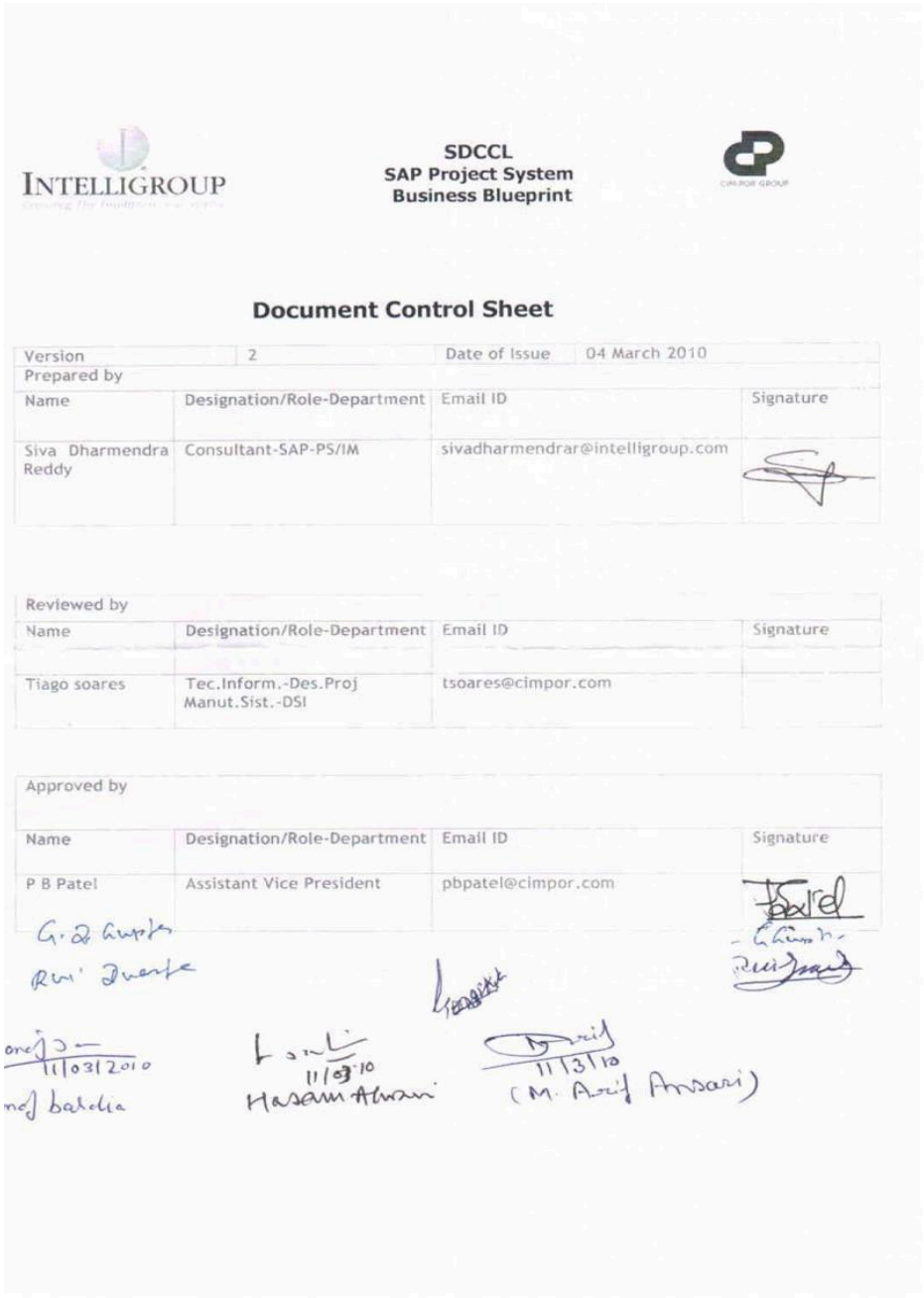
SAP Project System
Business Blueprint

KAMAL SHINING-INDIA
SAP ECC 6.0 Implementation

SDCCL – Project System
Business Blueprint Document
Version 2.0 | 04-03-2010



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Document Control Sheet

Version	2	Date of Issue	04 March 2010

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Document History			
Version No.	**Date of Issue**	**Location of Change**	**Description of the Change**
2	04 March 2010		
1	17 June 2009		
1.1	02July 2009	Page 11, 14, 15	Project Definition Process –Project Mater data ,Removed project types, and Cost planning process

Reader should read the this document in conjunction with the followindocuments

Reference Document	SDCCL–Investment Management Business Blueprint Document	
Version No.	**Date of Issue**	**Location of Change**
1.1	02 June 2009	

Table of Contents

1 .Introduction

This document is a result of workshop study and requirement analysis carried out at SDCCL Jamnagar Plant. The purpose of this document is to map the SDCCL's requirements on to SAP standard functionality of the Project System module based on the requirements narrated in the CIMPOR global Templates. This document is to be studied by SDCCL Management and users. The preparation of this document is an essential precursor to prototyping and testing.

This Blueprint has been developed by documenting all input gathered from the business process owners/core users by scheduling meetings and workshops based on the guidelines and templates narrated in the CIMPOR Global templates.

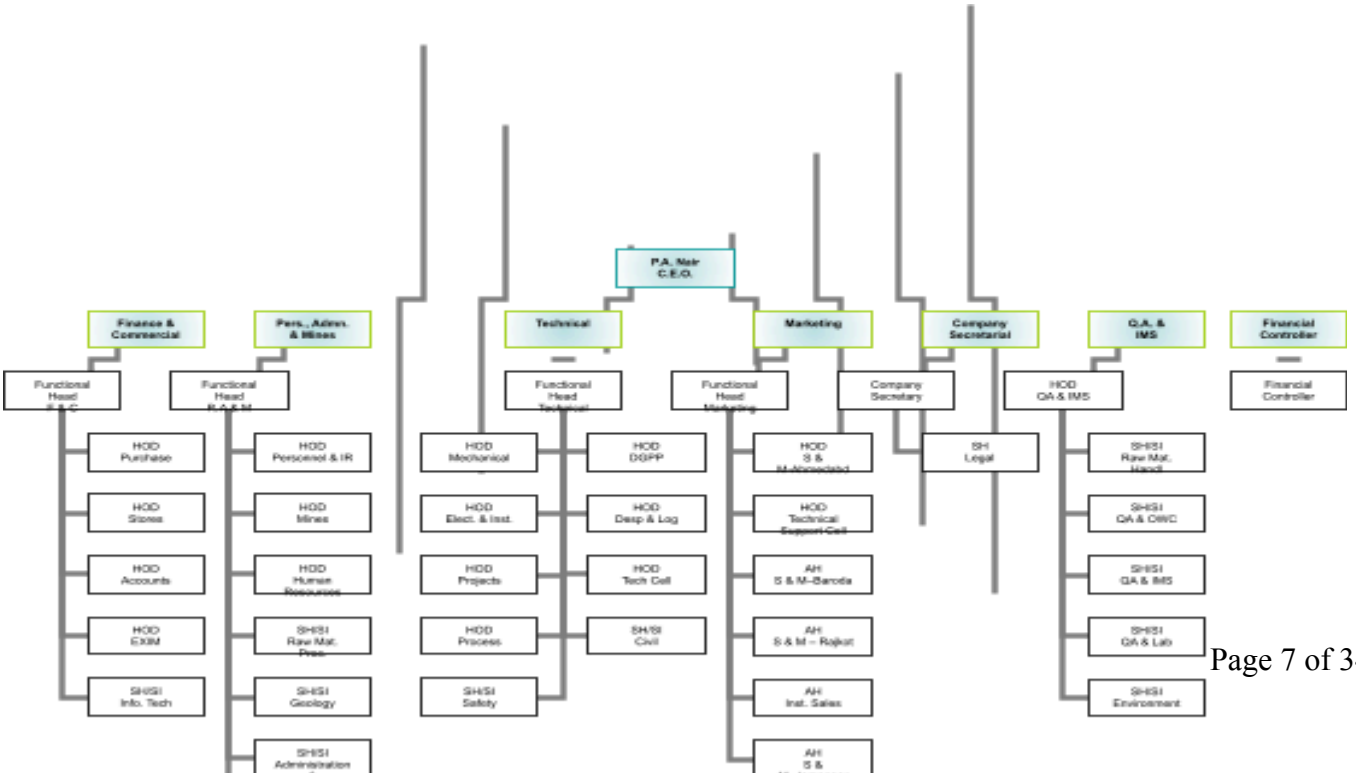
Project system is an integrated management tool to plan, monitor and control the projects in an organization. It ensures smooth execution of the Projects by ensuring the

project information availability with the help of components like Project Structuring, Project Planning, Project Budgeting, Project Execution etc.

1. Organization Structure

1.1 SDCCL Organization Structure

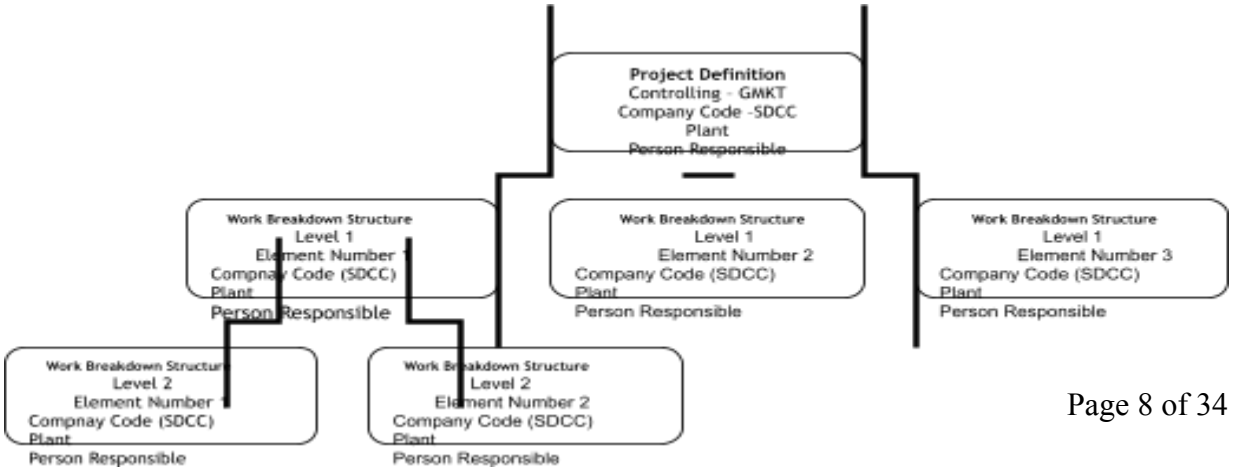
The Organization chart of SDCCL Project management team is as depicted in the figure below. All the projects are guided by project director. The Finance controller/ Project manager has an overall responsibility of a particular part of the project. The Finance controller or project manager is responsible for cost planning, budgeting, planning and scheduling of the projects.



1.2 SAP Technical Organization structure

Each project starts with the Project definition and classification of the structures required for processing and the incorporation of these into the existing enterprise structure.

The Project System has no organizational structures of its own; we incorporate it into the existing structure by making assignments to the organizational units in Accounting and Logistics. It is this which enables the Project System to present data clearly and in many different ways.
While defining the project process, we can default the Company code, plant and can change them as required in the work breakdown structure as shown below. The company code cannot be changed once the cost planning, budgeting or actual values are posted to it.



2. Process owners / Stakeholders

STAKEHOLDER	INTEREST
Finance / Projects department	Project structuring, cost planning, budgeting
Finance department	The total Assets Under Construction for the projects
Purchasing department	Purchase orders, Contracts for each projects
Maintenance department	Planning and budget control of Shutdown Maintenance
Management	Analyzing reports and taking corrective actions

3. Business Process

The main purpose of implementing the Project system module in SDCCL as per the CIMPOR guidelines is to control all figures in terms of budget, commitment and actual values of an investment when the business entity is producing long term fixed –assets for its own use.
Projects are automatically created as investment measures for planning and monitoring capital investments with due integration with Investment Management Module.

Only CAPEX Projects are handled by SDCCL by the Finance and Production section.

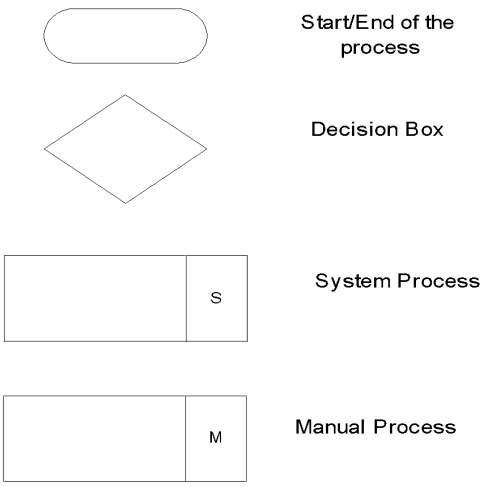
"Capital Projects (Capex)". Capital Projects are high value projects. Projects are approved every year by the Board of Directors for implementation.

Following business process requirements are identified for SDCCL and can be met with the standard functionalities of SAP.

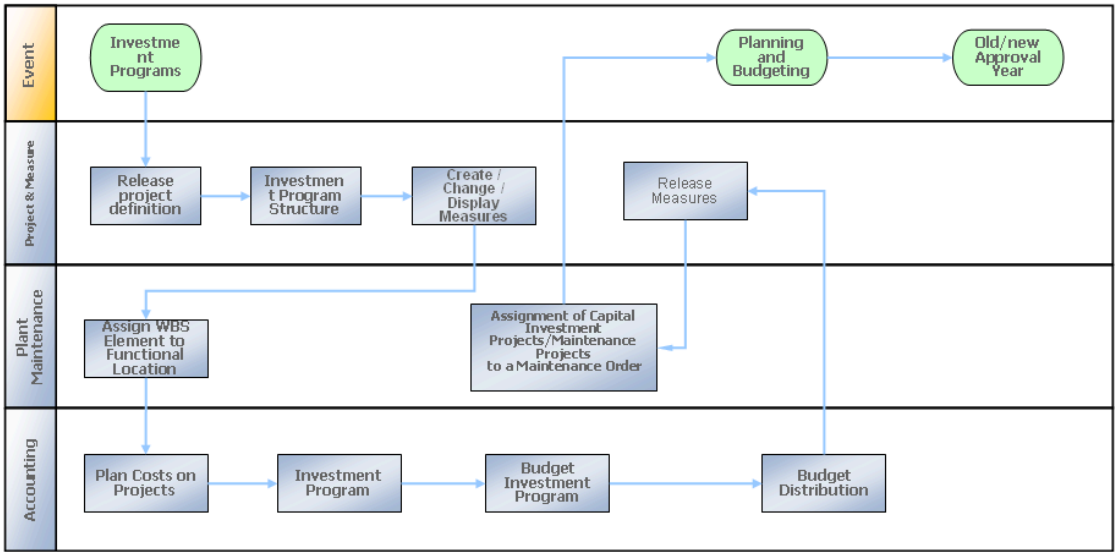
- Setup Master Data
- Project Definition Process
- Work Breakdown Structuring
- Cost Planning
- Budgeting
- Project Status Processing
- Project status processing
- Budget Check and Update
- Periodic Settlement

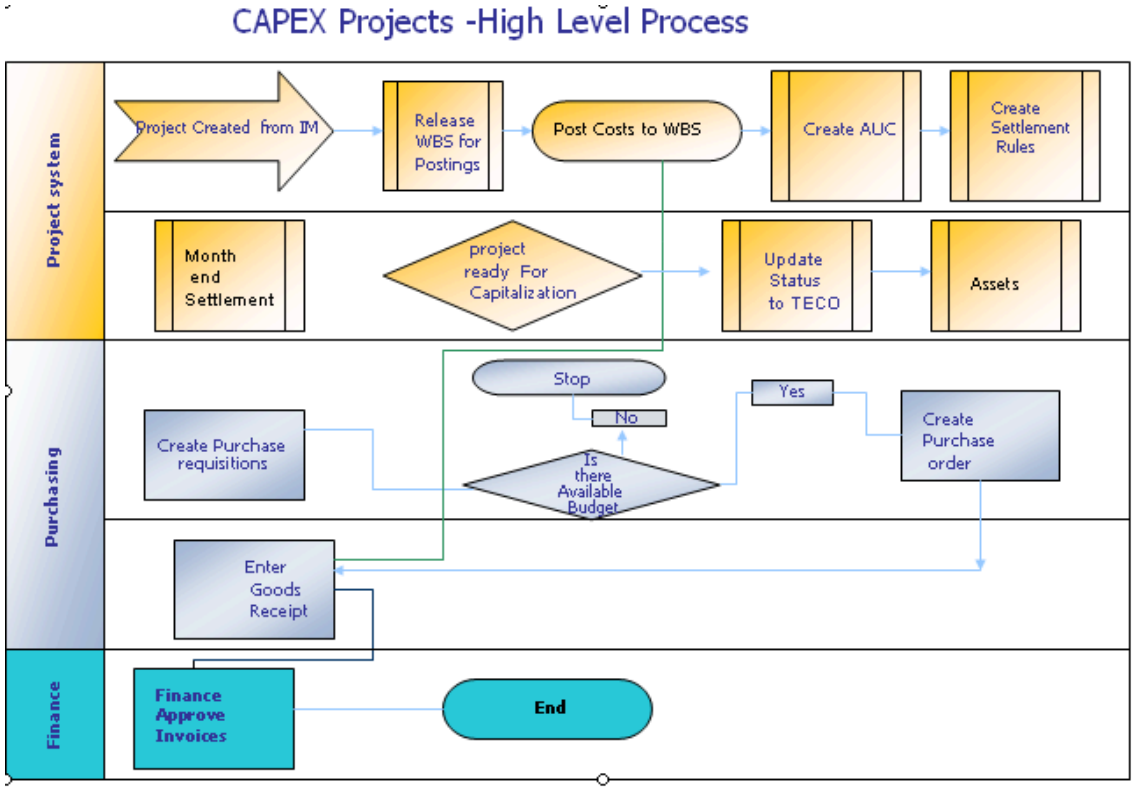
Flow Chart Convention

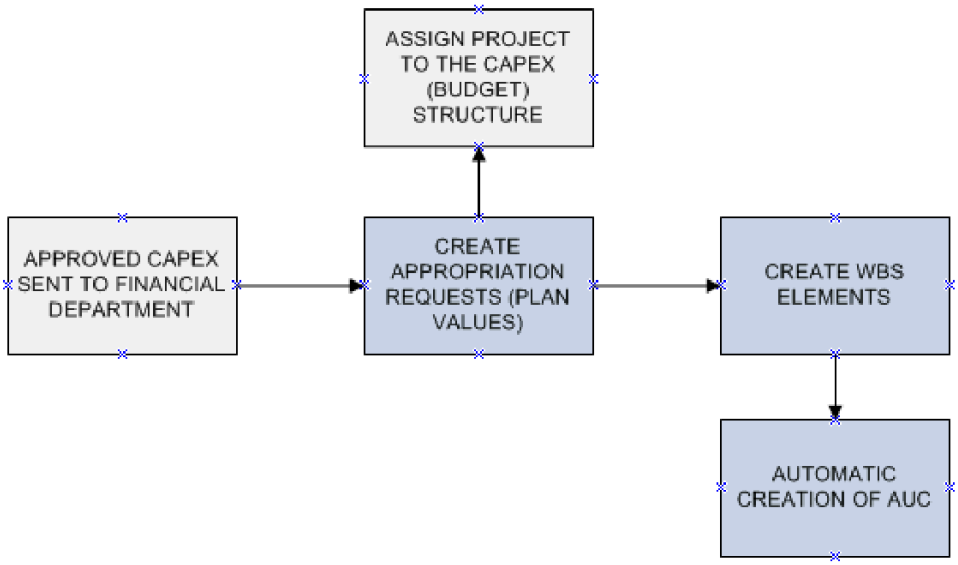
The following conventions shall be used in all the flow charts illustrated in this document



3.1 Process flow




CAPEX Projects -High Level Process
Project system
Project Created from IM
Release WBS for Postings
Post Costs to WBS
Create AUC
Create Settlement Rules
Month end Settlement
project ready For Capitalization
Update Status to TECO
Assets
Purchasing
Stop
No
Yes
Create Purchase requisitions
Is there Available Budget
Create Purchase order
Enter Goods Receipt
Finance
Finance Approve Invoices
End


ASSIGN PROJECT TO THE CAPEX (BUDGET) STRUCTURE
APPROVED CAPEX SENT TO FINANCIAL DEPARTMENT
CREATE APPROPRIATION REQUESTS (PLAN VALUES)
CREATE WBS ELEMENTS
AUTOMATIC CREATION OF AUC

Prerequisites

The prerequisite to use this process is the existence of

- Business entity - Defined in Finance and Controlling
- Investment Management from IM
- Fixed Assets -Defined in Asset management
- Setup Master Data for Projects – Defined in PS Module
- Project Definition - Defined in PS Module
- Work Breakdown Structuring - Defined in PS Module

3.2 Setup Master Data

3.2.1 Standard Project Structuring

By defining standard projects SDCCL can standardize project management in the company for automatic generation of projects from Appropriation requests. Standardization is one method of ensuring in the initial phase that projects are structured efficiently and economically. A further advantage of standardizing project structures is that it makes the processing of projects more transparent, enables the comparison of projects and subsequently facilitates project controlling.

The project structure is an important component of Project System module. Therefore, the project structure has to be clearly and precisely defined as it forms the basis of successfully tracking from planning and budgeting to capturing of commitments and actual costs, as well as allowing meaningful reporting to be generated.
A project structure is divided into 2 main components:

- The Project ID – This is the project header and defines the project as well as the organisation structure assignment of the project
- The Work Breakdown Structure (WBS) elements – These are the levels below the project ID. The WBS elements are where planning and posting of costs will be done. A hierarchy that suits to the CAPEX may be built using WBS element. This can later be used for reporting purposes.

3.2.2 Process description

Project Naming Convention / Coding Mask – This shall be achieved by defining the coding mask .This Project Coding mask helps for editing the project number. Masks help display complex project numbers. They can also be used to indicate the position of a WBS element in the project hierarchy.

As per Cimpor global templates the following codification rule shall be used for defining the projects coding mask / Naming convention for Projects and for WBS elements and this Must be identical to Naming convention denoted for Appropriation requests.

Coding Mask shall be defined to address the following naming convention
For Projects - **I XXXX YY N N N**
I- India
XXXX - Business Area (company code + activity + plant);
YY - Year;
NNN - Project sequencial number;

With the above coding Mask

A Project number for an Example looks like - **ICC0109001**

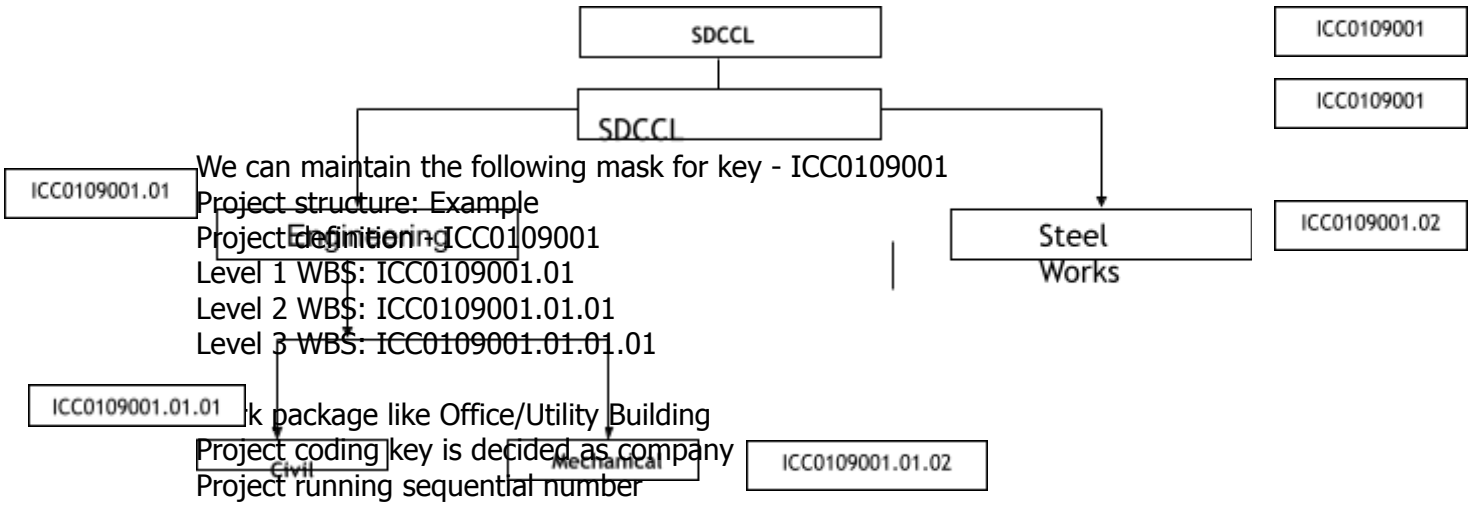
WBS structure – As per the CIMPOR the codification rule for WbS elements shall be

I XXXX YY NNN WW
I – India
XXXX - Business Area (company code + activity + plant);
YY - Year;
NNN - Project sequencial number;

WW - WBS sequencial number (usually separated by: Civil Works, Mechanical, Steel Works, Electrical, Project, Others);

A WBS number for an Example looks like: **ICC010900101**

Example of a Project structure with Project definition and WBS elements.



We can maintain the following mask for key - ICC0109001
Project structure: Example
Project definition - ICC0109001
Level 1 WBS: ICC0109001.01
Level 2 WBS: ICC0109001.01.01
Level 3 WBS: ICC0109001.01.01.01
Work package like Office/Utility Building
Project coding key is decided as company
Project running sequential number
Work package like Earthwork

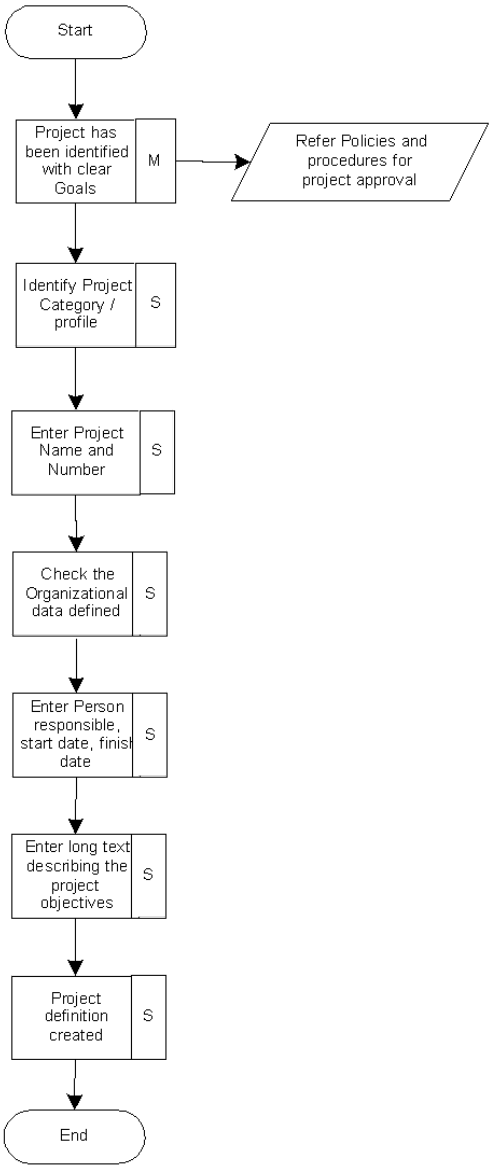
3.3 Project Definition Process

A project such as Capital Investments requires overall and precise planning. The finance controller or Project director/ Project Manager has the job of ensuring that the project is executed efficiently, and within budget - which he /she achieves by ensuring that the required funds are available as and when needed.

Following are maintained while defining a Project which shall be automatically created via appropriation request and all necessary data is automatically filled in project and WBS master data.

- The project definition, which is the binding framework for all organizational elements within a project.
- Defining of non-binding start and finish dates for the project.
- The responsibilities by assigning a person responsible and other organizational data.

With these inputs a project outline data is obtained. After this is done the criteria on which the project is to be structured has to be decided. Once this is decided then the work breakdown structure for the project can be created by going to the next Work breakdown Structuring process.


Start
Project has been identified with clear Goals
M
Refer Policies and procedures for project approval
Identify Project Category / profile
S
Enter Project Name and Number
S
Check the Organizational data defined
S
Enter Person responsible, start date, finish date
S
Enter long text describing the project objectives
S
Project definition created
S
End

3.4 Work Breakdown Structuring

A work breakdown structure (WBS) is a model of the work to be performed in a project organized in a hierarchical structure. The WBS is an important tool, which helps keep an overview of the project.

Work breakdown structure can be divided for the project into useful steps, specify fixed or basic dates, specify the work involved, and determine project costs. The individual level of the hierarchy in a work breakdown structure enables to organize a project into steps. The WBS can further be broken down into steps of individual elements. These elements are referred to as work breakdown structure elements (WBS elements) in the Project System.

The individual elements represent activities within the work breakdown structure. These elements are called work breakdown structure elements (WBS elements) in the Project System and are mostly the lower most WBS elements.
The data that can be maintained for WBS elements is as follows:

Basic Data: Basic data is general data that is needed for a WBS element over a long period of time and contains information that is used repeatedly in the project.

As per the CIMPOR requirements the projects are to be classified as follows:-

- PPIP Projects;
- Urgent Projects
- IT
- Concrete
- Aggregates
- Head-Office Assets and Cars

The project type can be used to sort a WBS element according to particular categories and evaluate it in the information system.

Operative Indicators: With operative indicators, specify the attributes of a WBS element and determine which tasks the WBS element can carry out in the project. The operative indicators in project planning can be changed based on the system status.

Organization Data: The controlling area in the project definition is valid for the entire project whereas WBS elements can be assigned to different plants, company codes or business areas.

Project Responsibilities: Maintain person responsible for each element
Documents: Add PS Texts and link a document to WBS element
Control Data: – These are various default profile set for control purpose
Settlement Rule: See Periodic settlement process

The work breakdown structure is the operative basis for the further steps in project planning, for example, Cost planning, budgeting, as well as project controlling.

3.5 Cost Planning

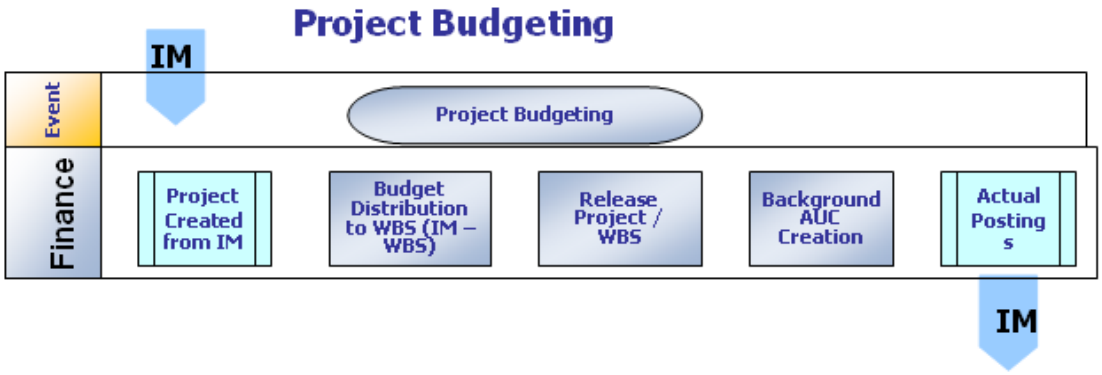
Cost planning deals with the costs that are expected to incur in connection with the project as it is executed. Cost planning has different aims at different stages of the project. At the design and rough-planning stage, use it to calculate the costs that will arise in the project. At the approval stage, it forms the basis for the budget allocation. During project execution, we use cost planning to monitor and control cost variances.

As per the CIMPOR guidelines cost planning shall be done at appropriation request level and the planning is automatically transferred to the assigned WBS elements

3.6 Budgeting Process

The budget is the approved cost structure for a project. It differs from project cost planning in that it is binding. In CIMPOR Business process, WbS elements are budgeted through Investment Management.

Budget Process flow



The Project System recognizes the following different budget types:

Budget Original: The original budget is the budget initially allocated - that is, the budget before any updates was carried out. From a point in time, which is stipulated, it can only be amended by means of budget updates.

Budget Updates: Unforeseen events, additional requirements, prices rises, and so on may mean that you need to correct the original budget - that is, budget updates are necessary.These take the form of Supplements, Returns and Transfers.

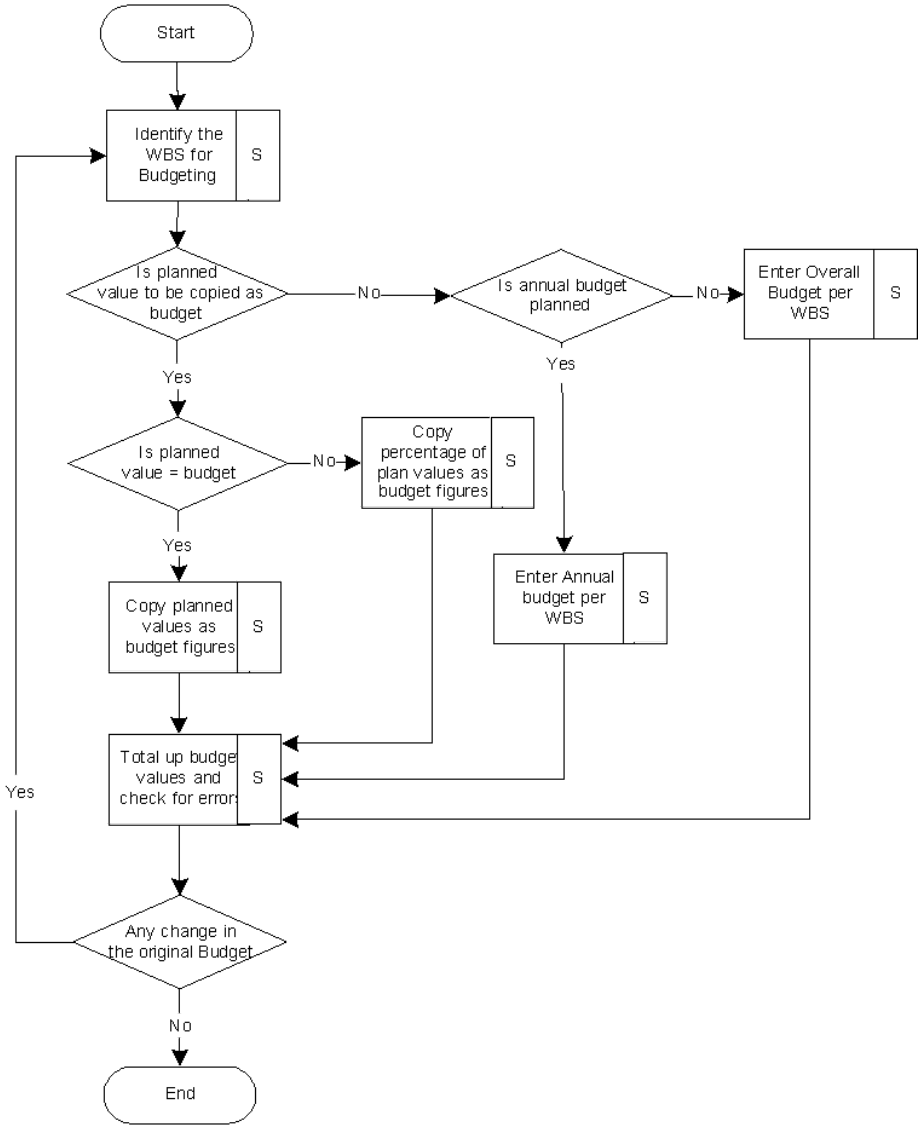
Budget Release: In many businesses, budget distribution is not the same as releasing the funds. For this reason, the Project System includes a separate funds release facility, which can be used to make successive budget releases. The release is based on the current budget. For example in the organization for a particular project if X amount is the sanctioned budget but whereas allocated budget can be only some percentage of X then the Budget release facility is adopted.

Current Budget: The Current budget is shown in the information system as budget values
The current budget is calculated as follows:
Original budget + Supplements – Returns +/- Transfers = Current budget
The Current distributable Budget forms the basis for Availability control (Refer Availability check process in budget updates)

Within the project structure, the system ensures that the funds in lower-level WBS elements (distributed values) do not exceed those in the higher-level elements. The check is in controlling area currency, but includes budget line items entered in other currencies.

Budget in Time Frame: Based on the Project stage and the details available and required the Budgeting can be done across the time frame of the project duration.
The Budget can be Planned for Overall values in the initial stages and then distribute it to annual value for each of the WBS element as required.

As per CIMPOR Business process budget is planned for 5 years.



3.7 Project Status Processing

The current status of a project or an object in a project determines which business transactions can be executed. Statuses document the current processing stage of an object. Status management in Project System differentiates between system statuses and user statuses.

A project is not a static object. It has it own life cycle that begins when it is created and continues till completion. During this period various business transactions change the project. For instance plan tasks, post costs and perform settlements.

If it is wanted and decided when certain business transactions are permissible, define user statuses. These enhance existing system statuses. SAP does not provide an authorization check for setting system statuses. A user status is status which is set by the person, and which can be set in addition to the current system status. Like Development, Definition, Implementation and closure.

Following are the System status and brief description.

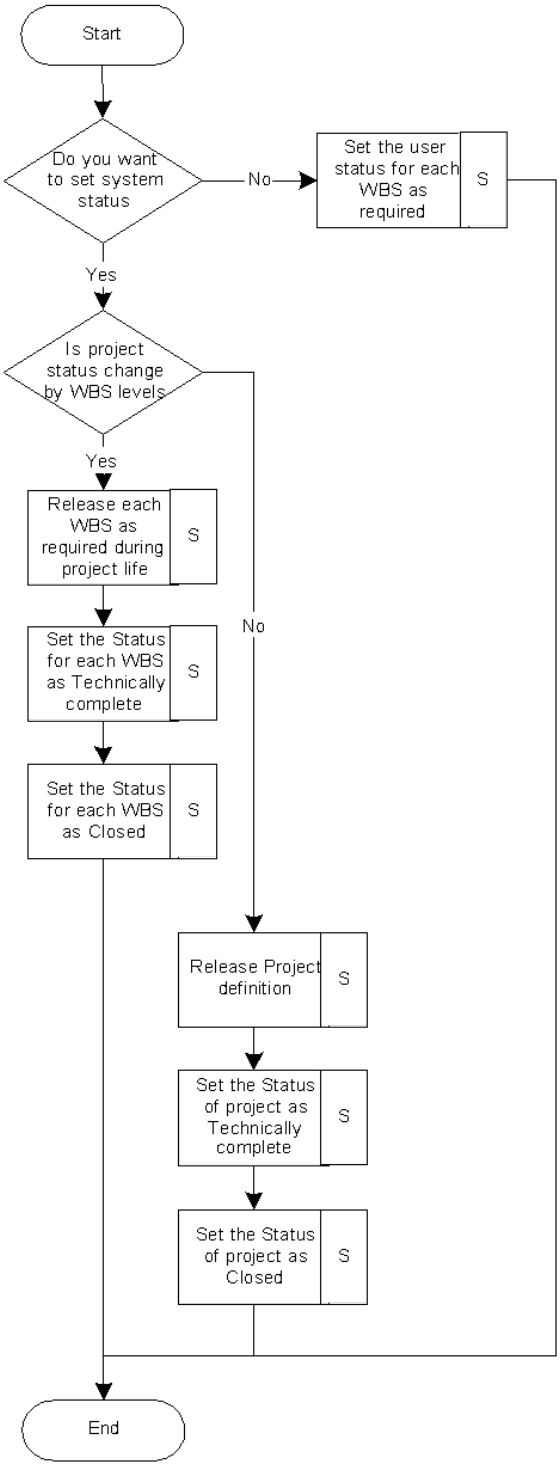
Created (CRTD): It is the initial system status for new WBS elements created. In this status the project can be structured and plan dates, costs etc. Actual cost cannot be posted to the hierarchy.

Released (REL): The released status can be set based on project approval. In this status you can post actual costs after assigning costs/budget to WBS elements.

Technically completed (TECO): Set this status for WBS elements that are completed from a technical point of view, but where you still expect costs to accrue from the commitments already made.

Closed (CLSD): Set this status for a work breakdown structure or WBS element that has been completed from both a logistic and an accounting point of view.

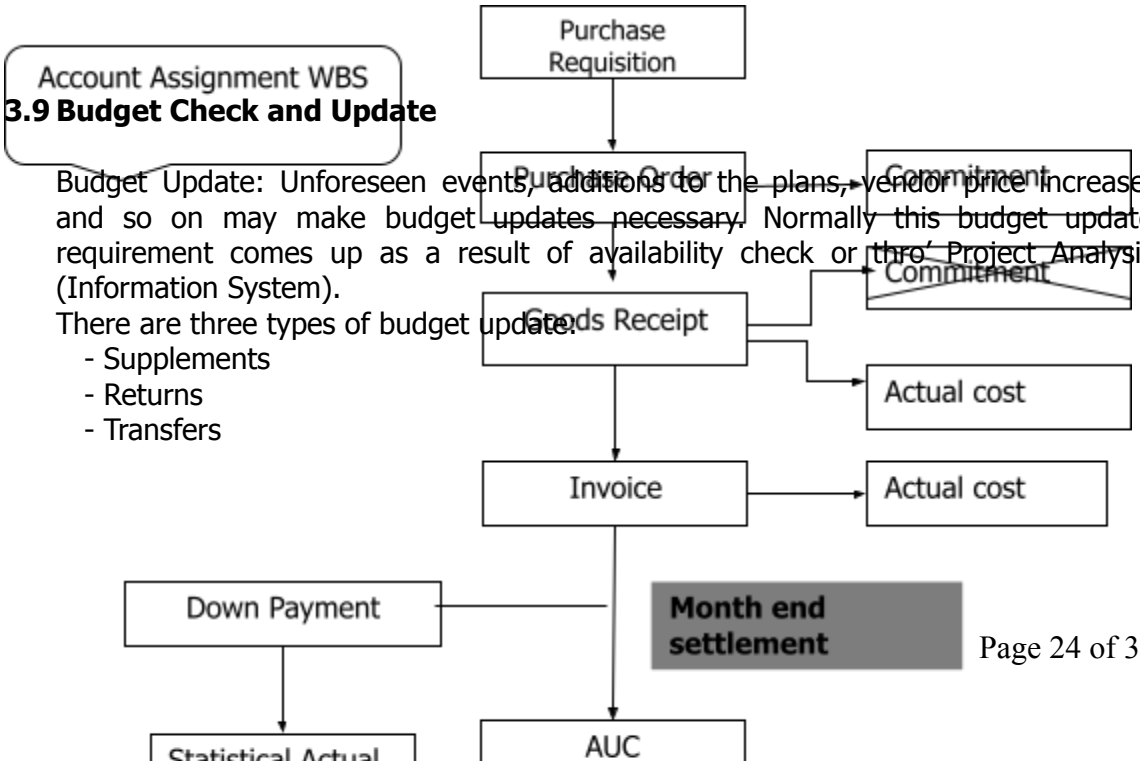
Locked (LKD): Set the status to lock for individual business transactions or all the data in a work breakdown structure or WBS element.


Start
Do you want to set system status
No
Set the user status for each WBS as required
S
Yes
Is project status change by WBS levels
Yes
Release each WBS as required during project life
S
Set the Status for each WBS as Technically complete
S
Set the Status for each WBS as Closed
S
No
Release Project definition
S
Set the Status of project as Technically complete
S
Set the Status of project as Closed
S
End

3.8 Project Execution

The WBS Elements and processes planned at the beginning of the project are carried out during execution phase. Processes for procuring materials and services are triggered and the documents that result from this are assigned to project structures. Where appropriate, invoices are created and unplanned variances documented. The execution can be carried out only when WBS is in either released or partially released status.

Investment acquisitions will be made by MM module. A purchase requisition will be created with a specific item category (P - Project). This item category will automatically determine the GL account used for investment acquisitions (8*), generally an extra-balance Account. After the approval of the purchase requisition, this should be converted into a Purchase order. This purchase order will generate a commitment at investment project level. With the goods receipt, the actual value will be posted in the WBS and the commitment clearing will be generated at the same time. The differences between the goods receipt and the invoice will also be posted as an actual value in the investment project. Down Payments will be shown at investment project level as statistical actual values



3.9 Budget Check and Update

Budget Update: Unforeseen events, additions to the plans, vendor price increase, and so on may make budget updates necessary. Normally this budget update requirement comes up as a result of availability check or thro' Project Analysis (Information System).
There are three types of budget update:

- Supplements
- Returns
- Transfers

Budget Supplements: If the funds available are not sufficient, you can create budget supplements, enabling you to continue work on your project. There are two types of supplements in the Project System:

Within projects: Supplements within projects are distributed top-down from a higher-level WBS element to lower-level ones. The amount of a supplement to a WBS element may not exceed the funds available in the next level up. How much budget is available is determined by the distributable value or the available value. The available value is the difference between the distributable value and the assigned value.

To projects: Supplements to projects enable you to target budget supplements - that is, you assign supplementary funds to a selected WBS element from outside that element, regardless of how much budget is still available higher up in the hierarchy. The budget thus added is updated upwards in the hierarchy.

Budget Returns: Excess funds can be returned. This can be done in the following two ways:

Within projects: Returns within projects follow the bottom-up principle, from a lower-level WBS element to a higher-level one. Only budget, which is still distributable or available, can be returned. The system calculates the budget available/distributable in controlling area currency and includes budget line items entered in other currencies.

From projects: With a return from a project, you are giving up budget that is still available or distributable in a WBS element. The effect of the return is recorded within the project - Meaning that the overall budget is reduced.

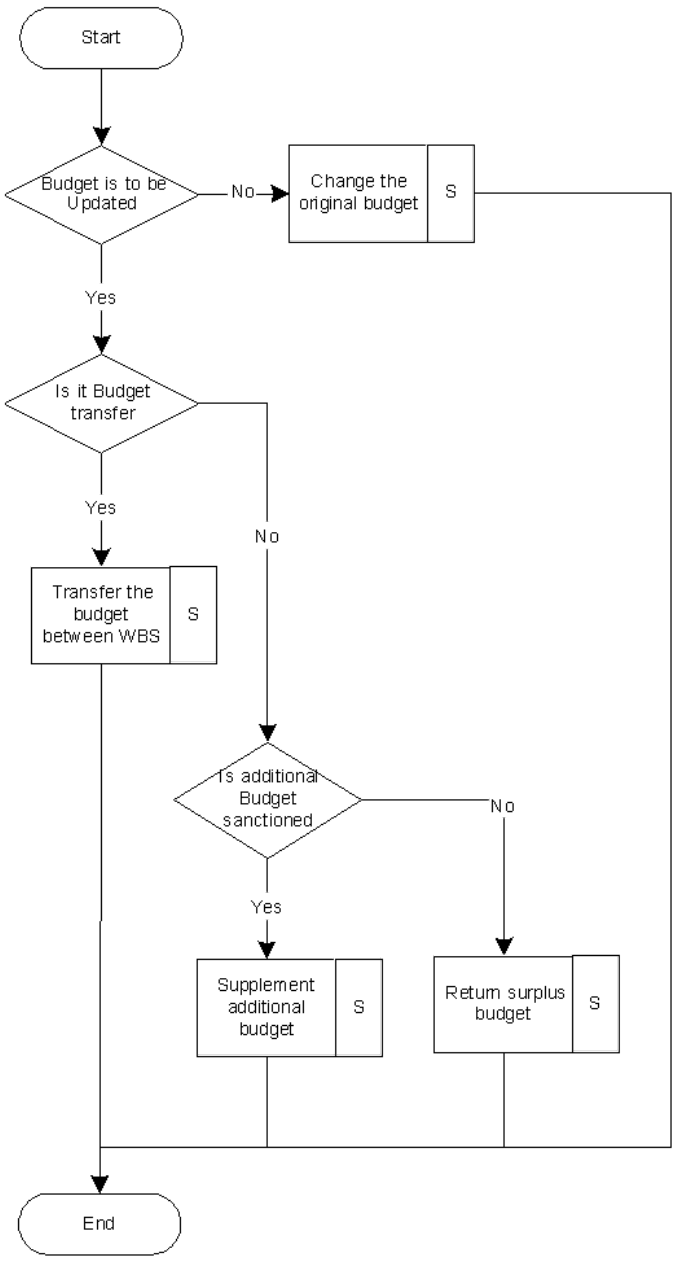
Budget Transfers: Within a responsibility area, it may happen that one project is running short of funds while another still has plenty. Transfer is a tool, which enables you to place the available budget in one project at the disposal of another. Additionally, the WBS elements involved may belong to the same project or to different ones.

A distinction is drawn between Transfers between different WBS elements in the same timeframe. The sender and receiver WBS elements must be in different branches of the hierarchy. Transfers between different timeframes but for the same WBS elements (advances or balances carried forward) Transfers between different WBS elements and different years.

Budget Check: This component enables to monitor and control project costs. The project manager can use availability control to call up an overview of the assigned funds and see which type they are. Availability control checks the current distributable budget (or release) against the assigned value.
Tolerance Limits on Budgets:

Following are the budget tolerance limits shall be exercised on expenses and payments is as under. Accordingly, system will trigger mail messages to the concerned to take corrective actions ie supplements, transfer, updates etc.

1. Warning Message - From 100% - 105%
2. Error Message - beyond 105%


Start
Budget is to be Updated
No
Change the original budget
S
Yes
Is it Budget transfer
Yes
No
Transfer the budget between WBS
S
Is additional Budget sanctioned
No
Yes
Supplement additional budget
S
Return surplus budget
S
End

3.10 Periodic Settlement

Settlement is the process where the actual costs incurred for a WBS element are allocated, in whole or in part, to one or more receivers. In the process, offset entries crediting the project are generated automatically. The debit postings remain in the receivers, where they can display them.

A prerequisite for settlement is that:

- The relevant objects should have system status "Released".
- The Settlement rule must have been defined in the WBS account assignment element.
- The Sender object should have Actual cost incurred in the WBS account assignment element.

As the project is executed project person will make sure, at the end of each period that all the cost data belonging to the project are settled. The fewer objects in the project, the better the performance of the project functions.

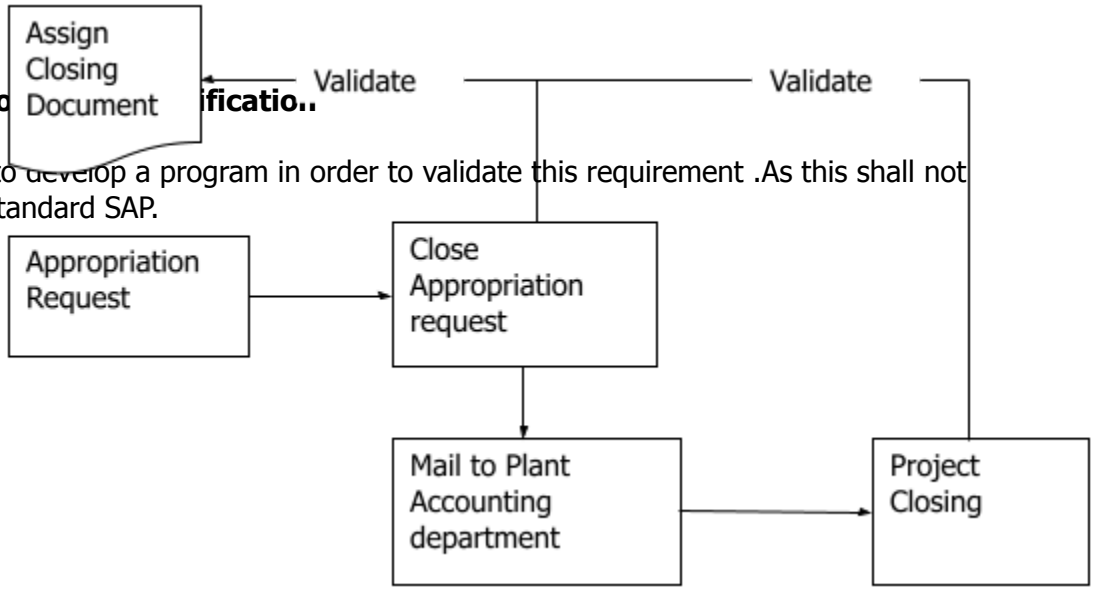
Costs can be transferred to the Asset Under Construction (AUC Asset Class) periodically without waiting for the entire project completion . When costs are settled to assets, the system generates both CO settlement documents and FI postings. The settled costs are recorded in the relevant receiver, and it can be evaluated in reporting. Following are the two settlement type:

Direct settlement: Each object is settled directly to the external cost object. Examples: cost center, Asset under Construction etc.

Multi-level settlement: Individual objects in the project are settled first to a receiver within the project, such as a WBS element. This then settles the costs collected to the external receiver. In the case of multi-level settlement, we recommend that cost should always be settled only to WBS elements directly superior in the hierarchy. There are a lot more of these postings in direct settlement than in multi-level settlement.

3.11 Project closing

Project has to be closed after final settlement. When closing a project, it will be necessary to assign a closing document to the Investment Request Master Data. SAP will then send an email informing Plant accounting department that the project can be closed.

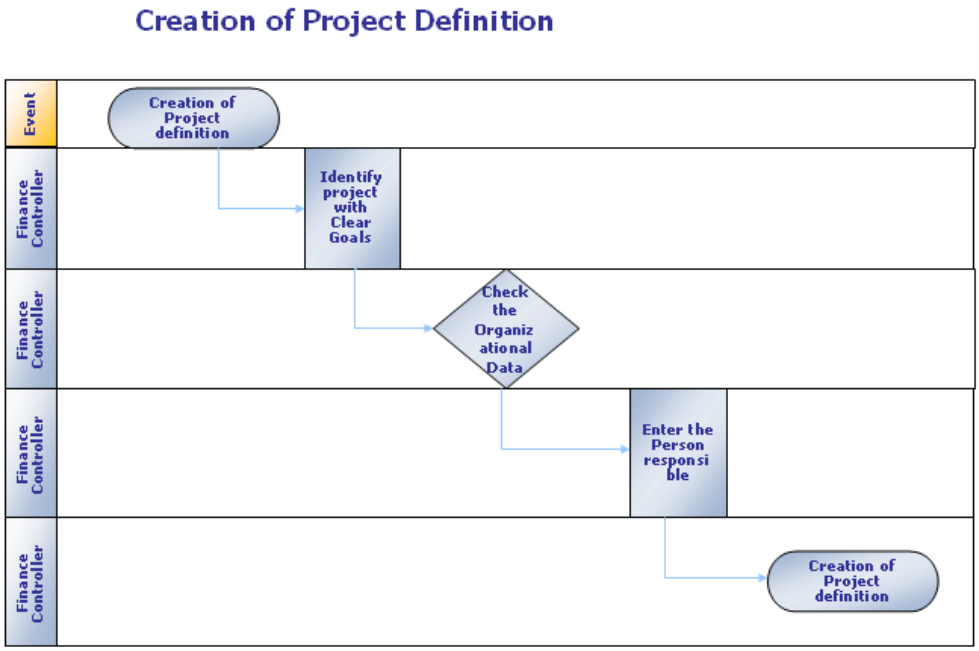


3.12 Develo ification..

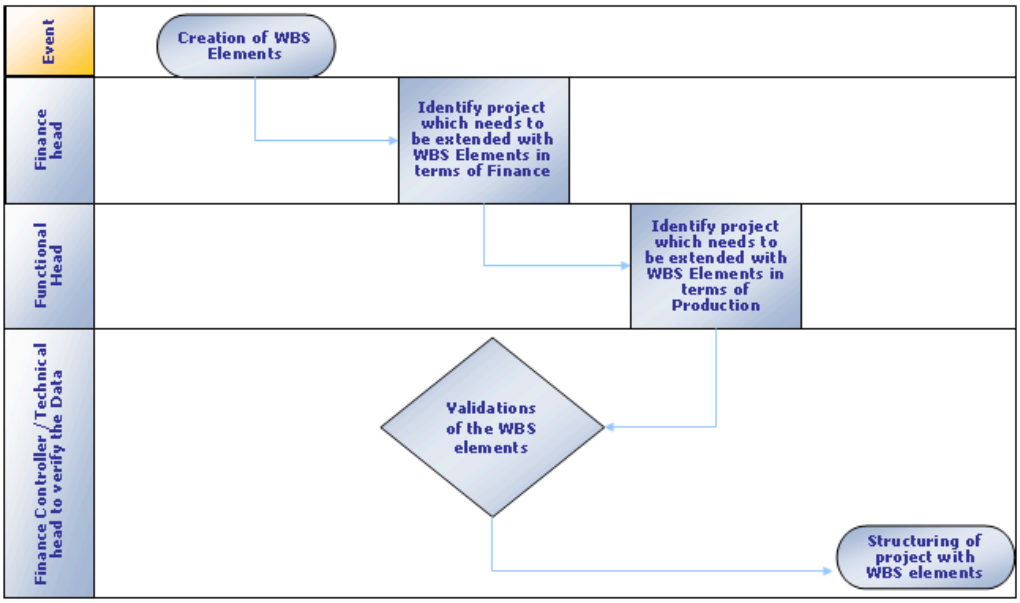
It is required to develop a program in order to validate this requirement .As this shall not be met with Standard SAP.

3.13 Roles and authorizations

SDCCL shall decide the authorization matrix at the time of Realization

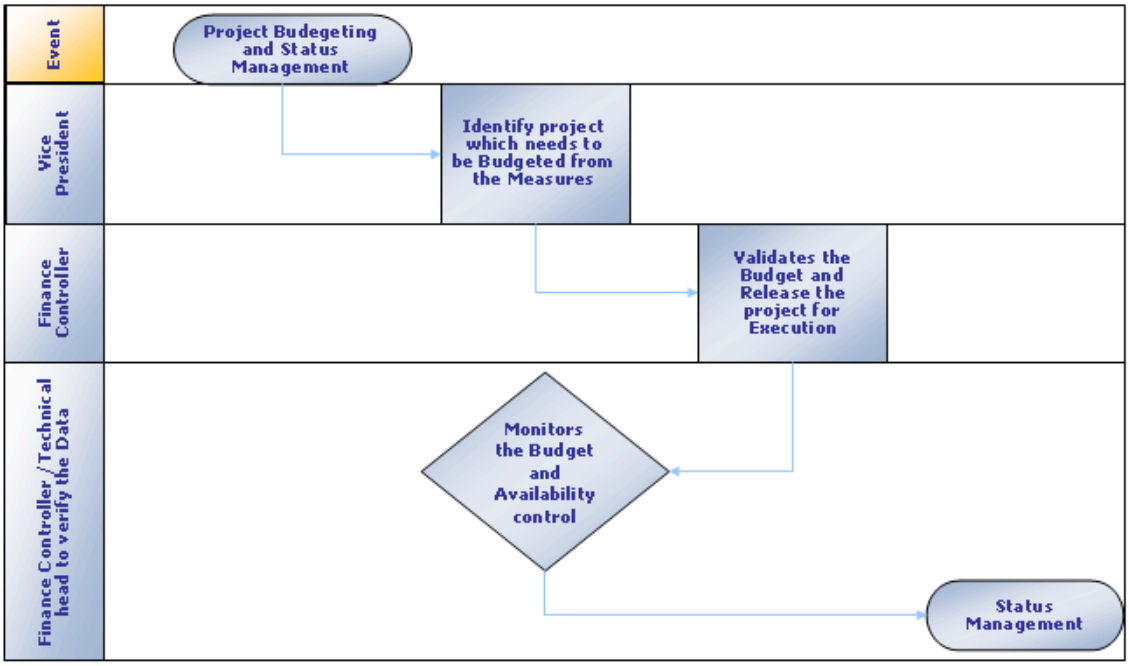


Extending the project with WBS elements

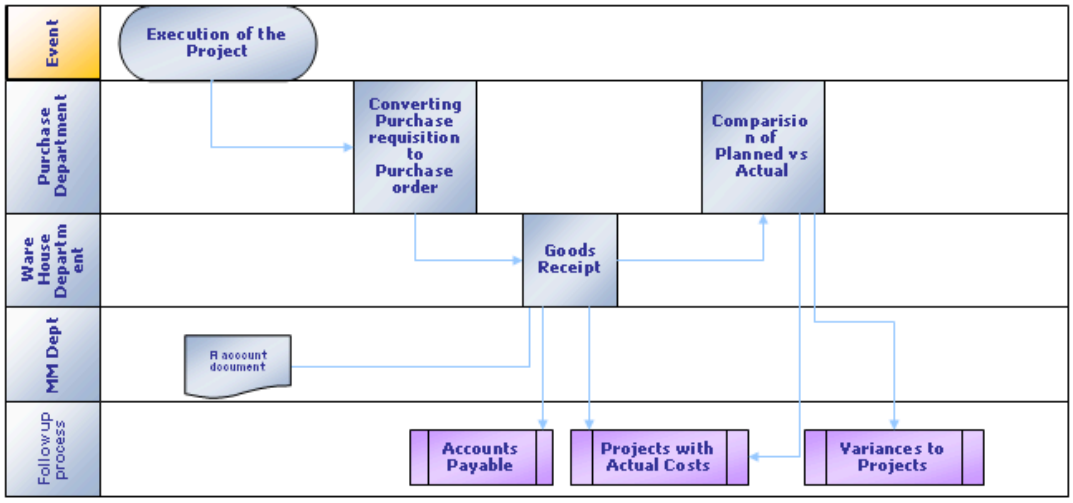


Project Budgeting from the measures and status Management of Project

Budgeting the project from Measures and Status Management of Project



Project Execution



3.14 Standard SAP Project reporting and Information system

The Project Information System is a flexible, comprehensive information system that can be used to monitor and control project data. It is possible to evaluate individual projects, partial projects, or multiple projects. The system includes overview reports and reports offering various degrees of detail. The Project Information System is designed to meet the needs of both Finance and project management and ordinary project personnel.

Cost Report:

Various evaluations are available for analysis and monitoring commercial data.It is possible to analyze all data as soon as it is entered and trace its origin back to the document level. The commercial project reports display only those objects in which commercial data, such as costs, was posted.

Line Items:

Business transactions are documented as line items and stored in line item files. The data in these files is divided into plan transactions and actual transactions.
Line items are always documented for actual and commitment data. At least one line item is written for each posting. The system writes plan line items only under certain conditions.

You can use line item reports to obtain flexible analyses of individual postings per various criteria, and information on individual plan, actual, and commitment value transactions.