BUSINESS BLUEPRINT FOR SAP ECC 6.0 IMPLEMENTATION

AT

GUJARAT GLASS (P) LTD.

INDIA (JAMBUSAR, KOSAMBA)

SL (RATMANALA, NATTANDIYA)

MODULE CO

CONTROLLING

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1 EXECUTIVE SUMMARY

1.1 BACKGROUND

Gujarat Glass (P) Limited [GGPL] is a leading manufacturer of glass based products for pharmaceutical and cosmetic industries. The manufacturing facilities are spread out in different parts of the world like India, Sri Lanka, USA & UK.

The scope of implementation is in India & Sri Lanka. The specific solution in the scope of this document comprises of Implementation of SAP ECC 6.0 covering Jambusar, Kosamba (in India) & Ratmalana (in Sri Lanka) plants. "Nattandiya" plant was not part of the scope originally. GGPL has requested to include the same in scope. We have included Nattandiya plant in blueprint document with express understanding that addition efforts required will be suitably addressed via change management.

The GGPL product profile covers –

- Pharmaceuticals
- Cosmetics/Toiletries
- Stationery
- Liquors
- Sand
- Polythene sheets

The production capacities at Kosamba Plant are

- 5 Furnaces and 18 lines

The production capacities at Jambusar Plant are

- 1 Furnaces and 6 lines

The production capacities at Ceylon glass Plant are

- 1 Furnaces and 3 lines

The production capacities at Nattandiya Plant are

- Two sand processing units & one Polythene sheet machine.

Jambusar plant is the world's largest pharma amber bottles manufacturing plant at a single location. In all, the 7 furnaces of the company with 27 automatic production lines, many of which are electronically controlled state-of-the-art machines, produces 7 million glass bottles and vials every day throughout the year for quality conscious customers in the healthcare and cosmetics industry.

Major expansion plans for capacity increase are already on anvil. After successful commissioning of those projects, GGPL will further consolidate its position as market leader in Glass Industry.

GGPL has decided to implement an integrated ERP solution and have selected SAP ECC 6.0. HP is the Implementation Partner for SAP ECC 6.0 implementation.

The SAP ECC 6.0 Modules, which are being implemented in Phase 1, are –

FI/CO	Financial Accounting and Controlling
SD	Sales and Distribution
PP	Production Planning & Control
MM	Materials Management
QM	Quality Management
WM	Warehouse management
HR	Human resources

1.2 ENTERPRISE RESOURCE PLANNING (ERP) PROJECT OBJECTIVES

Objectives for the implementation project are:

- Implement SAP ECC 6.0 standard business processes
- Adhere to business basic's and use SAP as a model for best business practices

1.3 OVERVIEW OF BLUEPRINT PHASE

This document summarizes the findings of the Hewlett-Packard (HP) consulting team, which conducted requirement analysis of GGPL for the SAP ECC 6.0 system. The information was gathered through interviews conducted at the GGPL plant with the managers, key users and personnel from Information Systems, as well as through reviews of business processes, business procedures, documentation and relevant reports using Q & A db from Value SAP methodology.

The immediate purpose of the analysis is to prepare to move forward rapidly with the implementation of GGPL's SAP ECC 6.0 system. At the conclusion of the blueprint, the HP consultants will determine the SAP functionality required to run the GGPL business.

The Blueprint and its associated appendices present a summarized perspective of all functional business processes that will be implemented. Blueprint document will serve - from this point forward the dual role of both official project scope as well as system acceptance criteria.

The body of this document describes the organizational structure, enterprise area, and SAP ECC 6.0 functional process flows to be implemented at GGPL. Generally, requirements that can be met using standard SAP ECC 6.0 functionality through routine configuration tasks are not explicitly documented. However, certain key requirements are explicitly identified and summarized to highlight their importance to GGPL and to document the approach proposed to meet the requirement.

One section of the report summarizes identified gaps. The project team should discuss this list with agreement on the approach going forward. Acceptable approaches may require:

- Additional programming or technical effort
- Recognition and acceptance of procedural changes ('Workarounds') using standard SAP ECC 6.0 Additional resource commitment
- The deferral of a feature to a later phase
- Simply the recognition and acceptance of a limitation.

The Blueprint reiterates the SAP ECC 6.0 organizational structures that have been identified and will serve as the basis for the initial configuration activities. The HP team believes that SAP ECC 6.0 can accurately model GGPL's organizational requirements.

No significant configuration choices have been identified that will prevent the future implementation of additional capabilities within the SAP ECC 6.0 environment.

The information gathered and documented in the Blueprint is sufficient for the team to go forward into the Realization phase. However, it is critical that both the HP and GGPL team agree on the scope of the project as presented in this document. Acceptance - by both teams - is required to move the project into the next phase.

2 CO MODULE INTRODUCTION

2.1 INTRODUCTION

Controlling (CO) contains all accounting functions necessary for effective decision-making process. If an organization divides accounting into internal and external viewpoints, CO represents the internal accounting perspective.

It provides information for managers' - those who are inside an organization and are vested with directing and controlling its operations. CO covers both the operational and the strategic aspects of management.

2.2 CO VALUE FLOWS IN SAP

There are numerous interrelationships between the various CO components. Value flows can occur for many different purposes.

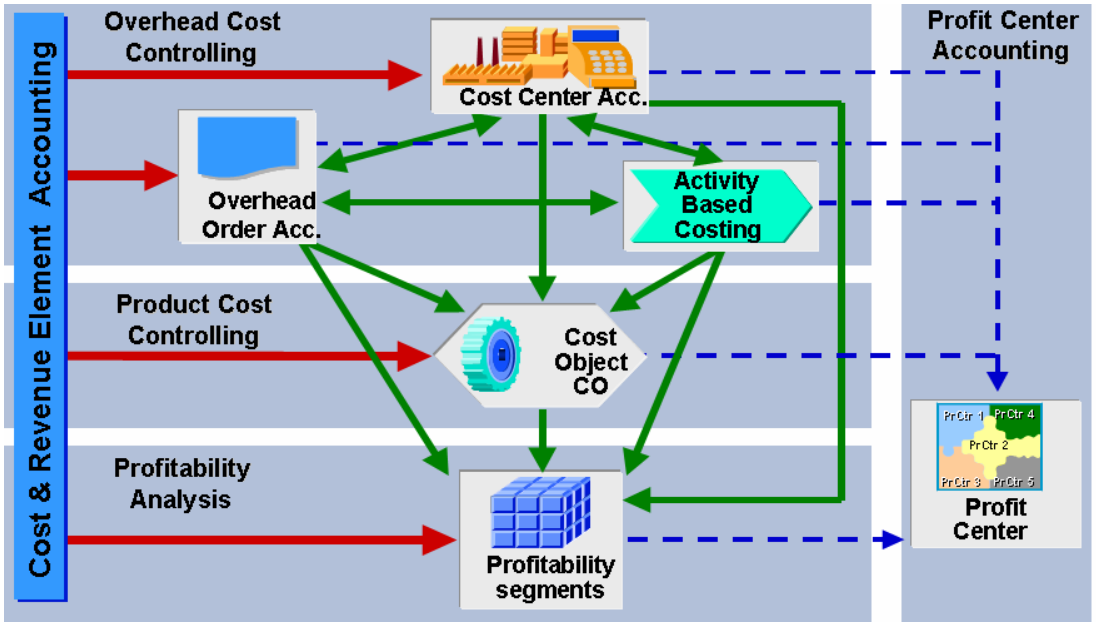
Within the Overhead Cost Controlling area, costs can be posted to cost centers and internal orders from other SAP ECC 6.0 modules (external costs). Cost centers can then allocate costs to other cost centers and orders.

There are also key cost flows that can occur between the Overhead Management and Product Cost Controlling components. Cost objects (such as production orders, etc.) can receive direct cost postings from FI (such as when an invoice receipt is assigned to the cost object); costs from cost centers (as production activities are performed or from overhead allocation); and costs settled from internal orders

Profitability Accounting components are tightly integrated with Overhead Management and Product Cost Controlling. Profit Center accounting, by virtue of its basic design, receives statistical cost postings from virtually all other CO components.

In addition to direct postings from FI, Profitability Analysis can receive cost assessments from cost centers, settlements of cost from internal orders, and production variances settled from cost objects.

The following graphic illustrates the integration within CO – Value Flows:



3 CO MODULE INTEGRATION WITH OTHER MODULES

Controlling provides you with information for management decision-making. It facilitates coordination, monitoring and optimization of all processes in an organization. This involves recording both the consumption of production factors and the services provided by an organization.

As well as documenting actual events, the main task of controlling is planning. You can determine variances by comparing actual data with plan data. These variance calculations enable you to control business flows.

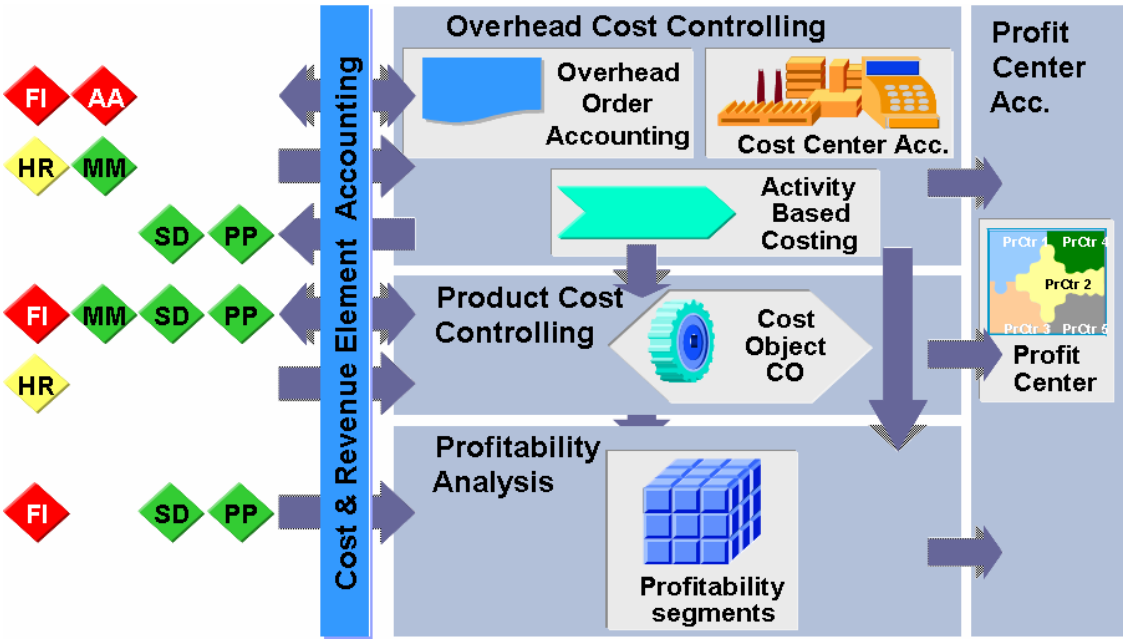
Income statements such as, contribution margin accounting, are used to control the cost efficiency of individual areas of an organization, as well as the entire organization.

Integration

Controlling (CO) and Financial Accounting (FI) are independent components in the SAP system. The data flow between the two components takes place on a regular basis.

Therefore, all data relevant to cost flows automatically to Controlling from Financial Accounting. At the same time, the system assigns the costs and revenues to different CO account assignment objects, such as cost centers, business processes, projects or orders. The relevant accounts in Financial Accounting are managed in Controlling as cost elements or revenue elements. This enables you to compare and reconcile the values from Controlling and Financial Accounting.

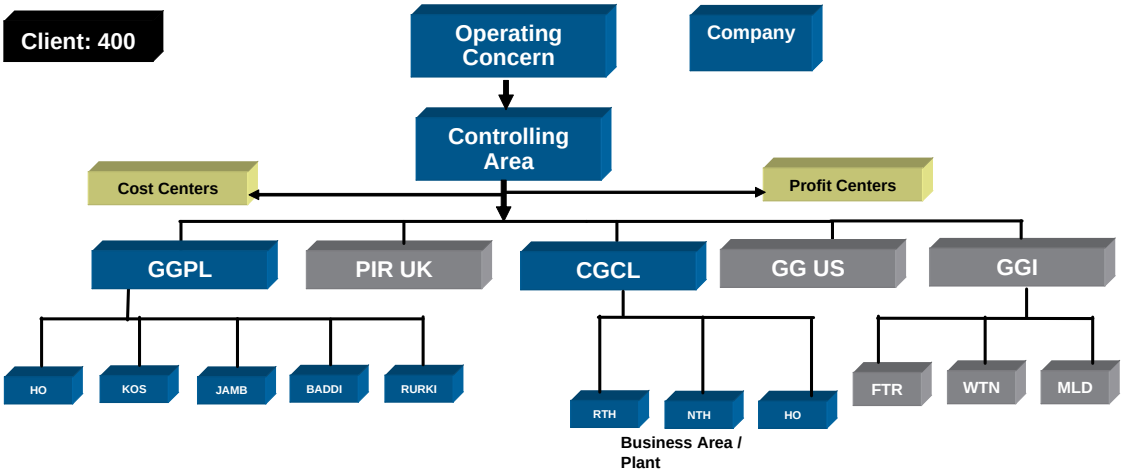
- Other SAP ECC 6.0 modules generate data that has a direct impact on CO. For example, when non-stock consumable items are purchased, an expense is posted to the GL. At the same time, the expense is posted as a cost to the cost center (or other object in CO) for which the items have been purchased. That cost center's costs may later be passed on as overhead to a production cost center or elsewhere in CO.
- The Financial Accounting application area of SAP ECC 6.0 is a primary source of data for Controlling. Typically, most expense postings to the General Ledger would result in a cost posting to CO. These expense postings to the G/L could be manual journal entries, accounts payable postings, or depreciation postings from Asset Accounting (FI-AA). Revenue postings can also be created by a journal entry to the G/L and would also typically generate postings in CO to CO-PA and Profit Center Accounting.
- The Human Resources (HR) modules can generate several types of cost postings to Controlling. The HR system allows you to allocate the cost of work to different Controlling (CO) objects. In addition, planned personnel costs can be transferred to CO as input to CO planning.
- The Logistics area of SAP ECC 6.0 also has numerous integration points with Controlling (e.g., when doing a goods issue to a controlling object or a goods receipt from production).
- The Production Planning (PP) and the Sales and Distribution area of Logistics also works very closely with Controlling. Consumption of activities, cost of goods issues, overhead surcharges, process allocations and direct primary costs can be posted to the cost object (e.g. PP-production order, sales order item) and by doing the period closing data like WIP, variances and price differences are settled to CO-PA, CO-PCA and FI. The billing document can incur revenues directly to CO-PA or to the sales order, if the sales order item is a cost object.


Overhead Cost Controlling
Profit Center Acc.
FI
AA
HR
MM
SD
PP
FI
MM
SD
PP
HR
FI
SD
PP
Cost & Revenue Element Accounting
Overhead Order Accounting
Cost Center Acc.
Activity Based Costing
Product Cost Controlling
Cost Object CO
Profitability Analysis
Profitability segments
PrCtr 1
PrCtr 4
PrCtr 2
PrCtr 3
PrCtr 5
Profit Center

4 CO ORGANIZATION STRUCTURE

Controlling Area is an organizational unit used to represent a closed system for cost accounting purposes. Controlling Area GGC would be created for Gujarat Glass Consolidated (GGPL, CGCL). The finalized Controlling Organizational Structure would be as follows:

Organizational Units for GGPL



Detailed list of Cost Center hierarchy and Profit Center Hierarchy considering GGC are enclosed in the annexure.

Introduction of Controlling concepts viz., Controlling Area, Cost Center hierarchy, Profit Center Hierarchy would enable GGC to track costs at the origin in a more efficient manner. Profit centers are designed based on the Processes.

5 CO MASTER DATA

5.1 CONTROLLING AREA

The Controlling Area is the business unit where Cost Accounting is carried out.

The Company Code allocated to the Controlling area must use the same operating chart of accounts and the same fiscal year variant.

Each controlling area has a unique standard hierarchy; the highest node is created when maintaining the Structure. To the standard hierarchy of cost centers are attached all the cost centers created for a Company code.

5.2 COST CENTER STANDARD HIERARCHY

The Standard Hierarchy is a unique structure that collects together all the cost centers created in a Controlling Area, using a drill-down system. To the highest node - the root of the hierarchy, there are attached the nodes for each company code.

The cost center is the main SAP ECC 6.0 structure used to allocate costs in the exact point of their appearance. The criteria used to create them are: function, activities, locations, and responsibility areas. No cost center can be created without an allocation to one level in the standard hierarchy.

5.3 COST ELEMENTS

In SAP, Controlling Module will have its own set of data for the purpose of Cost accounting & Controlling. All expense related G/ L accounts in FI are made Primary Cost Elements in CO. Other than this, to measure the internal flow of costs between Cost objects, some objects are created only in CO termed as 'Secondary Cost Elements'.

Detailed explanation is as below:

Primary cost elements

The primary cost elements are the reflection in Controlling of a financial account, used to assure the instant reconciliation of the postings.

The difference between FI and CO is that in CO; it is mandatory that the posting be made using both a cost element and a cost object (cost center, internal order etc.)

Secondary cost elements

Secondary cost elements are accounts created in controlling only, without any effect in Finance module, used to measure the internal flows of values between different cost objects.

Secondary cost elements are used for allocations and settlements. These are not represented by GL accounts in FI.

Allocation is a method of internal cost allocation by which the costs of a sender cost center are transferred to receiver CO objects (orders, other cost centers) under a cost element. The method works according to the keys defined by the user.

5.4 PROFIT CENTER STANDARD HIERARCHY

The Profit Center Standard Hierarchy is similar to that of the Cost Center Standard Hierarchy that collects together all the profit centers created in a Controlling Area, using a drill-down system. To the highest node - the root of the hierarchy, these are attached the nodes for each company code.

The profit center is the main SAP ECC 6.0 structure used to allocate costs in the exact point of their appearance. The criteria used to create them are: divisions, areas of operation. No profit center can be created without an allocation to one level in the standard hierarchy. There can be only one Standard Hierarchy for a company code.

5.5 INTERNAL ORDERS

An instrument used to monitor costs and, in some instances, the revenues of an organization.

Internal orders can be used for the following purposes:

- Monitoring the costs of short-term jobs
- Monitoring the costs and revenues of a specific service
- Ongoing cost control

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6 BUSINESS PROCESS MAPPING TO SAP ECC 6.0

6.1 COST ELEMENT ACCOUNTING

Requirements and Expectations

At present, there is no concept of Cost Element. The actual expenses incurred in a GL account have to be captured in the respective Cost Centers.

Cost and Revenue Element Accounting provides you with an overview of the costs and revenues that occur in an organization. Most of the values are moved automatically from Financial Accounting to Controlling. Cost and Revenue Element Accounting only calculates costs which either do not have another expense or only one expense in Financial Accounting.

Business Mapping to SAP ECC 6.0

SAP will use the concept of Cost Elements to track the flow of costs between FI / CO and flow of costs internal to CO (which arises due to reposting / distribution / assessment). All P/L accounts are Primary cost elements and the secondary cost elements are created in the number range 900000.

The cost element category determines which cost elements can be used for which business transactions. SAP distinguishes between:
Primary Cost Element Categories
Secondary Cost Element Categories

The Primary Cost Element Categories are:

01 – General Primary Cost Element
This cost element category can be debited for all primary postings.

11 – Revenue Elements
This cost element category can be used to post revenues.

12 – Sales Deductions
This cost element category can be used to post deductible items.

The Secondary Cost Element Categories are:
21 – Internal Settlement – Used to settle internal order costs to objects such as internal orders, profitability segments and cost centers.
31 – Order / Project Results analysis – Used to store result analysis data.
41 – Overhead - Used to allocate from Cost Centers to orders
42 – Assessment – Used to allocate costs during assessment.

Assessment is a method of internal cost allocation in which costs are apportioned from a sender cost center to receivers (cost centers, internal orders) using an assessment cost element. The costs are apportioned according to an allocation base (tracing factor) defined by the user. Assessment can be run for both plan and actual values.

Cost element groups

Cost elements with similar characteristics can be collected in the form of Cost Element Groups.

Cost element groups can serve various purposes. For example, they can be used to create reports or to process several cost elements in one business transaction. Cost Element Groups is created for Cost Center Assessment Cycle, Settlement Profiles, Allocation Structures, and Cost Component Structures etc.

Cost elements are per controlling area, since GGC has the same operative chart of accounts all the P&L GL accounts will be created as cost elements.

Description of Improvement

This will provide capability for detailed recording of data that forms the basis for cost accounting. Depending on the cost elements chosen (for e.g. excluding secondary cost elements for drawing up P&L statement on profit centers) reports can be drawn up.

Special configuration consideration

No Special configuration required.

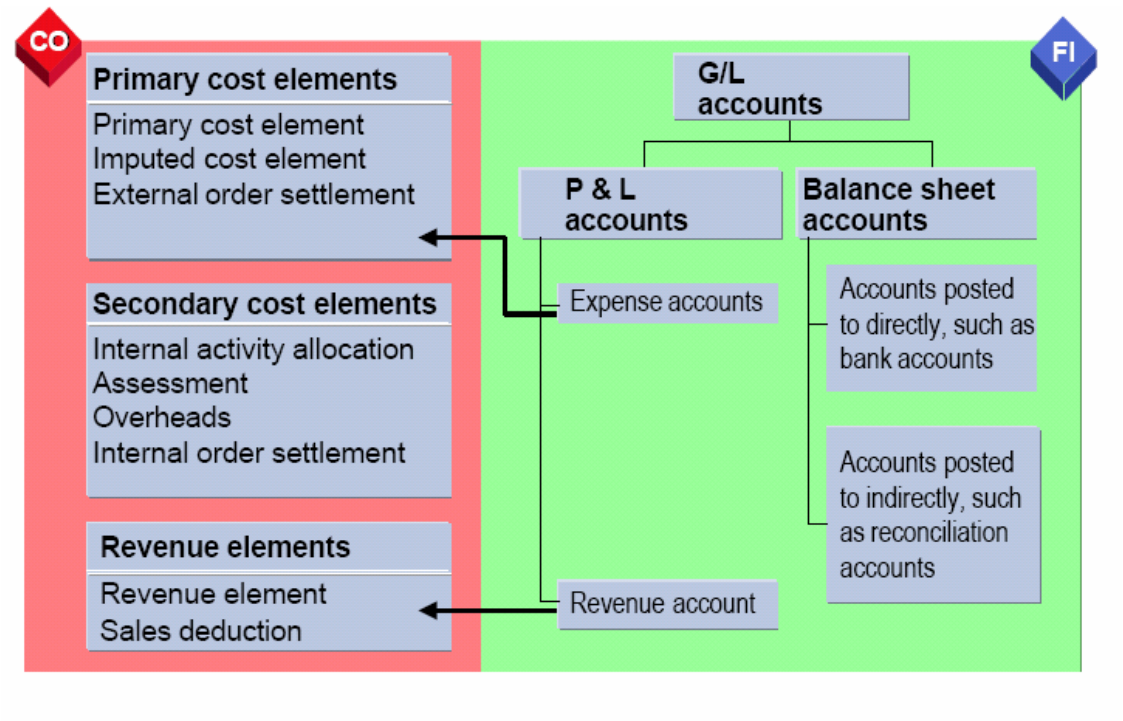
Description of Functional Deficit

No deficits

Approaches to covering Functional Deficit

Not Applicable

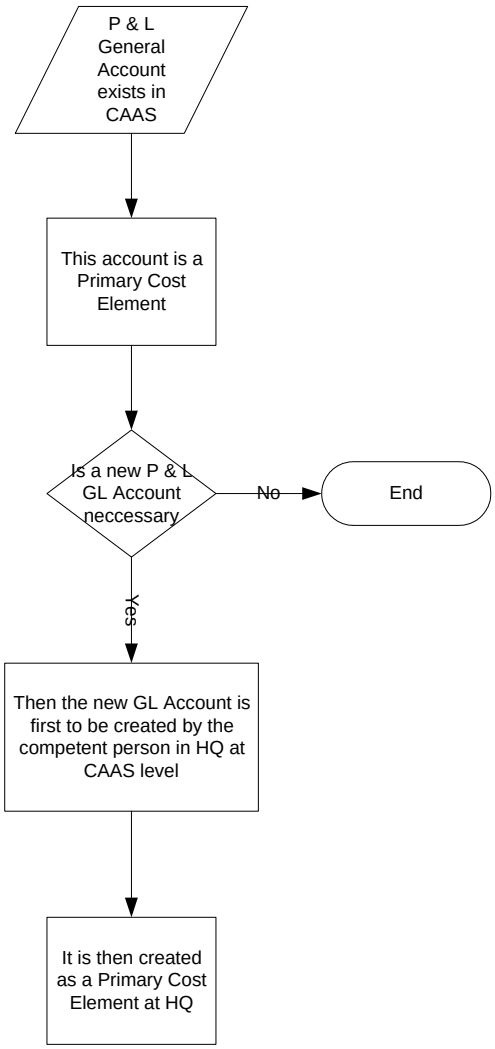
Pictorial Overview of Cost Elements (Primary and secondary)

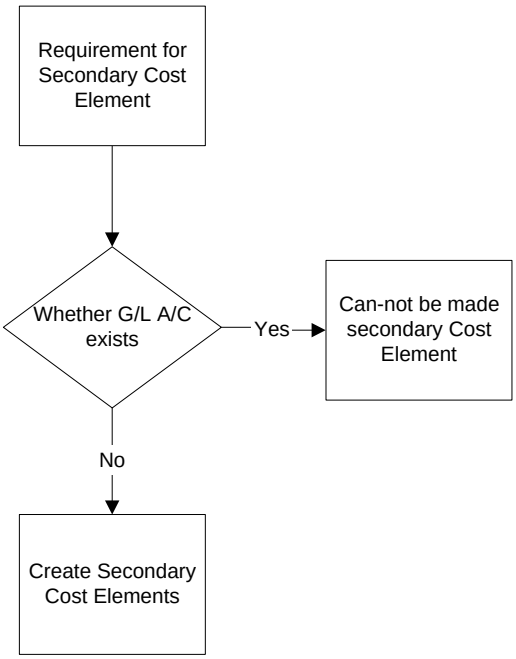


Process Flow Chart

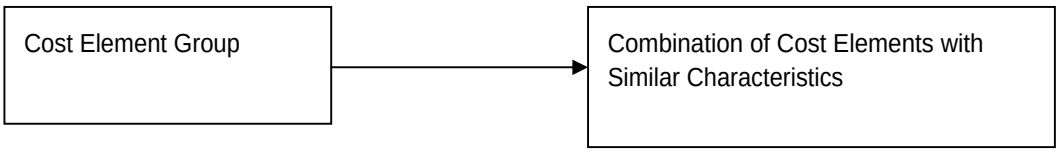
Primary Cost Element

Secondary Cost Element





Cost Element Groups



6.2 COST CENTER MAINTENANCE

Requirements and Expectations

In the existing system, costs incurred are captured in cost centers.

Organizational unit within a controlling area that represents a clearly delimited location where costs occur. You can make organizational divisions on the basis of functional, settlement-related, activity-related, spatial, and/ or responsibility-related standpoints.

Business mapping to SAP ECC 6.0

A standard hierarchy will be created for the Controlling Area (GGC). This standard hierarchy has cost center groups attached to it. The actual cost centers are attached to this cost center group. Change to cost centers can be made individually or collectively.
These categories are used to lock the posting of revenue posting into cost centers and also these categories can be used for reports and evaluations.

Cost Centers for individual company codes under GGC will be created and will be assigned to the respective cost center group.

Cost Center Planning and Budgeting

Cost center planning involves entering plan figures for costs, activities, prices or statistical key figures for a particular cost center and a particular planning period. You can then determine the variances from these figures when you come to compare these plan values with the costs actually incurred.
Cost center budgeting provides a further method of planning in addition to primary cost and secondary cost planning. This tool enables you to carry out a comparison between actual postings and plan budgets. You can thus determine when the budget is exceeded and carry out timely availability checks.

Cost Center Hierarchy

Cost Center Hierarchy enclosed in annexure.

Description of Improvement

Efficient monitoring of costs through cost centers.

Special Configuration consideration

Standard SAP ECC 6.0

Description of Functional Deficit

No

Approaches to covering Functional Deficit

Not Applicable

6.3 ACTIVITY TYPE MAINTENANCE

Requirements and Expectations

There is no concept of activity types in the existing system. Activity types classify the activities produced in the cost centers within a controlling area.

Business mapping to SAP ECC 6.0

Activity types describe the activity produced by a cost center and are measured in units of time or quantity; they are linked to work centers in PP.

For example, Assembly activity from Final Assembly Cost center and maintenance hours from Maintenance Department.

A cost center can be assigned one, multiple, or no activity types. One particular activity type can be assigned to one or more cost centers. The variation in cost between one cost center and the other for the same activity type is taken care during the cost planning. For example, activity type

"LAB" will be common for both C&P glass and Pharma glass manufacturing. But the cost will be different because, activity dependent cost elements planning will be carried out individually.

Activity type will be created for all the manufacturing company codes (GGPL, CGCL and GGI) under GGC and activity planning will be done at the respective production cost centers.

Description of Improvement

Not Applicable

Special configuration consideration

Standard SAP ECC 6.0

Description of Functional Deficit

No

Approaches to covering Functional Deficit

Not Applicable

6.4 STATISTICAL KEY FIGURE MAINTENANCE

Requirements and Expectations

There is no concept of Statistical key figures in the existing system.

Business mapping to SAP ECC 6.0

Statistical Key Figure

The statistical key figures are used in various distribution cycles, at period-end closing, to allocate costs from a sender to a receiver.

SKF can be used across all the company codes, based on the requirement of cost allocation.

Description of Improvement

Not Applicable

Special configuration consideration

Standard SAP ECC 6.0

Description of Functional Deficit

No

Approaches to covering Functional Deficit

Not Applicable

6.5 COST ALLOCATION

Requirements and Expectations

In the existing system costs are booked only in financial records and the concept of apportionment to respective departments is done for reporting purpose.

Business Process Mapping to SAP ECC 6.0

Cost and revenue Allocations in SAP shall be done using the procedure of Reposting, Distribution & Assessment.

Under this procedure, the costs collected on a cost center during the accounting period are allocated to receivers. These are indirect allocation methods for which user-defined keys such as percentage rates, amounts, statistical key figures, or posted amounts provide the basis for cost/quantity assignment.

These methods are easy to use as the keys and the sender/receiver relationships are usually defined only once.

For example, Telephone costs are collected on a cost center for each period & then can be allocated using the process of reposting or distribution/ assessment cycles at the end of the period according to the number of telephone units or telephone installations in each cost center.

Cost allocations are performed under controlling area (GGC), each company codes can allocate their costs using the Standard allocation tools provided by SAP.

Reposting

Periodic reposting is an allocation method that uses rules defined in the form of cycles for correcting postings to cost centers.

During this process, the original cost element remains the same. Line items are posted for the sender as well as for the receiver, enabling the allocation to be recorded exactly.

Only primary costs can be reposted. Periodic reposting can be reversed and repeated as often as required.

Distribution

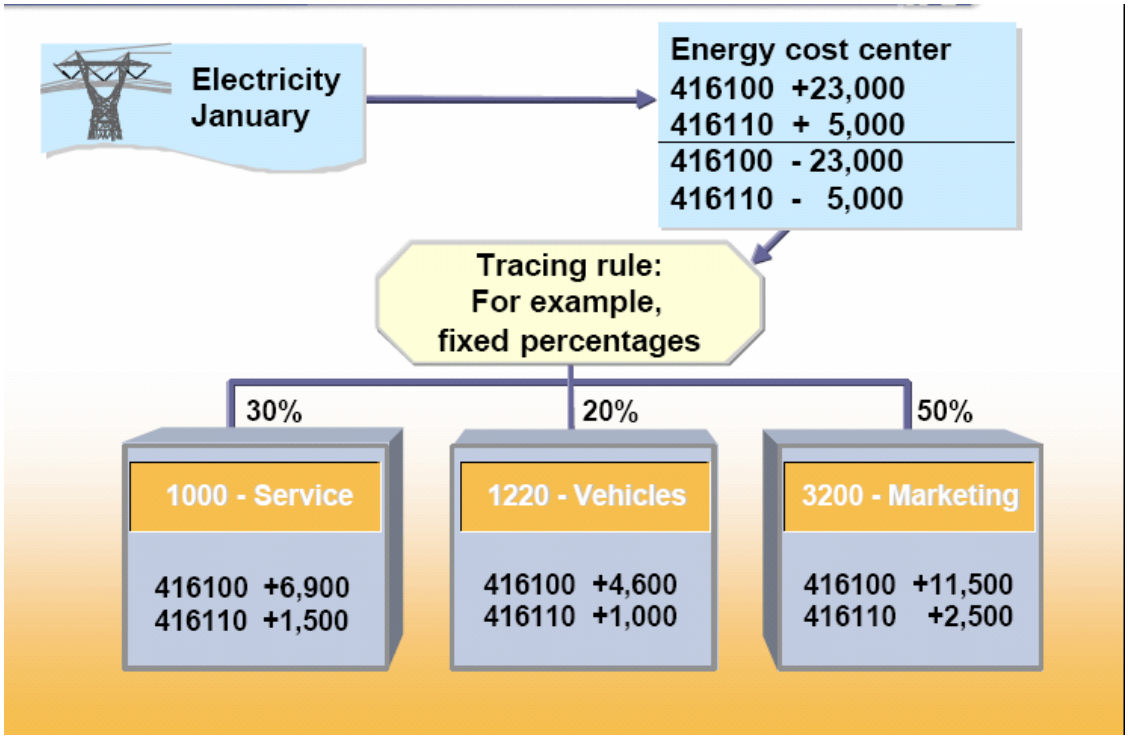
Distribution is a method of internal cost allocation that allocates primary costs. The allocation is done using Distribution Cycles by specifying rules for the settlement of primary costs on a cost center

Main features of this process are as below:

The original cost element is retained in the receiver cost center

Information about the sender and the receiver is documented in the Controlling document.

Pictorial depiction of Distribution:



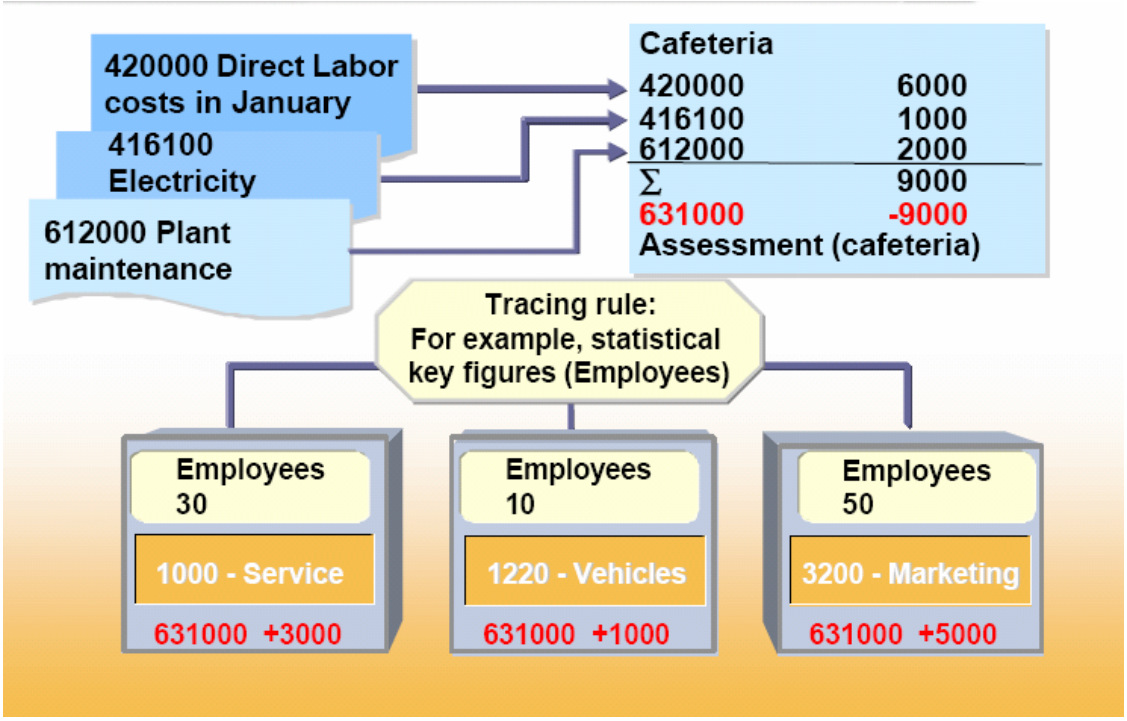
Assessment

Assessment is a method of internal cost allocation by which the costs of a sender cost center is allocated (transferred) to receiver CO objects (orders, other cost centers, and so on) under an assessment cost element (category 42). The method works according to the keys defined by the user.

It is used when it is unimportant or not possible for the user to know the break down of costs that a cost center will receive in an allocation. E.g. allocating general & administrative costs. Further analysis is available through CCA reporting.

The concept and procedure would remain the same for profit center Assessment and Distribution cycles.

Pictorial depiction of Assessment:



Description of improvements

A systematic approach to distribute costs and revenues between CO objects.

Special Configuration consideration

Standard SAP ECC 6.0

Description of Functional Deficit

No

Approaches to covering Functional Deficit

No

6.6 INTERNAL ORDERS

Requirements and Expectations

There is no concept of Internal Orders in the existing system. Internal orders will be used for capturing costs for short term simple projects and also for statistical reporting.

Internal orders are normally used to plan, collect, and settle the costs of internal jobs and tasks. The SAP system enables you to monitor your internal orders throughout their entire life-cycle; from initial creation, through the planning and posting of all the actual costs, to the final settlement and archiving

Business mapping to SAP ECC 6.0

An Internal Order is an extremely flexible CO tool that can be used for a wide variety of purposes to track costs within a controlling area. Internal orders provide capabilities for planning, monitoring, and allocation of costs. Internal order once created will be referred in raising a Purchase order in the account assignment category. This is mandatory to capture the costs / expenses on the internal order against a budget.

Order Type

An order type has a large amount of control information important to order management. This information includes a range of default values that are used when a new order is created with this order type.

Any new order is created under an order type that results in transfer of certain parameters to the order.

All the above order for each Co code is defined as a separate order type. It is named as per following naming convention:

Sitename - Purpose Internal Order,

e.g. Order Type 300 is TLV – Maintenance Internal Order.

Internal Orders are created at controlling area level and at company code level, in which company codes under if required can create Internal Orders for capturing costs for shot term simple projects and also for statistical reporting.

Description of Improvement

Internal order would help in planning, budgeting and tracking the costs of a particular nature of expense / cost.

Special configuration consideration

Standard SAP ECC 6.0

Description of Functional Deficit

No

Approaches to covering Functional Deficit

Not Applicable

6.7 PRODUCT COST CONTROLLING

Requirements and Expectations

Product Cost Controlling calculates the costs that occur during manufacture of a product, or provision of a service. It enables you to calculate the minimum price at which a product can be profitably marketed.

Business mapping to SAP ECC 6.0

Product costing is a tool for planning costs and establishing prices for materials. It is used to calculate the costs of goods manufactured and the costs of goods sold for each product unit. Product costing belongs to both the Production Planning (PP) Module and the Controlling (CO) Module. Product costing is carried out at the plant level. All costing data is stored with reference to a plant. The system uses the results of cost estimates to valuate material movements in Logistics. Material valuation is carried out at the Plant level.

The following process will be applicable for all manufacturing companies like GGPL, CGCL and GGI US.

6.7.1 INGREDIENTS OF PRODUCT COST

The basic ingredients of product cost are batch cost, packing cost and conversion cost. Conversion cost includes labor cost and overheads.

Batch Cost:
In SAP, for material valuation, the number of units required for completion of a Finished Product would be picked up from Bills of material and the value per unit from Material Master. Raw Materials will be valuated at moving average price and Semi Finished Materials will be valuated at standard cost estimate.

Packing Cost:
Packing cost depends upon the customer specification of the finished product and also depends upon the place of export.

Conversion Cost

Overhead Cost
The Overhead cost would get calculated as per the parameters given in the overhead-costing sheet maintained in the Valuation Variant.
Labor Cost:
The number of Labor hour time would get picked up from Routing master, maintained in PP and the Activity price would be get picked up from cost centre Activity price maintained.

6.7.2 CREATING, MARKING AND RELEASING OF STANDARD COST ESTIMATE

At the beginning of the period, the Standard Cost Estimate is created, marked and released for both Finished Products and Semi Finished Products.

Raw materials are maintained at Moving Average Price. So, at the beginning of the period, when a Standard cost estimate is being created the system would take the latest weighted average Price from the material master and the same would be the standard cost of the material for the period. Thus, on creation of the Standard cost

estimate, it would be marked and released. On Marking the new price would be calculated and get reflected in the Future Planned Price of the material master. On Releasing the Future planned price would become the Present Price. The Inventory will be valuated at Standard price.

In GGC, the Standard Cost Estimate would include both Batch cost, Packing cost and Conversion cost.

The material cost would get picked up from the latest weighted average price as on the date of creating the standard cost estimate from the material master. The Conversion cost would get picked up from the Planned Activity price maintained and Overhead costing sheet.

The marking and releasing of standard cost estimate would happen at the beginning of a period as described.

6.7.3 REPETITIVE MANUFACTURING PROCESS - BOTTLES.

In repetitive manufacturing, the costs per material or per production version are determined via a product cost collector (product cost per period).The costs for a period can be viewed through the Product cost collector.

For normal production of glasses the Repetitive Manufacturing process will be followed. Repetitive Manufacturing Process is applicable for products that are continuously made in high volumes.

Product Cost Collector:

In SAP, a separate Cost Collector is defined for the Production version.

This would be assigned a unique Costing and Valuation variants. Order types are separate for this process. They hold the control mechanism like the planning and settlement profile.

This apart, the process involves creation of a preliminary cost estimate for the cost collector.

The activity quantities that are to be confirmed are defaulted on the basis of the routing

Used for the preliminary cost estimate.

Suitable repetitive manufacturing profile is to be updated in the material master record to be able to back flush a material.

Process:

Product Cost Collector is created at the time of Production Process. This Production Process number is updated in the manufacturing orders assigned to the Product Cost Collector.

The production version is linked to the Cost Collector through the Production Process number. The system auto creates a settlement rule and the receiver is always a Material, with the facility of periodic settlement.

The Controlling link is established because the system picks the Planned and Actual Costing Variants from the Order Type.

The Costing Sheet is picked from the valuation variant from the Costing variant.

This ensures that the same Costing sheet is used in preliminary costing and actual overhead calculation. So with all these links the standard costing estimate could be run for the materials.

With back flush the materials are issued to production and the finished goods posted to warehouse.

Since the settlement rule is auto generated the scrap is also posted in sequence and there is no separation of scrap from variance.

6.7.4 DISCRETE MANUFACTURING PROCESS - SEMIFINISHED PRODUCTS

Discrete manufacturing (i.e. manufacturing with production orders) typically involves frequently changing products and therefore manufacturing in restricted production lots. Another characteristic of discrete manufacturing is the varying sequence of work centers through which different products flow during production.

Discrete manufacturing will be used for production of Molten Glass, Mould Manufacturing, Sand and Polythene.

Production Orders:

A Production order defines which material is to be processed, at which location, at what time and how much work is required. It also defines which resources are to be used and how the order costs are to be settled.

Process:

Creation of Production Order.

Issue materials against production order.

Confirm production order.

Goods receipt against production order.

6.7.5 PERIOD END CLOSING FOR BOTH REPETITIVE MANUFACTURING AND DISCRETE MANUFACTURING PROCESSES

As part of Period End Activities the following activities would happen:

1. Work in Process Calculation:

Repetitive manufacturing: There would not be any WIP.

Discrete Manufacturing: WIP gets calculated through a standard transaction. In SAP, WIP means all debits Minus Credits of a production order. WIP would be calculated only for Open Production Orders.

2. Variance Calculation:

Variances will occur when actual costs posted to the cost collector differ from the Target or Standard.

3. Settlement

The purpose of settlement is to pass to the General Ledger the results from the calculations done in Work in Process and Variances in both Order Related production and Repetitive Manufacturing. If the settlement is not run, the books are not going to be balanced.

Discrete Manufacturing is allowed two settlement methods: Full Settlement and Periodic Settlement. This means that whatever costs remaining in the production orders are passed to FI.

Repetitive Manufacturing only Periodic Settlement is allowed for the Run Schedule Header (once a cost collector has been settled, it cannot be re-processed for the period).

Settlement is a financial transaction, which does not interfere with the normal production process.

Description of Improvement

Not Applicable

Special configuration consideration

Standard SAP ECC 6.0

Description of Functional Deficit

No

Approaches to covering Functional Deficit

Not Applicable

6.8 PROFIT CENTER ACCOUNTING

Requirements and Expectations

To draw P&L and BS at the level of SBU's (Profit Centers).

Profit Center Accounting evaluates the profit or loss of individual, independent areas within an organization. These areas are responsible for their costs and revenues. Profit Center Accounting is a statistical accounting component in the SAP system. This means that it takes place on a statistical basis at the same time as true accounting.

Business mapping to SAP ECC 6.0

An organizational unit in accounting that reflects a management-oriented structure of the organization for the purpose of internal control. Profit Center Accounting (PCA) helps in analyzing and to report internal profitability for an organization. PCA integrates with CO through its controlling area / company code relationships.

For GGC, profit centers are proposed on the basis of Process. The hierarchy is displayed in the annexure.

The cost centers are linked to profit centers.

Dummy Profit Center:

The dummy profit center is updated in data transfers whenever the object to which the data was originally posted (cost center, internal order, and so on) is not assigned to a profit center. This ensures that the data in Profit Center Accounting is complete. The data in the dummy profit center can be sent to the other profit centers using assessment or distribution.

A dummy profit center GGC Dummy has been created. This is used by the system when there is no profit center assignment even though the field is made mandatory.

Profit Centre Hierarchy

To be discussed & finalized with the core team.

Transfer Pricing Concept

Profit centers are responsible for their own costs and revenues and are treated as "independent units" within the legally independent company. They are judged by their profit or loss, just like independent companies.

A transfer price is a price used to valuate the transfer of a good or service between independently operating units of an organization. You can use a transfer price to valuate goods movements between profit centers.

PCA – Planning

The principal aim of profit center planning is to provide data and key figures for the purpose of planning for responsibility areas (profit centers).

Value Flows in PCA

- Assignments of materials to profit centers provide the default values for assignment of sales orders and manufacturing orders. With internal goods movements also (such as stock transfers or material withdrawals) the profit center is derived from the material master, if no other account assignment has been made.

  The assignment of materials also forms the basis for the transfer of material stocks to Profit Center Accounting.

- It is necessary to assign SD sales orders to profit centers in order to reflect sales revenues and sales deductions. The profit center assignment is also passed on from the sales order through the logical chain sales order -> delivery note -> goods issue -> billing document. This means that the when the goods issue is posted, the goods usage which corresponds to the revenues is also passed on to the profit center of the sales order.

  Sales orders are divided into header data and item data. Each order item is assigned separately to a profit center, since this is the finer level of detail.

  The system proposes the profit center of the product in the sender plant as the default profit center. Consequently, you usually do not need to enter a profit center manually. This default supports a product-oriented and geographical division of your organization into profit centers.

- When you create a production order, the system proposes the profit center from the master record (plant segment) of the material being produced. Consequently, you usually do not have to enter it manually.

  All the costs and internal cost allocations posted to the production order are passed on to the assigned profit center, along with the credit posted when the production order is delivered or settled.

- The work in process determined can also be transferred to the relevant profit center.

- All the costs and allocations posted to the cost object are reflected on the assigned profit center. You need to assign cost centers to profit centers so that you can reflect all the primary costs from Financial Accounting and all secondary allocations from Cost Center Accounting in Profit Center Accounting.

  The assignment of a cost center also implicitly assigns all the assets which belong to that cost center to the profit center

- You need to assign internal orders to profit centers in order to be able to observe the flow of overhead costs from Financial Accounting and their allocation through internal accounting from a profit center point of view.

- Before you can analyze your profits by profit center, the system needs to summarize all the profit-related postings in profit centers.

Once you have transferred actual data to Profit Center Accounting, you can analyze it immediately according to the period accounting approach using the Standard Reports in the information system.

Description of improvements

- Profit Center would help in analyzing the revenue earned by a Profit center against the cost incurred.
- Providing valuable profitability reports to the management for decision making purposes.

Special Configuration consideration

Standard SAP ECC 6.0

Description of Functional Deficit

No

Approaches to covering Functional Deficit

No

6.9 PROFITABILITY ANALYSIS

Requirements and Expectations

In the existing system, profitability analysis is done at Line wise, Furnace wise, Location wise, SBU wise for Internal wise manually.

Profitability Analysis analyzes the profit or loss of an organization by individual market segments. The system allocates the corresponding costs to the revenues for each market segment.

Business mapping to SAP ECC 6.0

Costing based Profitability Analysis will be used.

The profitability reports are used to display Profitability Analysis data that is stored at suitably aggregated level (Customers, Processes and Sub-Processes) for analysis.

This is done through:

Maintaining forms and drilldown reports

Maintaining variables

Operating Concern:

Operating Concern GGC will be created for GGC.

Profitability Segment:

In Profitability Analysis, income and expenses are analyzed by profitability segments. Profitability Segments are made up of combinations of characteristics and value fields.

Characteristics:

Characteristics in Profitability Analysis are the criteria according to which we can create and analyze plan and actual data.

Example: Characteristics for Profitability Reporting are Customers and Processes

Value Fields:

The value fields contain values and quantities that are updated or planned for particular objects.

Example: Value fields are Billing Income, Communication, IT Expenses, Travel Expenses, etc.

Executing Reports in Profitability Analysis:

By defining profitability reports, a variety of report types can be called and thereby display the data for profitability analysis. Standard Profitability Reports and line item lists for planning and actual data can be executed.

This is done by:

- Executing profitability reports.
- Using SAP list viewer to display line items containing planning or actual data.

CO-PA Planning

Planning in Profitability Analysis allows you to plan sales, revenue and profitability data for any selected profitability segments. You can display the entire planning process of your company in different ways, depending on your business demands.

Value Flows in CO-PA

- Transferring Billing Documents the Sales and Distribution Module (SD) calculates revenues during billing with the help of a pricing mechanism, and then enters it in the billing document. If sales deductions are known (granted discounts, planned cash discount), these are also recorded in the billing document. In addition, the stock value of the product (delivered price for wholesale or retail goods, or cost of goods manufactured for in-house products) can also be determined.
- The system transfers all the characteristics defined in Profitability Analysis and contained in the billing document, along with the customer and product numbers, from the document to the CO-PA line item. It also performs characteristic derivation for those fields for which derivation logic has been defined.
- Settling Orders/ Projects Before you can settle an order or project to a profitability segment; you must create a settlement rule for the settlement object with a profitability segment as a receiver. You do this when you maintain the master data for the order or project.

  If the settlement profile of the order allows settling to profitability segments, you can enter an assignment to a profitability segment when you create the settlement rule
- Direct Postings from FI You can use this function to directly post primary postings to market segments (profitability segments).

  For direct postings in FI, all assignments of values and quantities to the value fields in costing-based CO-PA are defined using the PA transfer structure "FI", which you maintain in Customizing.
- Periodic Overhead Allocation you can assign the costs that arose in the marketing for a certain customer group to that particular customer group in CO-PA.

Description of Improvement

- Online Profitability Analysis would help in analyzing the revenue earned and expenses incurred for a period based on customer, process and sub-process wise.
- Providing valuable profitability analysis reports to the management for decision making purposes.

Special configuration consideration

Profitability reporting at Line wise and Furnace wise requires special configuration. (Will require user exists & ABAP developments). Effort has to be estimated.

Description of Functional Deficit

No specific functional deficit. This will be discussed further while realization.

Approaches to covering Functional Deficit

Workaround for that may be provided to get profitability reporting at Line wise and Furnace wise. This will be discussed while realization.

7 MAPPING OF AS-IS PROCESSES IN BLUEPRINT DOCUMENT

Sr.No.	AS-IS Business Process	Coverage in Business Blue Print document	Covered (Y/N)
	INDIA Operations		
1.00	**Costing & Target Pricing**		
1.01	RM Batch Costing	Pg no: 27	Yes
1.02	Domestic Bottle Costing	Pg no: 27	Yes
1.03	Export Bottle Costing	Pg no: 27	Yes
1.04	Trading Items	Pg no: 27	Yes
1.05	Polythene	Pg no: 27	Yes
1.06	Sand	Pg no: 27	Yes
2.00	**Budgeting**		
2.01	Sales Budget	Pg no: 35	Yes
2.02	Computation of RM Costs, Packing Costs, Freight Costs	Pg no: 35	Yes
2.03	Energy Cost	Pg no: 19	Yes
2.04	Mould Cost	Pg no: 19	Yes
2.05	HR Cost	Pg no: 19	Yes
2.06	Stores, Spares & Repairs	Pg no: 19	Yes
2.07	Plant OH	Pg no: 19	Yes
2.08	Sales OH	Pg no: 19	Yes
2.09	HO OH	Pg no: 19	Yes
2.10	Export Incentives	Pg no: 19	Yes
2.11	Decoration & Trading Expenses	Pg no: 19	Yes
2.12	SBU wise budgeted P&L	Pg no: 32	Yes
3.00	**Valuation**		
3.01	Finished Goods	Pg no: 27	Yes
3.02	Semi-finished Goods	Pg no: 27	Yes
3.03	Raw Materials and others	Pg no: 27	Yes

4.00	**Cost Allocation**	Pg no: 22	Yes
	SRI LANKA Operations		
5.00	**Costing & Target Pricing**		
5.01	RM Batch Costing	Pg no: 27	Yes
5.02	Domestic Bottle Costing	Pg no: 27	Yes
5.03	Export Bottle Costing	Pg no: 27	Yes
5.04	Trading Items	Pg no: 27	Yes
5.05	Polythene	Pg no: 27	Yes
5.06	Sand	Pg no: 27	Yes
6.00	**Budgeting**		
6.01	Sales Budget	Pg no: 35	Yes
6.02	Computation of RM Costs, Packing Costs, Freight Costs	Pg no: 35	Yes
6.03	Energy Cost	Pg no: 19	Yes
6.04	Mould Cost	Pg no: 19	Yes
6.05	HR Cost	Pg no: 19	Yes
6.06	Stores, Spares & Repairs	Pg no: 19	Yes
6.07	Plant OH	Pg no: 19	Yes
6.08	Sales OH	Pg no: 19	Yes
6.09	HO OH	Pg no: 19	Yes
6.10	Export Incentives	Pg no: 19	Yes
6.11	Decoration & Trading Expenses	Pg no: 19	Yes
6.12	SBU wise budgeted P&L	Pg no: 32	Yes
7.00	**Valuation**		
7.01	Finished Goods	Pg no: 27	Yes
7.02	Semi-finished Goods	Pg no: 27	Yes
7.03	Raw Materials	Pg no: 27	Yes
8.00	**Cost Allocation**	Pg no: 22	Yes

8 REPORTS

STANDARD REPORTS AVAILABE IN SAP – CONTROLLING

S.No.	Description	Selection criteria	Output
01	Cost Center: Actual/Plan/Variance (S_ALR_87013611)	Controlling Area, Fiscal year, period, cost center, cost element	Actual costs, plan costs, absolute variance, variance %
02	Cost Center: Actual/Plan/Variance (S_ALR_87013612)	Controlling Area, Fiscal year, period, cost center, cost element	Actual costs, plan costs, absolute variance, variance %, without cost elements
03	Cost Center: Actual/Plan/Variance (S_ALR_87013612)	Controlling Area, Fiscal year, period, cost center, cost element	Actual costs, plan costs, absolute variance, variance %, with cost element group
04	Cost Center: Actual / Actual comparison – Quarterly (S_ALR_87013623)	Controlling area, Fiscal year, Cost center(s)	Quarterly comparison
05	Cost Center: Actual / Actual comparison – Fiscal year (S_ALR_87013624)	Controlling area, Fiscal year, Cost center(s)	Fiscal year comparison
06	Cost Center: Variances (S_ALR_87013627)	Controlling area, period, Cost center(s)	Variance
07	Cost Center: Display actual cost line items (KSB1)	Cost center, Cost Element, period	List of all actual line items affecting the cost center
08	Cost Center: Display actual cost line items	Cost center, Cost Element, period	List of all plan line items affecting the cost center

	(KSBP)		
09	Internal Order: List of Orders with variance (S_ALR_87012995)	Controlling area, period, order(s)	Order, actual value, plan value, variance
10	Internal Order: List of Orders with variance (S_ALR_87012993)	Controlling area, period, order(s)	Order, actual value, plan value, variance with cost elements
11	Internal Order: List of Orders with cumulative balance (S_ALR_87012995)	Controlling area, period, order(s)	Order, total plan value, actual current period / year
12	Internal Order: Actuals Comparison Yearly / Quarterly / period (S_ALR_87013001/2/3)	Controlling area, comparison period, order(s)	Actual values of period 1 to N
13	Cost Elements: List of cost elements (S_ALR_87013599)	Controlling area, period	Cost element, current period value, cumulative value till the current period
14	PCA: Actual Line items (KE5Z)	Record type, Version, Controlling Area, Company Code, Posting period, Fiscal year, Profit Center, Display variant	Actual line items posted in the profit center
15	PCA: Open Items (AR, AP) (S_ALR_87013343 / 4)	Company Code, Key date, GL Accounts, Profit centers, Customers / Vendors, Accounting document	AR / AP profit center wise
16	PCA: Plan / Actual / Variance	Controlling Area, Fiscal year, Period range, profit center, account range	Plan – Actual Comparison with variance

	(S_ALR_87013340)		
17	Profitability Analysis: Display Actual Line Item List (KE24)	Operating Concern, Period/Year	Actual Line Items posted to the profitability segment
18	Profitability Analysis: Display Plan Line Item List (KE25)	Operating Concern, Period/Year	Plan Line Items posted to the profitability segment
19	Execute Profitability Reports (KE30)	Operating Concern, Profit Center, Controlling Area	Reports on Customers, Processes and Sub-Processes

9 IDENTIFIED GAP'S

- Production Budgeting Optimizer: The facility of optimizing the production budget is one of the requirements which are identified as GAP.
- Payback period for Projects: Monitoring Payback period for projects (Internal Orders).
- Cost Center Budget - Availability check.
- Line wise and Furnace wise profitability.

10 ANNEXURE A: SUMMARY OF REQUIREMENTS

Sr. No.	Discussion Points on Blue Print	HP Response	Status
1	Product cost (COGM)	Through Product cost controlling	Close
2	Cost Allocation - What is fixed portion?	Fixed % with an exception of exceeding 100%	Close
3	Cost Of Goods Sold - How the SD & Admn overheads allocated?	Allocation through Assessment to COPA.	Close
4	RM Price Moving average price: Is it Wtd Average price OR Last Price?	Addressed through Price control "V" in Material Master - will get YTD (April) Wtd Average Price.	Close
5	It has to be at the current month YTD wtd avg price - not last month.	Will be valuated at the month beginning only.	Realization
6	Old FG inventory to be valued at Old rate only?	Material Ledger Activation or change the accounting policy or Manual JV for old stock for difference wherein Product wise FG rate will be at current rate only.	Realization
7	Fixed overhead allocation on Normal capacity?	Activity planned price determined either by capacity or the activities performed in the prod cctr and price calculated based on that.	Realization
8	Resorting inventory - Valuation at different rate?	Not possible. Through Manual JV only possible.	Realization
9	Stock reserve - Product transferred to other locations (Plants/ CFAs/ Companies).	Stock visibility is std SAP functionality	Realization
10	Packing Material cost consists of Primary, secondary & repacking cost. How to capture the cost?	Primary & Secondary through BOM. Repacking - through Rework Order with working BOM.	Close
11	How the mould consumption cost absorbed in Product - Variable cost? And Value of remaining life of mould to be part of inventory.	Mould will be included in BOM/ PRT? Consumption will be determined based on the quantities mentioned in Backflush. Mould discussion not yet finalized?	Realization
12	Restriction on certain cost elements to be part of COGM.	Possible through Cost Component Structure	Close

13	Decoration - Job work / in-house to be incorporated in valuation	1. For Job work - it is through Sub contractors' BOM.2. For In house - it is part of Prod Order operations & BOM thereof.	Close
14	Sri Lanka - Sand & Polythene, Coloring Fore hearth	Six businesses (like Sand, Polythene, Trading, Cullet washing, etc.) Have been identified. Only SD, MM, FI & CO modules are recommended.	Realization
15	Customer pricing / Target pricing- how to add delivery cost, warehousing etc.	Addressed through SD condition type. Also covered in freight module.	Close
16	Sales, Variable costs & Overhead Budget.	Possible through CO-PA Planning & Cost center planning	Close
17	Profit Center Planning	Standard PCA Planning	Close
18	Sales budgeting - How to optimize product mix in Budgeting? ME? Freight Cost Budgeting, Export Incentives.	Optimization to be done outside the SAP. Planning at ME - Cust - Prod, etc will be done at CO-PA Planning with possible characteristics and value fields, with versions. New Product and New Customer - Can be worked outside the system & only values can be posted in SAP.	Close
19	Production budgeting - how to do line fitting (speed, weight and efficiency) and optimize throughput and value., Mould budgeting	Optimization to be done outside the SAP. Manufacturing Parameters fields can be maintained. Optimizer not available. Changing of eff/ speed etc. for budgeting will affect the current master data in PP.	Close
20	Freight cost budgeting.	Freight module	Close
21	Export Incentives	Freight module	Close
22	HR budget- Head count, employee wise, vacancy, unplanned, new positions, increments., cost center wise, SBU wise etc.	SBU wise planned HR cost will be allocated on allocation basis (PCA)	Close
23	Budgeting of working capital - Inventory, Receivables, trade creditors	SBU wise possible through Profit center accounting	Close

24	Budgeting for interest, depreciation	AA module is in place then depreciation possible. Interest handled through manual working.	Close
25	Capex budgets upload into system	Possible through Internal orders (Project code) & Cost centers.	Close
26	Projected P&L and BS from the available budget (remaining months) and from actual till date.	Possible with New Plan version for remaining months of the year.	Close
27	The objective in the glass manufacturing is maximizing value and contribution. Currently the budgeted ex-factory value is taken as production value. There is master in system where the rate is updated once in a year and for new products as when they arise.	Z development for Production MIS report with Production Value.	Close
28	Trading caps and brushes-	For India - "Trading" will be a Sub Profit center under Main Profit centers like Pharma & C&P. For Sri Lanka "trading" is a separate SBU.	Close
29	Reports showing analyses of Sales from all the aspects like, category, type of glass, market (export/ domestic), region, ME wise Qty - Value, Realization per Ton, Rate per 1000 pcs, Volume variance, price/ rate variance, product mix variance, etc. should be generated	Possible through available CO-PA Characteristics.	Close
30	Glass - Decoration type Sales qty & value Break up	Possible through breakup through SD Condition types	Close
31	The port wise & type wise (20 / 40 ft) list of containers dispatched during the month should be available at the end of the month.(SBU & Plant wise)	This is SD report.	Close
32	Batch Cost including internal cullet generated & Consumed	Reports are available from PP - CO.	Close

33	Actual v/s Budget - Rate & Usage variance. Also Material wise Price variance against Budget.	Budgeted price will be maintained in material master as Planned price1 for all RM for molten glass. Run SCE with costing variant which don't update the price. And run variance report with different versions.	Close
34	Material wise Price Variance Analysis vis-à-vis Budgeted prices.	Duplicate	Close
35	Primary & Secondary packing cost (rate & usage) variances for each product/ category/ line / furnace should be highlighted.	Finished product wise usage of packing material variance addressed in standard.- COPA	Close
36	Product wise repacking & resorting costs should be available for accurate product wise costing.	Repacking will be addressed through rework order.	Close
37	Packing material wise consumption quantity & value - Actual vis-à-vis Budget - Variance	Standard report available. Differentiating packing material alone requires z report	close
38	Packing BOM in case of customer specific is product-customer.	Multiple BOM is possible. Variance per alternative BOM (Production Version) is possible	Close
39	Separate report showing the consumption of non-standard packing material needs to be generated.	Standard reports available in SAP showing variance analysis (Production order wise).	Close
40	Invoice wise accurate (actual or provisions if bills not received) freight costs like Local/ Inland freight, Ocean freight, THC & Documentation, CHA & other charges need to be available as soon as the sales register is finalized. This amount should flow to books of accounts / MIS.	Freight module	Close
41	Port wise no. of containers & ocean freight analysis vis-à-vis budgeted rates should be done. Destination mix should also be analyzed. - SBU wise	Z development	Close

42	Different Activities/ processes need to be identified for the point of consumption of Power, Gas, and Furnace oil in each furnace, hot end, cold end & further area.	Activity wise (Energy) it is possible, break up is not possible.	Close
43	Furnace wise energy cost (element wise) need to be analyzed.	Through cost center accounting. Quantity need to be entered in Text.	Close
44	Cost of generating Power in CPP should include not only Gas but also labor, power, consumables required to generate the power.	Since production order is generated, it is possible.	Close
45	Energy cost per draw tons can be monitored on daily/ shift basis for each furnace.	For Molten through Production Orders, for glass & others through Product Cost Collectors based on draw tons.	Close
46	Actual vis-à-vis Budget analysis should be generated through system for all the expense heads (account codes) and cost centers every month. And variances be highlighted. Material Group wise)	Possible	Close
47	Input/ Output ratio of casting & mould produced.	Through Variance after settling the production order (Qty. & Value).	Close
48	Mould production costs should include material, labor, power, overhead cost, etc.	Since production order is generated, it is possible.	Close
49	Balance life of each mould set should be determined through system on monthly basis.	Duplicate	Close
50	The actual cost of the direct labor deployed on line should be captured & allocated to the product / SBU for product profitability purpose.	Line wise employee cost - allocation.	Close
51	Salaries & Wages Actual vis-à-vis Budget analysis should be generated through system for all the expense heads (account codes) and cost centers every month. And variances are highlighted.	Possible	Close

52	Details of trading revenue should be available. It should also include item wise, customer wise, bottle category wise, region wise details.	For India - "Trading" as a Sub Profit center under Main Profit centers like Pharma & C&P. For Sri Lanka "trading" is a separate SBU.	Close
53	Direct port stuffing, if any needs to be accounted in the same month of sale. For this logistics/ marketing to provide the list of direct port stuffing of traded items during the month.	Current volume of transaction is insignificant.	Realization
54	Details of trading expenses should be available. It should also include item wise, customer wise, bottle category wise, region wise details.	For India - Create "Trading" as a Sub Profit center under Main Profit centers like Pharma & C&P. For Sri Lanka "trading" is a separate SBU.	Close
55	Should get separate Trading P&L	For India - "Trading" as a Sub Profit center under Main Profit centers like Pharma & C&P. For Sri Lanka "trading" is a separate SBU.	Close
56	Stocks statement of Trading items should also be available.	For India - "Trading" as a Sub Profit center under Main Profit centers like Pharma & C&P. For Sri Lanka "trading" is a separate SBU.	Close
57	Invoice wise details of decoration revenue should be available. It should also include item wise, customer wise, bottle category wise, region wise details.	SD Condition types will be used for breakup of items	Close
58	Details of decoration expenses should be available. It should also include item wise, customer wise, bottle category wise, region wise details.	Possible Through COPA report.	Close
59	Product-Customer wise inventory of bottles at Ansa detailing its status (decorated, undecorated)	Visibility of tracking inventory is possible through standard process in MM	Close
60	Product-Customer wise stock movement statement should be available giving quantitative details like opening stock, receipts (along with dates), operation carried out on bottle, process loss if any, bottles dispatched to GGPL (along with dates), closing st.	Visibility of tracking Process loss is possible through standard process in MM	Close

61	Should get separate Decoration P&L	Depreciation on GGPL Assets at Ansa, will be received from FI will be allocated.	Close
62	Computation of Export Incentives	Product wise allocation of Export Incentives possible through SD/ AR - COPA	Close
63	Contribution / Pocket Margin for sales & production/ line	z development	Realization
64	ISSUE BASED PROFITABILITY RECONCILIATION	Considered in report list	Close
65	Machine Utilization Report - Line wise available & Utilized machine hours & Summarization (Daily & Summary).	Covered under PP Module	Close
66	Stoppage Analysis - Class Wise & Reason wise Stoppage (Daily & Summary)	Covered under PP Module	Close
67	Mould Cost Analysis - Item Wise, Group wise & Lot no wise	Possible	Close
68	Melting Cost - Consumption of Energy in Furnace	Possible	Close
69	Travel Analysis - Account Code wise & Expense nature (Domestic/ air / hotel etc.) wise	Different GL codes needs to be created for capturing detailed data.	Close
70	Telephone / Mobile Expenses - Telephone number wise & Employee wise	Statistical Internal Orders for Telephone nos	Close
71	Vehicle running & maintenance expenses - Vehicle wise / employee wise	Statistical Internal Orders for Telephone nos	Close
72	Safety Expenses - Item wise & nature wise expenses	Reports Possible through MM (Item wise) & CO	Close
73	Secondary manpower - Time Rated Payment Department wise - man-hours & amount	allocation from Ctr to COPA for the products based on SKF (piece & man days)	Close
74	Secondary manpower - Piece Rated payment - Activity Wise - quantity & Value	Statistical Internal Orders.	Close
75	Monitoring Draw tons per line & furnace on daily basis.	Available in PP	Close

76	Pack to Melt - Budget & Actual - Product Wise , Line Wise & Furnace Wise	Available in PP. Plant MIS.	Close
77	Piece Efficiency - Product wise , Line wise, with & w/o down Time	Is taken care of by QM	Close
78	Cavity Analysis - Gob Cuts, Section Cut Analysis & Production Loss due to section cuts	Data is available in PP. need to incorporate the reports. Report format given to PP	Close
79	Analysis of loss of production due to change in speed & efficiency	Available in PP. Plant MIS	Close
80	Daily Production Report - Product Wise & Line Wise	Available in PP. Plant MIS & DPR	Close
81	SQC & QA Failure - Product wise / Line Wise (Daily, MTD & YTD)	Data is available in QM. Need to incorporate the reports.	Close
82	Reconciliation - Furnace Draw & Pack Tonnage , Qnty & Value through system	Data is available in PP. need to incorporate the reports. Report format given to PP	Close
83	Breakage Analysis - Qnty & Value (FGS w/h, QC & QA separately) through system	Data is available in QM. Need to incorporate the reports.	Close
84	Job Set up time analysis - Product Wise & Line Wise (Daily, MTD & YTD) through system (T1)	Available in PP	Close
85	Job Stabilization time Analysis - Product wise & Line wise (Daily, MTD & YTD) through system (T2)	Report format given to PP	Close
86	Job Change Report - Category Wise number of job changes	Available in PP	Close
87	Customer Complaint Analysis - Nature wise number of complaints	Is taken care of in SD & QM	Close
88	Product, Customer, Line, Furnace, Location, SBU, Category wise & Consolidated Profitability	Line wise / furnace wise profitability is being worked upon.	Close
89	Invoice wise profitability	Within an invoice, Product & batch wise profitability is possible.	Close
90	Customer - Product wise Profitability	Standard	Close
91	Line - Product wise Profitability	Line wise / furnace wise profitability is being worked upon.	Realization
92	Furnace - Line wise Profitability	Line wise / furnace wise profitability is being worked upon.	Realization

93	Category - Furnace/ Line wise Profitability	Line wise / furnace wise profitability is being worked upon.	Realization
94	SBU - Category wise Profitability	Standard	Close
95	Location - Furnace wise Profitability	Line wise / furnace wise profitability is being worked upon.	Realization
96	Combinations like Location - Customer- Product profitability	Standard	Close
97	Combinations like Furnace - Customer- Product profitability	Line wise / furnace wise profitability is being worked upon.	Close
98	Combinations like SBU - Category- Customer- Product profitability	Line wise / furnace wise profitability is being worked upon.	Close
99	Combinations like SBU - Furnace profitability	Line wise / furnace wise profitability is being worked upon.	Close
100	There has to be single & correct outstanding status for each customer showing invoice wise outstanding balances and its ageing.	This is possible in FI as a Standard report. Extension of Collection Target fields like "Collectible In the current Month" or "Not collectible", will be through Z dev.	Z development
101	The report showing invoice no. & amount due in next week should be generated.	This is possible in FI as a Standard report	Close
102	Collection target should be done through system. And at any point of time & interval, ME should be able to see the collections & amount to be collected against the target committed. Month end actual status report against ME wise collection target should be generated.	This is possible in FI report with z development.	Close
103	After approval of the project, the actual costs are captured & actual PBIDT is computed & actual payback is monitored. These things should be monitored through system. It should not allow to book beyond Budgeted Amount.	Budgetary control for Project cost is possible through Internal Orders with availability check. Payback period monitoring not possible with internal orders.	Close
104	Budgetary control : Cost center wise budget should restrict the booking of the amount exceeding the budget.	Planning can be done at cost center level. Availability check on the planned amount on cost center not possible.	Z development

11 ANNEXURE B: US AND UK BUSINESS PROCESS

11.1 BACKGROUND

Gujarat Glass (P) Limited [GGPL] is a leading manufacturer of glass based products for pharmaceutical and cosmetic industries. The manufacturing facilities are spread out in different parts of the world like India, Sri Lanka, USA & UK.

This Blueprint document is prepared based on the very few information that was extracted from different documents provided and the limited access to the existing SAP system.

No organization structure provided

Source of Understanding:

1. Business Process Procedures (Tcode explanations..) and the internet
2. http://www.theglassgroup.com/
3. Very Limited access existing SAP R/ 3 system which is highly customized with Z* (per assessment and BPPs.) No access to SPRO transaction.

Corporate office:

Marlton, NJ

Manufacturing plants in USA (Assumed)

1. Flat River, MO

Manufacturing: Glass Flint container manufacturing in Missouri and decoration / coated products operations in New Jersey.

At present, the number of Furnaces and lines are unknown.

2. Mays Landing, NJ

At present, the number of Furnaces and lines are unknown.

Recommendations on the Blueprint are based on the Kosamba/Jambusar plant experiences.

The objective of the document is to provide comprehensive Blueprint in relation to the information available and operations/manufacturing which is told to be similar to Kosamba / Jambusar glass plants.

Implementation of the Blueprint is NOT in scope.

11.2 CO MODULE INTRODUCTION

(Based on work done for India/Sri Lanka implementations)

11.2.1 INTRODUCTION

Controlling (CO) contains all accounting functions necessary for effective decision-making process. If an organization divides accounting into internal and external viewpoints, CO represents the internal accounting perspective.

It provides information for managers' - those who are inside an organization and are vested with directing and controlling its operations. CO covers both the operational and the strategic aspects of management.

11.2.2 CO VALUE FLOWS IN SAP

There are numerous interrelationships between the various CO components. Value flows can occur for many different purposes.

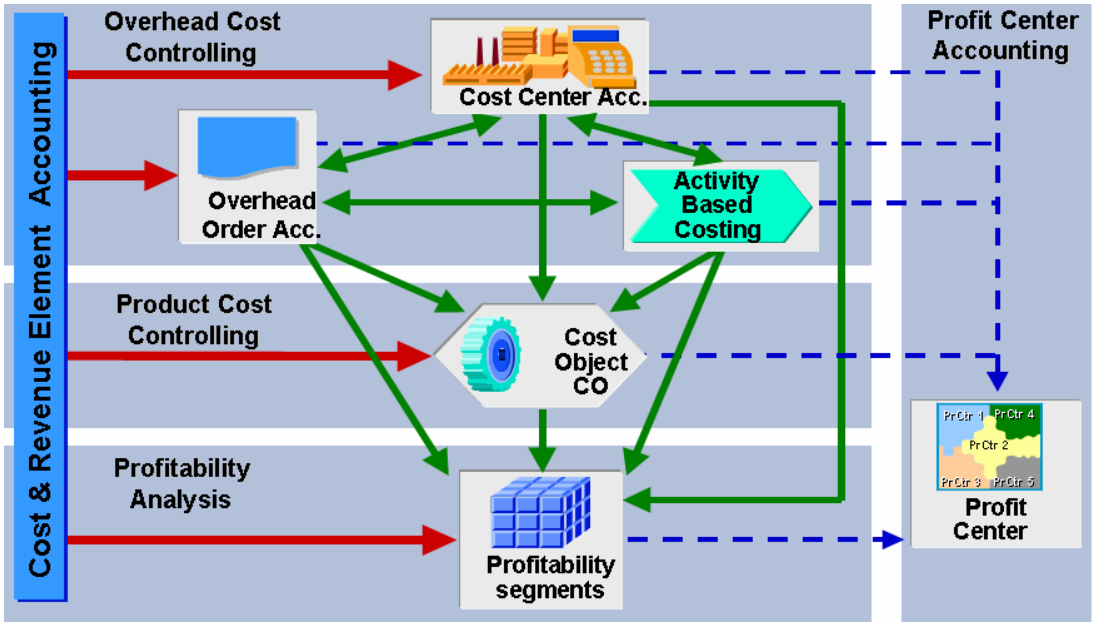
Within the Overhead Cost Controlling area, costs can be posted to cost centers and internal orders from other R/ 3 modules (external costs). Cost centers can then allocate costs to other cost centers and orders.

There are also key cost flows that can occur between the Overhead Management and Product Cost Controlling components. Cost objects (such as production orders, etc.) can receive direct cost postings from FI (such as when an invoice receipt is assigned to the cost object); costs from cost centers (as production activities are performed or from overhead allocation); and costs settled from internal orders

Profitability Accounting components are tightly integrated with Overhead Management and Product Cost Controlling. Profit Center accounting, by virtue of its basic design, receives statistical cost postings from virtually all other CO components.

In addition to direct postings from FI, Profitability Analysis can receive cost assessments from cost centers, settlements of cost from internal orders, and production variances settled from cost objects.

The following graphic illustrates the integration within CO – Value Flows:



11.2.3 CO MODULE INTEGRATION WITH OTHER MODULES

(Based on work done for India/Sri Lanka implementations)

Controlling provides you with information for management decision-making. It facilitates coordination, monitoring and optimization of all processes in an organization. This involves recording both the consumption of production factors and the services provided by an organization.

As well as documenting actual events, the main task of controlling is planning. You can determine variances by comparing actual data with plan data. These variance calculations enable you to control business flows.

Income statements such as, contribution margin accounting, are used to control the cost efficiency of individual areas of an organization, as well as the entire organization.

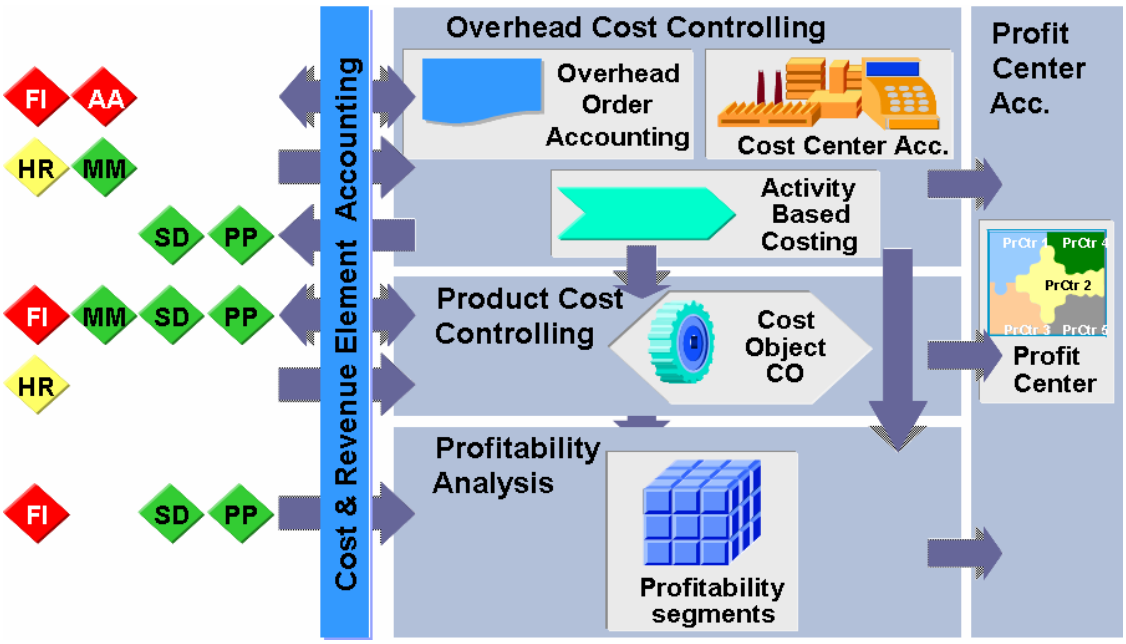
Integration

Controlling (CO) and Financial Accounting (FI) are independent components in the SAP system. The data flow between the two components takes place on a regular basis.

Therefore, all data relevant to cost flows automatically to Controlling from Financial Accounting. At the same time, the system assigns the costs and revenues to different CO account assignment objects, such as cost centers, business processes, projects or orders. The relevant accounts in Financial Accounting are managed in Controlling as cost elements or revenue elements. This enables you to compare and reconcile the values from Controlling and Financial Accounting.

- Other R/3 modules generate data that has a direct impact on CO. For example, when non-stock consumable items are purchased, an expense is posted to the G/L. At the same time, the expense is posted as a cost to the cost center (or other object in CO) for which the items have been purchased. That cost center's costs may later be passed on as overhead to a production cost center or elsewhere in CO.
- The Financial Accounting application area of R/3 is a primary source of data for Controlling. Typically, most expense postings to the General Ledger would result in a cost posting to CO. These expense postings to the G/L could be manual journal entries, accounts payable postings, or depreciation postings from Asset Accounting (FI-AA). Revenue postings can also be created by a journal entry to the G/L and would also typically generate postings in CO to CO-PA and Profit Center Accounting.
- The Human Resources (HR) modules can generate several types of cost postings to Controlling. The HR system allows you to allocate the cost of work to different Controlling (CO) objects. In addition, planned personnel costs can be transferred to CO as input to CO planning.
- The Logistics area of R/3 also has numerous integration points with Controlling (e.g., when doing a goods issue to a controlling object or a goods receipt from production).
- The Production Planning (PP) and the Sales and Distribution area of Logistics also works very closely with Controlling. Consumption of activities, cost of goods issues, overhead surcharges, process allocations and direct primary costs can be posted to the cost object (e.g. PP-production order, sales order item)

and by doing the period closing data like WIP, variances and price differences are settled to CO-PA, CO-PCA and FI. The billing document can incur revenues directly to CO-PA or to the sales order, if the sales order item is a cost object.

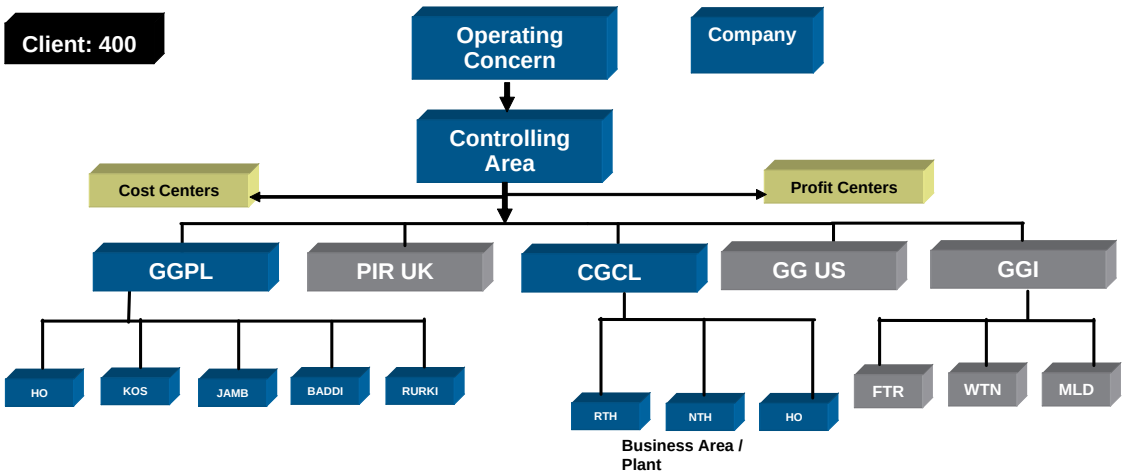


11.3 CO ORGANIZATION STRUCTURE

(The agreed organization structure covers the operations of U.S. (GGI) company code).

Controlling Area is an organizational unit used to represent a closed system for cost accounting purposes. Controlling Area GGC would be created for Gujarat Glass Consolidated (GGPL, CGCL, GGUS, GGI, and PIR UK). The finalized Controlling Organizational Structure would be as follows:

Organizational Units for GGPL



Detailed list of Cost Center hierarchy and Profit Center Hierarchy considering GGI are not available due to lack of information while framing the BBP.

Introduction of Controlling concepts viz., Controlling Area, Cost Center hierarchy, Profit Center Hierarchy would enable GGC to track costs at the origin in a more efficient manner. Profit centers are designed based on the Processes.

11.4 CO MASTER DATA

11.4.1 COST CENTER STANDARD HIERARCHY

The Standard Hierarchy is a unique structure that collects together all the cost centers created in a Controlling Area, using a drill-down system. To the highest node - the root of the hierarchy, there are attached the nodes for each company code.

The cost center is the main R/ 3 structure used to allocate costs in the exact point of their appearance. The criteria used to create them are: function, activities, locations, and responsibility areas. No cost center can be created without an allocation to one level in the standard hierarchy.

11.4.2 COST ELEMENTS

In SAP, Controlling Module will have its own set of data for the purpose of Cost accounting & Controlling. All expense related G/ L accounts in FI are made Primary Cost Elements in CO. Other than this, to measure the internal flow of costs between Cost objects, some objects are created only in CO termed as 'Secondary Cost Elements'.

Detailed explanation is as below:

Primary cost elements

The primary cost elements are the reflection in Controlling of a financial account, used to assure the instant reconciliation of the postings.

The difference between FI and CO is that in CO; it is mandatory that the posting be made using both a cost element and a cost object (cost center, internal order etc.)

Secondary cost elements

Secondary cost elements are accounts created in controlling only, without any effect in Finance module, used to measure the internal flows of values between different cost objects.

Secondary cost elements are used for allocations and settlements. These are not represented by GL accounts in FI.

Allocation is a method of internal cost allocation by which the costs of a sender cost center are transferred to receiver CO objects (orders, other cost centers) under a cost element. The method works according to the keys defined by the user.

11.4.3 PROFIT CENTER STANDARD HIERARCHY

The Profit Center Standard Hierarchy is similar to that of the Cost Center Standard Hierarchy that collects together all the profit centers created in a Controlling Area, using a drill-down system. To the highest node - the root of the hierarchy, these are attached the nodes for each company code.

The profit center is the main R/ 3 structure used to allocate costs in the exact point of their appearance. The criteria used to create them are: divisions, areas of operation. No profit center can be created without an allocation to one level in the standard hierarchy. There can be only one Standard Hierarchy for a company code.

11.4.4 INTERNAL ORDERS

An instrument used to monitor costs and, in some instances, the revenues of an organization.

Internal orders can be used for the following purposes:

- Monitoring the costs of short-term jobs
- Monitoring the costs and revenues of a specific service
- Ongoing cost control

.

11.5 BUSINESS PROCESS MAPPING TO R/3

(Business process mapping of GGI is based on assumptions of business process mapping of India and Sri Lanka operations; as adequate discussion on business process and information is missing)

11.5.1 COST ELEMENT ACCOUNTING

Requirements and Expectations

At present, there is no concept of Cost Element. The actual expenses incurred in a GL account have to be captured in the respective Cost Centers.

Cost and Revenue Element Accounting provides you with an overview of the costs and revenues that occur in an organization. Most of the values are moved automatically from Financial Accounting to Controlling. Cost and Revenue Element Accounting only calculates costs which either do not have another expense or only one expense in Financial Accounting.

Business Mapping to R/3

SAP will use the concept of Cost Elements to track the flow of costs between FI / CO and flow of costs internal to CO (which arises due to reposting / distribution / assessment). All P/L accounts are Primary cost elements and the secondary cost elements are created in the number range 900000.

The cost element category determines which cost elements can be used for which business transactions. SAP distinguishes between:
Primary Cost Element Categories
Secondary Cost Element Categories

The Primary Cost Element Categories are:

01 – General Primary Cost Element
This cost element category can be debited for all primary postings.

11 – Revenue Elements
This cost element category can be used to post revenues.

12 – Sales Deductions
This cost element category can be used to post deductible items.

The Secondary Cost Element Categories are:
21 – Internal Settlement – Used to settle internal order costs to objects such as internal orders, profitability segments and cost centers.
31 – Order / Project Results analysis – Used to store result analysis data.
41 – Overhead - Used to allocate from Cost Centers to orders
42 – Assessment – Used to allocate costs during assessment.

Assessment is a method of internal cost allocation in which costs are apportioned from a sender cost center to receivers (cost centers, internal orders) using an assessment cost element. The costs are apportioned according to an allocation base (tracing factor) defined by the user. Assessment can be run for both plan and actual values.

Cost element groups

Cost elements with similar characteristics can be collected in the form of Cost Element Groups.

Cost element groups can serve various purposes. For example, they can be used to create reports or to process several cost elements in one business transaction. Cost Element Groups is created for Cost Center Assessment Cycle, Settlement Profiles, Allocation Structures, and Cost Component Structures etc.

Cost elements are per controlling area, since GGC has the same operative chart of accounts all the P&L GL accounts will be created as cost elements.

Description of Improvement

This will provide capability for detailed recording of data that forms the basis for cost accounting. Depending on the cost elements chosen (for e.g. excluding secondary cost elements for drawing up P&L statement on profit centers) reports can be drawn up.

Special configuration consideration

No Special configuration required.

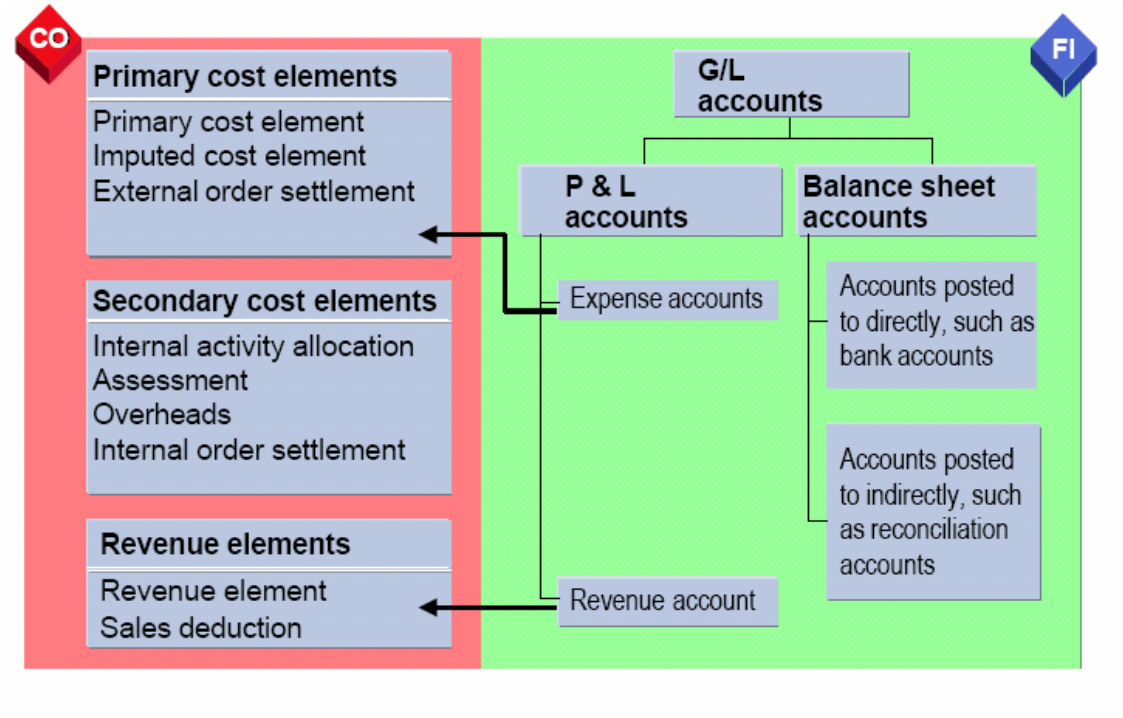
Description of Functional Deficit

No deficits

Approaches to covering Functional Deficit

Not Applicable

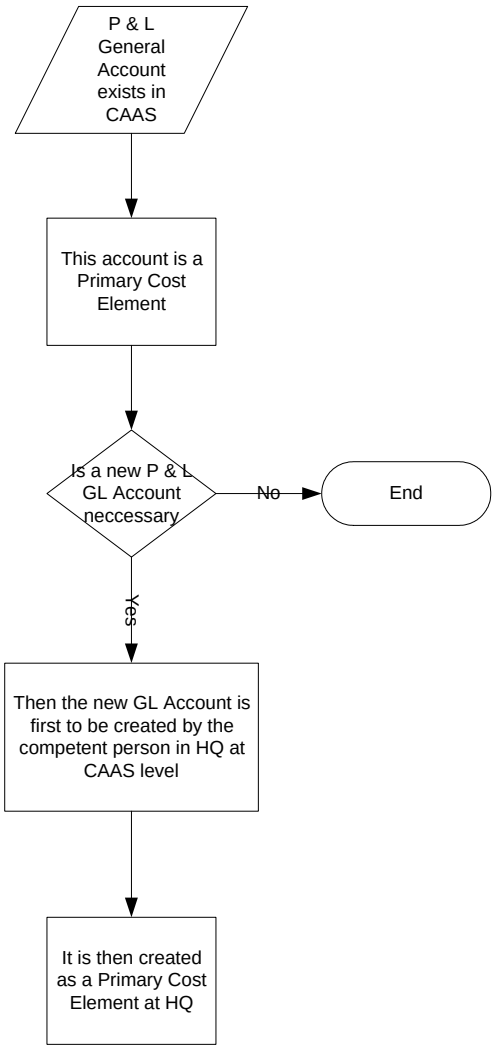
Pictorial Overview of Cost Elements (Primary and secondary)

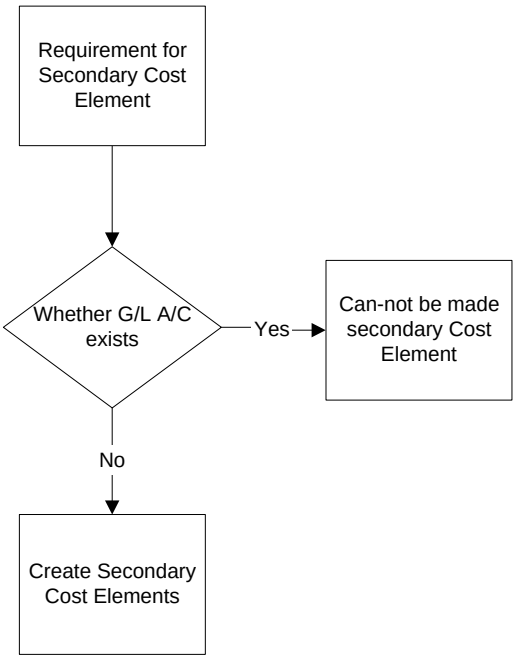


Process Flow Chart

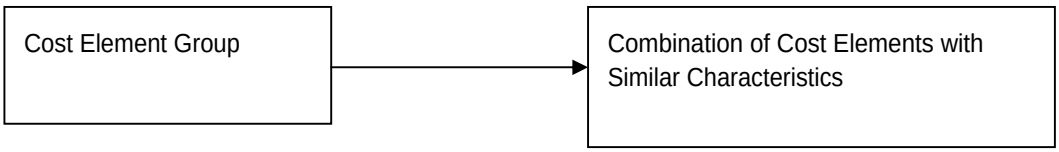
Primary Cost Element

Secondary Cost Element





Cost Element Groups



11.5.2 COST CENTER MAINTENANCE

Requirements and Expectations

In the existing system, costs incurred are captured in cost centers.

Organizational unit within a controlling area that represents a clearly delimited location where costs occur. You can make organizational divisions on the basis of functional, settlement-related, activity-related, spatial, and/ or responsibility-related standpoints.

Business mapping to R/3

A standard hierarchy will be created for the Controlling Area (GGC). This standard hierarchy has cost center groups attached to it. The actual cost centers are attached to this cost center group. Change to cost centers can be made individually or collectively.
These categories are used to lock the posting of revenue posting into cost centers and also these categories can be used for reports and evaluations.

Cost Centers for individual company codes under GGC will be created and will be assigned to the respective cost center group.

No Information on Cost Centers for GGI and UK Company codes.

Cost Center Planning and Budgeting

Cost center planning involves entering plan figures for costs, activities, prices or statistical key figures for a particular cost center and a particular planning period. You can then determine the variances from these figures when you come to compare these plan values with the costs actually incurred.
Cost center budgeting provides a further method of planning in addition to primary cost and secondary cost planning. This tool enables you to carry out a comparison between actual postings and plan budgets. You can thus determine when the budget is exceeded and carry out timely availability checks.

Cost Center Hierarchy

No Information available.

Description of Improvement

Efficient monitoring of costs through cost centers.

Special Configuration consideration

Standard SAP R/3

Description of Functional Deficit

No

Approaches to covering Functional Deficit

Not Applicable

11.5.3 ACTIVITY TYPE MAINTENANCE

No Information available.

Requirements and Expectations

There is no concept of activity types in the existing system. Activity types classify the activities produced in the cost centers within a controlling area.

Business mapping to R/3

Activity types describe the activity produced by a cost center and are measured in units of time or quantity; they are linked to work centers in PP.

For example, Assembly activity from Final Assembly Cost center and maintenance hours from Maintenance Department.

A cost center can be assigned one, multiple, or no activity types. One particular activity type can be assigned to one or more cost centers. The variation in cost between one cost center and the other for the same activity type is taken care during the cost planning. For example, activity type

"LAB" will be common for both C&P glass and Pharma glass manufacturing. But the cost will be different because, activity dependent cost elements planning will be carried out individually.

Activity type will be created for all the manufacturing company codes (GGPL, CGCL and GGI) under GGC and activity planning will be done at the respective production cost centers.

Description of Improvement

Not Applicable

Special configuration consideration

Standard Sap R/3

Description of Functional Deficit

No

Approaches to covering Functional Deficit

Not Applicable

11.5.4 STATISTICAL KEY FIGURE MAINTENANCE

No Information available.

Requirements and Expectations

There is no concept of Statistical key figures in the existing system.

Business mapping to R/3

Statistical Key Figure

The statistical key figures are used in various distribution cycles, at period-end closing, to allocate costs from a sender to a receiver.

SKF can be used across all the company codes, based on the requirement of cost allocation.

Description of Improvement

Not Applicable

Special configuration consideration

Standard Sap R/3

Description of Functional Deficit

No

Approaches to covering Functional Deficit

Not Applicable

11.5.5 COST ALLOCATION

No Information available.

Requirements and Expectations

In the existing system costs are booked only in financial records and the concept of apportionment to respective departments is done for reporting purpose.

Business Process Mapping to R/3

Cost and revenue Allocations in SAP shall be done using the procedure of Reposting, Distribution & Assessment.

Under this procedure, the costs collected on a cost center during the accounting period are allocated to receivers. These are indirect allocation methods for which user-defined keys such as percentage rates, amounts, statistical key figures, or posted amounts provide the basis for cost/quantity assignment.

These methods are easy to use as the keys and the sender/receiver relationships are usually defined only once.

For example, Telephone costs are collected on a cost center for each period & then can be allocated using the process of reposting or distribution/ assessment cycles at the end of the period according to the number of telephone units or telephone installations in each cost center.

Cost allocations are performed under controlling area (GGC), each company codes can allocate their costs using the Standard allocation tools provided by SAP.

Reposting

Periodic reposting is an allocation method that uses rules defined in the form of cycles for correcting postings to cost centers.

During this process, the original cost element remains the same. Line items are posted for the sender as well as for the receiver, enabling the allocation to be recorded exactly.

Only primary costs can be reposted. Periodic reposting can be reversed and repeated as often as required.

Distribution

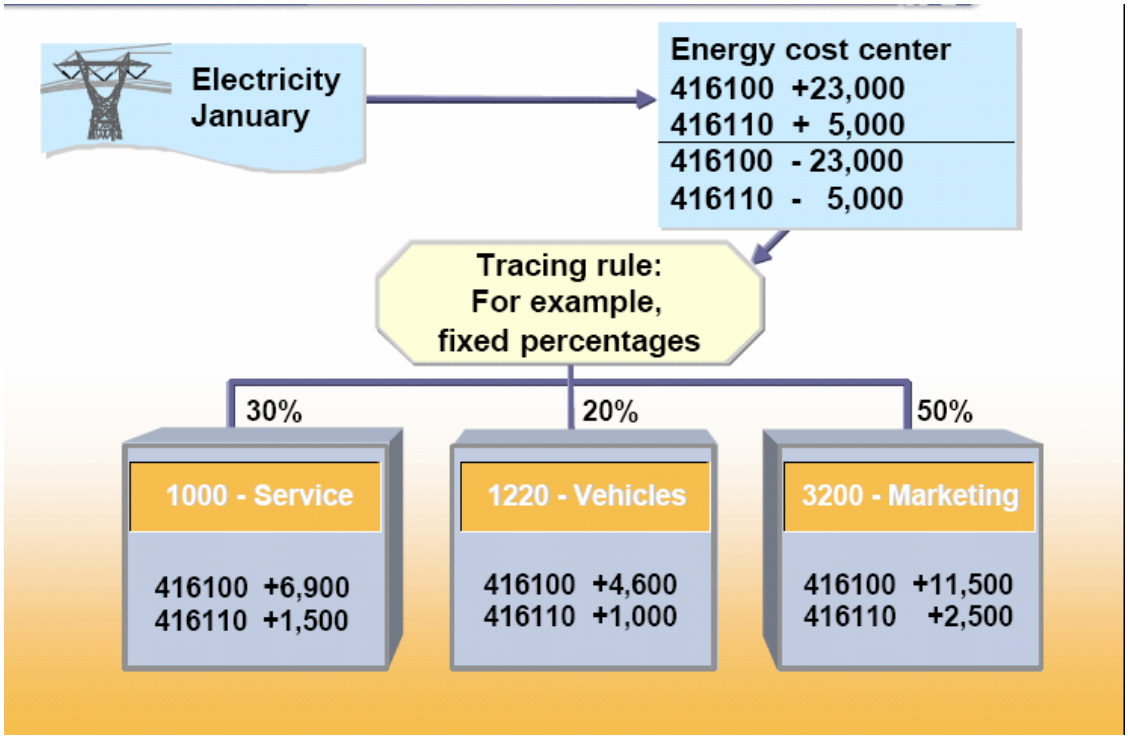
Distribution is a method of internal cost allocation that allocates primary costs. The allocation is done using Distribution Cycles by specifying rules for the settlement of primary costs on a cost center

Main features of this process are as below:

The original cost element is retained in the receiver cost center

Information about the sender and the receiver is documented in the Controlling document.

Pictorial depiction of Distribution:



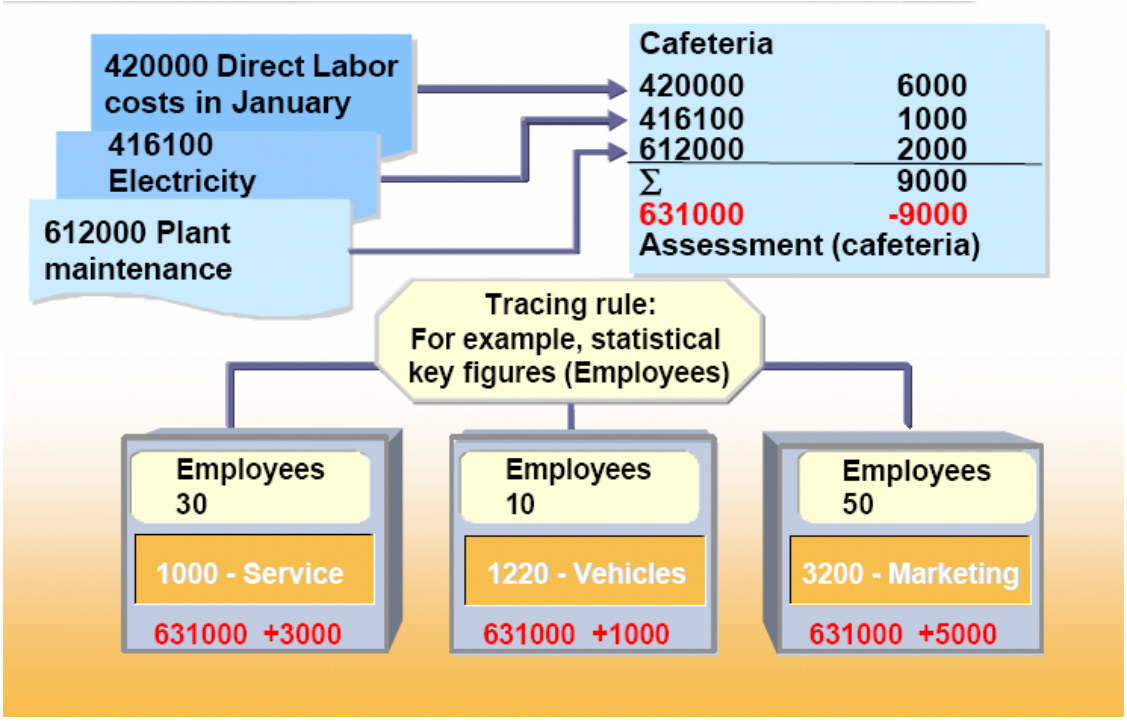
Assessment

Assessment is a method of internal cost allocation by which the costs of a sender cost center is allocated (transferred) to receiver CO objects (orders, other cost centers, and so on) under an assessment cost element (category 42). The method works according to the keys defined by the user.

It is used when it is unimportant or not possible for the user to know the break down of costs that a cost center will receive in an allocation. E.g. allocating general & administrative costs. Further analysis is available through CCA reporting.

The concept and procedure would remain the same for profit center Assessment and Distribution cycles.

Pictorial depiction of Assessment:



Description of improvements

A systematic approach to distribute costs and revenues between CO objects.

Special Configuration consideration

Standard SAP R/3

Description of Functional Deficit

No

Approaches to covering Functional Deficit

No

11.5.6 INTERNAL ORDERS

No Information available.

Requirements and Expectations

There is no concept of Internal Orders in the existing system. Internal orders will be used for capturing costs for short term simple projects and also for statistical reporting.

Internal orders are normally used to plan, collect, and settle the costs of internal jobs and tasks. The SAP system enables you to monitor your internal orders throughout their entire life-cycle; from initial creation, through the planning and posting of all the actual costs, to the final settlement and archiving

Business mapping to R/3

An Internal Order is an extremely flexible CO tool that can be used for a wide variety of purposes to track costs within a controlling area. Internal orders provide capabilities for planning, monitoring, and allocation of costs. Internal order once created will be referred in raising a Purchase order in the account assignment category. This is mandatory to capture the costs / expenses on the internal order against a budget.

Order Type

An order type has a large amount of control information important to order management. This information includes a range of default values that are used when a new order is created with this order type.

Any new order is created under an order type that results in transfer of certain parameters to the order.

All the above order for each Co code is defined as a separate order type. It is named as per following naming convention:

Site name - Purpose Internal Order,

E.g. Order Type 300 is TLV – Maintenance Internal Order.

Internal Orders are created at controlling area level and at company code level, in which company codes under if required can create Internal Orders for capturing costs for shot term simple projects and also for statistical reporting.

Description of Improvement

Internal order would help in planning, budgeting and tracking the costs of a particular nature of expense / cost.

Special configuration consideration

Standard Sap R/3

Description of Functional Deficit

No

Approaches to covering Functional Deficit

Not Applicable

11.5.7 PRODUCT COST CONTROLLING

No Information available.

Requirements and Expectations

Product Cost Controlling calculates the costs that occur during manufacture of a product, or provision of a service. It enables you to calculate the minimum price at which a product can be profitably marketed.

Business mapping to R/3

Product costing is a tool for planning costs and establishing prices for materials. It is used to calculate the costs of goods manufactured and the costs of goods sold for each product unit. Product costing belongs to both the Production Planning (PP) Module and the Controlling (CO) Module. Product costing is carried out at the plant level. All costing data is stored with reference to a plant. The system uses the results of cost estimates to valuate material movements in Logistics. Material valuation is carried out at the Plant level.

The following process will be applicable for all manufacturing companies like GGPL and CGCL.

The following process may be applicable for GGI as there is no information of Product Costing in GGI.

11.5.7.1 INGREDIENTS OF PRODUCT COST

The basic ingredients of product cost are batch cost, packing cost and conversion cost. Conversion cost includes labor cost and overheads.

Batch Cost:
In SAP, for material valuation, the number of units required for completion of a Finished Product would be picked up from Bills of material [BOM Master] and the value per unit from Material Master. Raw Materials will be valuated at moving average price and Semi Finished Materials will be valuated at standard cost estimate.

Packing Cost:
Packing cost depends upon the customer specification of the finished product and also depends upon the place of export.

Conversion Cost

Overhead Cost
The Overhead cost would get calculated as per the parameters given in the overhead-costing sheet maintained in the Valuation Variant.
Labor Cost:
The number of Labor hour time would get picked up from Routing master, maintained in PP and the Activity price would be get picked up from cost centre Activity price maintained.

11.5.7.2 CREATING, MARKING AND RELEASING OF STANDARD COST ESTIMATE

At the beginning of the period, the Standard Cost Estimate is created, marked and released for both Finished Products and Semi Finished Products.

Raw materials are maintained at Moving Average Price. So, at the beginning of the period, when a Standard cost estimate is being created the system would take the latest weighted average Price from the material master and the same would be the standard cost of the material for the period. Thus, on creation of the Standard cost estimate, it would be marked and released. On Marking the new price would be calculated and get reflected in the Future Planned Price of the material master. On Releasing the Future planned price would become the Present Price. The Inventory will be valuated at Standard price.

In GGC, the Standard Cost Estimate would include both Batch cost, packing cost and Conversion cost.

The material cost would get picked up from the latest weighted average price as on the date of creating the standard cost estimate from the material master. The Conversion cost would get picked up from the Planned Activity price maintained and Overhead costing sheet.

The marking and releasing of standard cost estimate would happen at the beginning of a period as described.

11.5.7.3 REPETITIVE MANUFACTURING PROCESS - BOTTLES.

In repetitive manufacturing, the costs per material or per production version are determined via a product cost collector (product cost per period).The costs for a period can be viewed through the Product cost collector.

For normal production of glasses the Repetitive Manufacturing process will be followed. Repetitive Manufacturing Process is applicable for products that are continuously made in high volumes.

Product Cost Collector:

In SAP, a separate Cost Collector is defined for the Production version.

This would be assigned a unique Costing and Valuation variants. Order types are separate for this process. They hold the control mechanism like the planning and settlement profile.

This apart, the process involves creation of a preliminary cost estimate for the cost collector.

The activity quantities that are to be confirmed are defaulted on the basis of the routing

Used for the preliminary cost estimate.

Suitable repetitive manufacturing profile is to be updated in the material master record to be able to back flush a material.

Process:

T Code KKF6N is used for creating the Product Cost Collector. At the time of creation, the system internally creates a Production Process. This Production Process number is updated in the manufacturing orders assigned to the Product Cost Collector.

The production version is linked to the Cost Collector through the Production Process number. The system auto creates a settlement rule and the receiver is always a Material, with the facility of periodic settlement.

The Controlling link is established because the system picks the Planned and Actual Costing Variants from the Order Type.

The Costing Sheet is picked from the valuation variant from the Costing variant.

This ensures that the same Costing sheet is used in preliminary costing and actual overhead calculation. So with all these links the standard costing estimate could be run for the materials.

The order could be triggered by the T Code MFBF. With backflush the materials are issued to production and the finished goods posted to warehouse.

Since the settlement rule is auto generated the scrap is also posted in sequence and there is no separation of scrap from variance.

11.5.7.4 DISCRETE MANUFACTURING PROCESS - SEMIFINISHED PRODUCTS

Discrete manufacturing (i.e. manufacturing with production orders) typically involves frequently changing products and therefore manufacturing in restricted production lots. Another characteristic of discrete manufacturing is the varying sequence of work centers through which different products flow during production.

Discrete manufacturing will be used for production of Molten Glass, Mould Manufacturing, Sand and Polythene.

Production Orders:

A Production order defines which material is to be processed, at which location, at what time and how much work is required. It also defines which resources are to be used and how the order costs are to be settled.

Process:

Creation of Production Order.

Issue materials against production order.

Confirm production order.

Goods receipt against production order.

11.5.7.5 PERIOD END CLOSING FOR BOTH REPETITIVE MANUFACTURING AND DISCRETE MANUFACTURING PROCESSES

As part of Period End Activities the following activities would happen:

1. Work in Process Calculation:

Repetitive manufacturing: There would not be any WIP.

Discrete Manufacturing: WIP gets calculated through a standard transaction. In SAP, WIP means all debits Minus Credits of a production order. WIP would be calculated only for Open Production Orders.

2. Variance Calculation:

Variances will occur when actual costs posted to the cost collector differ from the Target or Standard.

3. Settlement

The purpose of settlement is to pass to the General Ledger the results from the calculations done in Work in Process and Variances in both Order Related production and Repetitive Manufacturing. If the settlement is not run, the books are not going to be balanced.

Discrete Manufacturing is allowed two settlement methods: Full Settlement and Periodic Settlement. This means that whatever costs remaining in the production orders are passed to FI.

Repetitive Manufacturing only Periodic Settlement is allowed for the Run Schedule Header (once a cost collector has been settled, it cannot be re-processed for the period).

Settlement is a financial transaction, which does not interfere with the normal production process.

Description of Improvement

Not Applicable

Special configuration consideration

Standard Sap R/3

Description of Functional Deficit

No

Approaches to covering Functional Deficit

Not Applicable

11.5.8 PROFIT CENTER ACCOUNTING

[No information on SBU's in GGI and PIR UK]

Requirements and Expectations

To draw P&L and BS at the level of SBU's (Profit Centers).

Profit Center Accounting evaluates the profit or loss of individual, independent areas within an organization. These areas are responsible for their costs and revenues. Profit Center Accounting is a statistical accounting component in the SAP system. This means that it takes place on a statistical basis at the same time as true accounting.

Business mapping to R/3

An organizational unit in accounting that reflects a management-oriented structure of the organization for the purpose of internal control. Profit Center Accounting (PCA) helps in analyzing and to report internal profitability for an organization. PCA integrates with CO through its controlling area / company code relationships.

For GGC, profit centers are proposed on the basis of Process. The hierarchy is displayed in the annexure.

The cost centers are linked to profit centers.

Dummy Profit Center:

The dummy profit center is updated in data transfers whenever the object to which the data was originally posted (cost center, internal order, and so on) is not assigned to a profit center. This ensures that the data in Profit Center Accounting is complete. The data in the dummy profit center can be sent to the other profit centers using assessment or distribution.

A dummy profit center GGC Dummy has been created. This is used by the system when there is no profit center assignment even though the field is made mandatory.

Profit Centre Hierarchy

No information available.

Transfer Pricing Concept

Profit centers are responsible for their own costs and revenues and are treated as "independent units" within the legally independent company. They are judged by their profit or loss, just like independent companies.

A transfer price is a price used to valuate the transfer of a good or service between independently operating units of an organization. You can use a transfer price to valuate goods movements between profit centers.

PCA – Planning

The principal aim of profit center planning is to provide data and key figures for the purpose of planning for responsibility areas (profit centers).

Value Flows in PCA

- Assignments of materials to profit centers provide the default values for assignment of sales orders and manufacturing orders. With internal goods movements also (such as stock transfers or material withdrawals) the profit center is derived from the material master, if no other account assignment has been made.

  The assignment of materials also forms the basis for the transfer of material stocks to Profit Center Accounting.

- It is necessary to assign SD sales orders to profit centers in order to reflect sales revenues and sales deductions. The profit center assignment is also passed on from the sales order through the logical chain sales order -> delivery note -> goods issue -> billing document. This means that the when the goods issue is posted, the goods usage which corresponds to the revenues is also passed on to the profit center of the sales order.

  Sales orders are divided into header data and item data. Each order item is assigned separately to a profit center, since this is the finer level of detail.

  The system proposes the profit center of the product in the sender plant as the default profit center. Consequently, you usually do not need to enter a profit center manually. This default supports a product-oriented and geographical division of your organization into profit centers.

- When you create a production order, the system proposes the profit center from the master record (plant segment) of the material being produced. Consequently, you usually do not have to enter it manually.

  All the costs and internal cost allocations posted to the production order are passed on to the assigned profit center, along with the credit posted when the production order is delivered or settled.

- The work in process determined can also be transferred to the relevant profit center.

- All the costs and allocations posted to the cost object are reflected on the assigned profit center. You need to assign cost centers to profit centers so that you can reflect all the primary costs from Financial Accounting and all secondary allocations from Cost Center Accounting in Profit Center Accounting.

  The assignment of a cost center also implicitly assigns all the assets which belong to that cost center to the profit center

- You need to assign internal orders to profit centers in order to be able to observe the flow of overhead costs from Financial Accounting and their allocation through internal accounting from a profit center point of view.

- Before you can analyze your profits by profit center, the system needs to summarize all the profit-related postings in profit centers.

Once you have transferred actual data to Profit Center Accounting, you can analyze it immediately according to the period accounting approach using the Standard Reports in the information system.

Description of improvements

- Profit Center would help in analyzing the revenue earned by a Profit center against the cost incurred.
- Providing valuable profitability reports to the management for decision making purposes.

Special Configuration consideration

Standard SAP R/3

Description of Functional Deficit

No

Approaches to covering Functional Deficit

No

11.5.9 PROFITABILITY ANALYSIS

Since GGI and PIR UK Company codes are assigned to the CO area of IN and SL Company codes, there would be only one Operating Concern common for the all the company codes. However additional characteristics and value fields and other relevant data with reference to GGI and PIR UK are unavailable.

Requirements and Expectations

In the existing system, profitability analysis is done at Line wise, Furnace wise, Location wise, SBU wise for Internal wise manually.

Profitability Analysis analyzes the profit or loss of an organization by individual market segments. The system allocates the corresponding costs to the revenues for each market segment.

Business mapping to R/3

Costing based Profitability Analysis will be used.

The profitability reports are used to display Profitability Analysis data that is stored at suitably aggregated level (Customers, Processes and Sub-Processes) for analysis.

This is done through:

Maintaining forms and drilldown reports

Maintaining variables

Operating Concern:

Operating Concern GGC will be created for GGC.

Profitability Segment:

In Profitability Analysis, income and expenses are analyzed by profitability segments. Profitability Segments are made up of combinations of characteristics and value fields.

Characteristics:

Characteristics in Profitability Analysis are the criteria according to which we can create and analyze plan and actual data.

Example: Characteristics for Profitability Reporting are Customers and Processes

Value Fields:

The value fields contain values and quantities that are updated or planned for particular objects.

Example: Value fields are Billing Income, Communication, IT Expenses, Travel Expenses, etc.

Executing Reports in Profitability Analysis:

By defining profitability reports, a variety of report types can be called and thereby display the data for profitability analysis. Standard Profitability Reports and line item lists for planning and actual data can be executed.

This is done by:

- Executing profitability reports.
- Using SAP list viewer to display line items containing planning or actual data.

CO-PA Planning

Planning in Profitability Analysis allows you to plan sales, revenue and profitability data for any selected profitability segments. You can display the entire planning process of your company in different ways, depending on your business demands.

Value Flows in CO-PA

- Transferring Billing Documents the Sales and Distribution Module (SD) calculates revenues during billing with the help of a pricing mechanism, and then enters it in the billing document. If sales deductions are known (granted discounts, planned cash discount), these are also recorded in the billing document. In addition, the stock value of the product (delivered price for wholesale or retail goods, or cost of goods manufactured for in-house products) can also be determined.
- The system transfers all the characteristics defined in Profitability Analysis and contained in the billing document, along with the customer and product numbers, from the document to the CO-PA line item. It also performs characteristic derivation for those fields for which derivation logic has been defined.
- Settling Orders/ Projects Before you can settle an order or project to a profitability segment; you must create a settlement rule for the settlement object with a profitability segment as a receiver. You do this when you maintain the master data for the order or project.

  If the settlement profile of the order allows settling to profitability segments, you can enter an assignment to a profitability segment when you create the settlement rule
- Direct Postings from FI You can use this function to directly post primary postings to market segments (profitability segments).

  For direct postings in FI, all assignments of values and quantities to the value fields in costing-based CO-PA are defined using the PA transfer structure "FI", which you maintain in Customizing.
- Periodic Overhead Allocation you can assign the costs that arose in the marketing for a certain customer group to that particular customer group in CO-PA.

Description of Improvement

- Online Profitability Analysis would help in analyzing the revenue earned and expenses incurred for a period based on customer, process and sub-process wise.
- Providing valuable profitability analysis reports to the management for decision making purposes.

Special configuration consideration

Profitability reporting at Line wise and Furnace wise requires special configuration.

Description of Functional Deficit

No specific functional deficit. This will be discussed further while realization.

Approaches to covering Functional Deficit

Workaround for that may be provided to get profitability reporting at Line wise and Furnace wise. This will be discussed while realization.

11.6 REPORTS

SANDARD REPORTS AVAILABE IN SAP – CONTROLLING

S.No.	Description	Selection criteria	Output
01	Cost Center: Actual/Plan/Variance (S_ALR_87013611)	Controlling Area, Fiscal year, period, cost center, cost element	Actual costs, plan costs, absolute variance, variance %
02	Cost Center: Actual/Plan/Variance (S_ALR_87013612)	Controlling Area, Fiscal year, period, cost center, cost element	Actual costs, plan costs, absolute variance, variance % without cost elements
03	Cost Center: Actual/Plan/Variance (S_ALR_87013612)	Controlling Area, Fiscal year, period, cost center, cost element	Actual costs, plan costs, absolute variance, variance % with cost element group
04	Cost Center: Actual / Actual comparison – Quarterly (S_ALR_87013623)	Controlling area, Fiscal year, Cost center(s)	Quarterly comparison
05	Cost Center: Actual / Actual comparison – Fiscal year (S_ALR_87013624)	Controlling area, Fiscal year, Cost center(s)	Fiscal year comparison
06	Cost Center: Variances (S_ALR_87013627)	Controlling area, period, Cost center(s)	Variance
07	Cost Center: Display actual cost line items (KSB1)	Cost center, Cost Element, period	List of all actual line items affecting the cost center
08	Cost Center: Display actual cost line items (KSBP)	Cost center, Cost Element, period	List of all plan line items affecting the cost center

09	Internal Order: List of Orders with variance (S_ALR_87012995)	Controlling area, period, order(s)	Order, actual value, plan value, variance
10	Internal Order: List of Orders with variance (S_ALR_87012993)	Controlling area, period, order(s)	Order, actual value, plan value, variance with cost elements
11	Internal Order: List of Orders with cumulative balance (S_ALR_87012995)	Controlling area, period, order(s)	Order, total plan value, actual current period / year
12	Internal Order: Actuals Comparison Yearly / Quarterly / period (S_ALR_87013001/2/3)	Controlling area, comparison period, order(s)	Actual values of period 1 to N
13	Cost Elements: List of cost elements (S_ALR_87013599)	Controlling area, period	Cost element, current period value, cumulative value till the current period
14	PCA: Actual Line items (KE5Z)	Record type, Version, Controlling Area, Company Code, Posting period, Fiscal year, Profit Center, Display variant	Actual line items posted in the profit center
15	PCA: Open Items (AR, AP) (S_ALR_87013343 / 4)	Company Code, Key date, GL Accounts, Profit centers, Customers / Vendors, Accounting document	AR / AP profit center wise
16	PCA: Plan / Actual / Variance (S_ALR_87013340)	Controlling Area, Fiscal year, Period range, profit center, account range	Plan – Actual Comparison with variance

17	Profitability Analysis: Display Actual Line Item List (KE24)	Operating Concern, Period/Year	Actual Line Items posted to the profitability segment
18	Profitability Analysis: Display Plan Line Item List (KE25)	Operating Concern, Period/Year	Plan Line Items posted to the profitability segment
19	Execute Profitability Reports (KE30)	Operating Concern, Profit Center, Controlling Area	Reports on Customers, Processes and Sub-Processes

11.7 GAPS

The requirements are NOT in place. Hence GAPS could not be prepared.