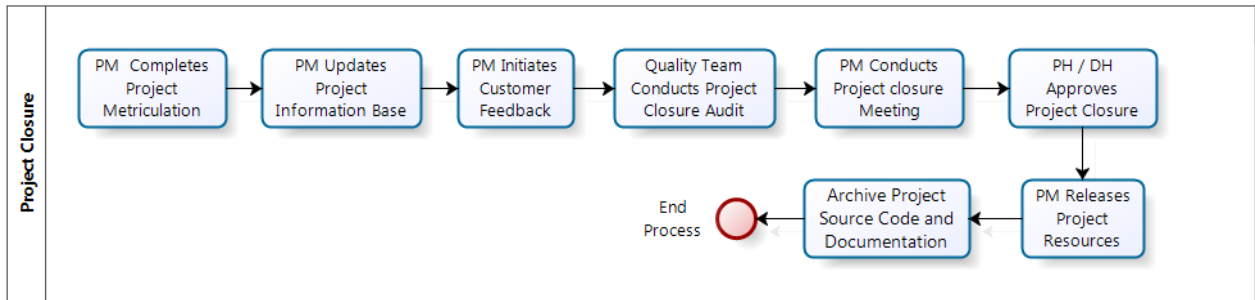
- PM updates the information-base related to the project using *Knowledge Base Document Template*, as per the frequency defined in the Project Plan

**7.6.18 Project Folder Maintenance**

- PM collects and maintains the following project data in the Project File:
  - Project Plan (all versions)
  - Minutes of Meeting (with project team members and customer)
  - Project Environment Reports
  - Project Status Reports
  - Project Quality Audit Reports
  - QMS Deviation Forms
  - Customer Satisfaction Feedback
  - Customer documentation (correspondence, contract, etc.)
  - Project documentation (specifications, test plans, test results, etc.)
  - Project correspondence (internal memos etc.)
  - Change Management documentation (change / enhancement requests, etc.)
  - Configuration information (configuration record, configuration control, etc.)
  - Estimation Documents
  - Master list of documents
  - Reports (end-stage, status, exception, close-out, etc.)
- PM maintains the Project Folder in a central location subject to specified control measures and ensures that the project team has been issued with current copies of all required project documentation

**7.7 Project Closure**





## 7.7.1 Complete Project Quality Objectives

- PM ensures that computation of all the measures and metrics is done in Measures and Metrics Template, using *Guidelines for Quality Objectives*, and the *Metrics Process*
- PM prepares final Project Status Report using the *Project Status Report Form*

## 7.7.2 Update Project Information Base

- PM updates the Knowledge Base Document Template

## 7.7.3 Conduct Customer Satisfaction Feedback (CSAT)

- PM Initiates Customer Satisfaction feedback using Customer Satisfaction Feedback Process

## 7.7.4 Conduct Project Closure Audit

- SQA allocated to the project conducts the project closure audit as per the Internal Quality Audit Process, and ensures that PM closes all the Non-Compliances(NCs) raised

## 7.7.5 Conduct Project Closure Meeting

- PM verifies the completion of all the project related activities using the *Checklist for Project Closure*
- PM Prepares Project Closure Report using the *Project Closure Report Template*
- SQA verifies the Project Closure Report
- PM organizes and conducts Project Closure Meeting with all the relevant stakeholders using Project Closure section of the *Checklist for Meeting*
- PM prepares and circulates minutes of meeting using the *Minutes of Meeting Form*

## 7.7.6 Approve Project Closure Report

- PM submits the Project Closure Report to PH / DH / DM
- DM approves the *Project Closure Report*
- PM, if required, communicates formal closure of the project to the Customer and obtains sign-off using the *Sign-off Form*

## 7.7.7 Release Project Resources

- PM validates the skills database updated by the respective project team members for the project
- PM performs project end review for respective project team member
- PM releases the resources allocated to the project



### 7.7.8 *Archive Project Source Code and Documentation*

- PM updates the Project Folder with respective elements / documents
- PM in consultation with Configuration Librarian (CL) ensures archival of project source code, documentation and any other items in the Project Configuration Library as per the *Backup and Archival Process*
- PM in consultation with Organization Knowledge Manager uploads the requisite documents in the Knowledge Management repository or an appropriate tool

## 9.0 *Quality Mechanisms*

- Project Initiation Note Review
- Review of Project Plan
- Review of Estimation
- Review of Test Plan
- Review of Test Status Report
- Project Quality Audits
- Review of Knowledge Base Document
- Review of Project Closure
- Project Closure Audit

## 10.0 *Quality Objectives*

<b>Sr. No</b>	<b>Objectives</b>	<b>Responsibility</b>	<b>Frequency of Measurement</b>	<b>Reporting of Measurement</b>	<b>Target to Achieve</b>
1	Schedule Variance	PM	Monthly	Monthly Report	90%
2	Effort Variance	PM	Monthly	Monthly Report	85%
3	Number of Critical Defects	PM	Monthly	Issue / Defect Logs	Not to exceed 2
4	Testing Iterations	PM	Monthly	Monthly Report	Not to exceed 3 Iterations
5	PCR Index	PM	Monthly	PCR Report	70%
6	Customer Satisfaction	PM	Yearly / Project Closure	CSAT	Rating >= 3 (1 to 5 Scale)

## 11.0 *Identified Risk*

- 
- All risks identified for the process will be recorded into the Risk Management Plan (RMP)
- Risks will be reviewed and monitored as per the agreed schedule

## 12.0 *Exit Criteria*

<b>Outputs</b>
Knowledge Base Document
Approved PIN

<b>Outputs</b>
Minutes of Kick-off meeting
Project folder
Customer Feedback Form
Project Plan Document
Review Report of Project Plan
Review records of estimation
Approved Estimates
Test Plan Document
Test Status Report
Project Folder
Current project status, issues, resources assigned, etc.
Details of updates to existing Project Plan
Project Status Reports
Project Quality Audit Reports
Master List of Documents (of projects)
Project Closure Report
Minutes of Project Closure Meeting