

SAP Engineering & Construction



ADDON.IDESISE&C

Release 4.6C



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Icons

Icon	Meaning
	Caution
	Example
	Note
	Recommendation
	Syntax

Typographic Conventions

Type Style	Description
<i>Example text</i>	Words or characters that appear on the screen. These include field names, screen titles, pushbuttons as well as menu names, paths and options. Cross-references to other documentation
Example text	Emphasized words or phrases in body text, titles of graphics and tables
EXAMPLE TEXT	Names of elements in the system. These include report names, program names, transaction codes, table names, and individual key words of a programming language, when surrounded by body text, for example, SELECT and INCLUDE.
Example text	Screen output. This includes file and directory names and their paths, messages, names of variables and parameters, source code as well as names of installation, upgrade and database tools.
Example text	Exact user entry. These are words or characters that you enter in the system exactly as they appear in the documentation.
<Example text>	Variable user entry. Pointed brackets indicate that you replace these words and characters with appropriate entries.
EXAMPLE TEXT	Keys on the keyboard, for example, function keys (such as F2) or the ENTER key

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SAP Engineering & Construction

[Engineer-to Order \(ETO\) of a Turbine \[Page 9\]](#)

[Constructing a Power Station \[Page 95\]](#)

Engineer-to Order (ETO) of a Turbine

Purpose

One of your company's main tasks is the production of high-quality and technically complex turbines, which you manufacture on behalf of power plant construction companies, and so on. You purchase some of the turbine components from suppliers, the rest you manufacture yourself. Each process, from component assembly, to plant acceptance and delivery to the customer, is extremely time-consuming. Delays may lead to severe contractual penalties, and therefore, should be avoided at all costs, or possible delays should be recognized as such long before they arise.

You manage the manufacture of turbines as project business. This allows you to plan and monitor dates, costs, and revenue on a project-basis. Because of your long years of experience in this area, you already have standard project structures, such as project plans, and networks, as well as standard production data, such as task lists, prices, duration, and so on. You can use these templates at the start of a new project, and tailor them to the individual needs of each project.

Process Flow

1. On the basis of an inquiry, you create an operational project. Because you are experienced in designing and manufacturing turbines, you can make reference to an existing standard work breakdown structure (WBS) and standard networks in the system. First, you check the feasibility of the project dates. So that you can quote a sales price, you perform sales pricing on the basis of the project planning data.

[Inquiry and Quotation Processing \[Page 18\]](#)

2. On acceptance you create a sales order and release the project. You plan revenue using a billing plan in the sales order. You control the different billing dates using project milestones. In accordance with the contractual negotiations with the customer, a down payment is made on conclusion of the contract.

[Order Entry Processing \[Page 38\]](#)

3. You procure one of the turbine components externally from a supplier, and run through purchase order handling for that part. You manufacture one of the components yourself. The decision on which components are to be externally procured, and which are to be manufactured in-house has already been made.

You place orders for long-lead items early to avoid delays to project progress. Your project controls the requirement for particular components in the manufacture of the turbine. As soon as all components are available, you assemble the turbine.

[Project Processing \[Page 52\]](#)

4. You deliver the finished product to your customer. Using confirmation, you create the customer acceptance and generate the final invoice.

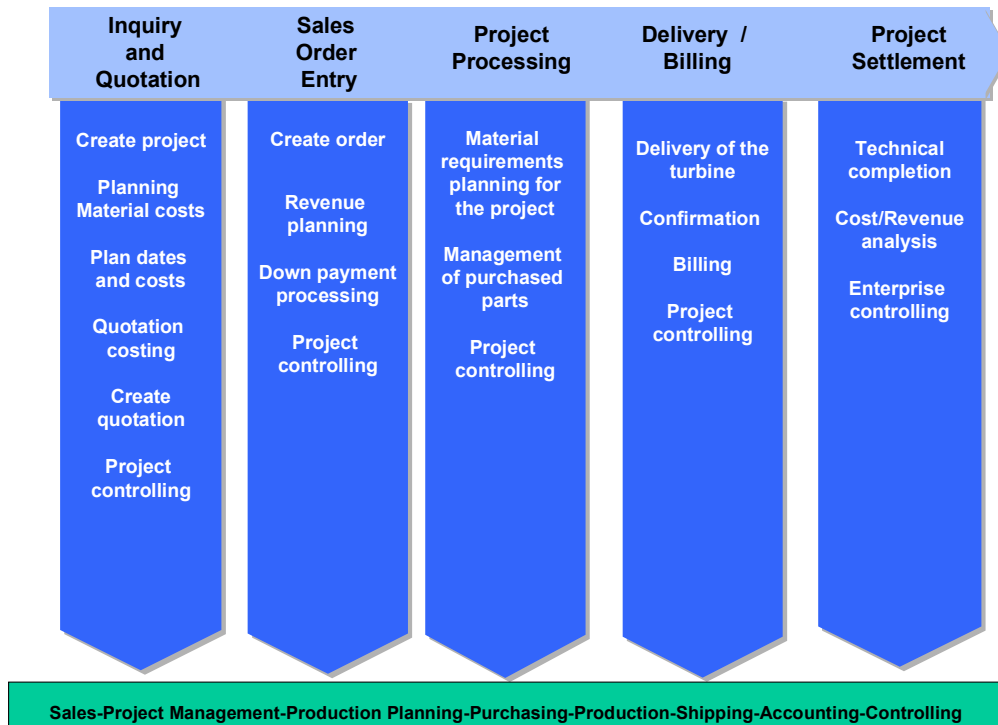
[Turbine Assembly \[Page 82\]](#)

5. During project processing, you constantly control project earned value using confirmations and the cost/revenue situation, so that you can take any corrective action that may be required. You run several period-end closings, however only one is run as an example. On completion of the project you create the final invoice and close the project technically.

Engineer-to Order (ETO) of a Turbine

[Period-End Closing with the Schedule Manager \[Page 87\]](#)

The following graphic illustrates the different project phases, the activities in these phases, and the enterprise areas involved in each phase.



The process described in the example contains the most important aspects in project processing, and the possibilities of implementing them in the SAP System.

The processes are **not** intended to be complete. For example, project settlement is not described, because the most important activities are already described in the period-end closing.

Data Used in this IDES Process

Data in SD - Sales

Field	Data	Description
Inquiry type	IN	RFQ
Order type	PS1	PS:Order
Sales organization	1000	Frankfurt, Germany
Distribution channel	10	Final customer sales
Division	00	Cross-divisional
Sold-to party	1600	TALPA GmbH, Hannover
DIP profile	13000000, Usage 11	Choose the Sales B tab page

Data in FI - Incoming Payments

Field	Data	Description
Type	DZ	Customer payment
Company code	1000	IDES AG
Currency/rate	UNI or DEM	DEM in client 800 only
Customer account	1600	TALPA GmbH
Spec. G/L indicator	A	Down payment
Bank account	113100	Receivables – Domestic customers

Data in PS – Basic Data

Field	Data	Description
Standard WBS	T-20000	Turbine
Standard network	T-20000	Turbine standard
Standard project definition	T-20000	Turbine standard
Operational project	T-100##	<own description>
Project profile	Turbine standard	--
Project definition operational project	T-100##	<own description>

Data Used in this IDES Process

Plan.board prf	Turbines	--
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Data in PS – Material (Bill of Material Transfer)

Field	Data	Description
Project definition	T-100##	<own description>
Profile	1300	Universal material BOM transfer
Material	T-20000	Turbine system
Plant	1300	Frankfurt
BOM usage	3	Universal

Data in PS – Controlling (Period-End Closing)

Field	Data	Description
Variant	GR##	<own description>
DB profile	130000000000	IDES: Structure with SD documents
Controlling area	1000	CO Europe
Task list	ZIDES	IDES: Period-end closing
Flow definition	Z-130	PS: Period-end closing (large)

Data in PS – Information System

Field	Data	Description
Data profile	130000000000	IDES: Structure with SD documents
Controlling area	1000	CO Europe
PS Info Profile	YIDES_130000	IDES: Dates and Costs (Planned/Actual)

Data in MM - Purchasing

Field	Data	Description
Purchasing organization	1000	IDES Germany
Vendor	1000	C.E.B. Berlin
Plant	1300	Frankfurt

Data Used in this IDES Process

WBS Element	T-100##	<own description>
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Data in MM - Goods Movements

Field	Data	Description
Movement type	101	Goods receipt for purchase order/order in/to warehouse
Plant	1300	Frankfurt
Storage location	0001	Storage location 0001

Data in PP - Shop Floor Control

Field	Data	Description
WBS Element	T-100##	<own description>
Material	T-20600	Complete bearing box
Production plant	1300	Frankfurt
Order type	pp01	Standard production order

Concept and Product Design

Concept and Product Design

Purpose

The turbine is fully developed and the required materials, BOMS, drawings, and so on are stored in the system as master data.

Project processing is also prepared, in that there are standard templates (WBS and networks) in the system.

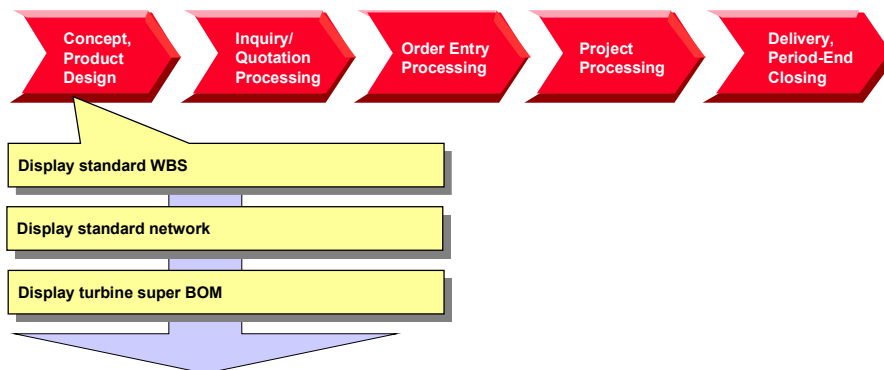
Independent from the operational business of manufacturing and project processing, the development, design and standardization departments constantly update the system data, so that the most up to date data is always available.

Process Flow



The concept and product development phase is not a part of the project processing for the turbine manufacture. You do not have to perform the steps described here, because they do not affect the process of turbine manufacture. However, they help you become acquainted with the data and project used in the turbine manufacture.

You check different templates. The following graphic reflects each activity.



Displaying a Standard WBS

Use

The manufacture and delivery of complex turbines is part of the day-to-day business of your company. You have reflected your experience in standard structures so that large projects can be processed quickly and in a standard way.



Procedure

1. Call up the transaction as follows:

Menu Path	<i>Logistics → Project System → Basic Data → Templates → Standard WBS → Display</i>
Transaction Code	CJ93

2. Enter the following data:

Field	Data
Std. project def.	T-20000

3. Choose .
4. To display a hierarchy graphic of the project, select .

Displaying a Standard Network

Displaying a Standard Network

Use

Standard networks are assigned to the standard project. When creating the operational project, the standard network is used as a template for the operational network that is created with the project. It contains internal and external processing, as well as primary costs, however it does not contain materials.

In the course of the project, materials are copied from the WBS BOM to the network and assigned to individual activities by using the BOM-PS interface. For the assignment, reference points to each activity have already been maintained in the standard network.

You can find further information in the SAP Library under

Logistics → Project System (PS) → Structures → Standard Structures → Standard Networks

Procedure

1. Call up the transaction as follows:


Menu Path	From the node <i>Templates</i> , choose <i>Standard network → Display</i>
Transaction Code	CN03

2. Enter the following data:

Field	Data
Standard network	T-20000

3. Choose .

You see an overview of the activities. The internal and external processing, and primary costs are maintained on different tab pages.

4. To view the reference points for the assignment of materials over the BOM-PS interface, select the *Total* tab page.
5. If you want to display the individual activities and their relationship to each other, choose .

Display the Turbine Product Structure

Usage

The product structure displays the link between the different objects from PDM, such as material, BOMs, and so on.

For more information on the *Product Structure Browser*, see the SAP Library under:

Cross-Application Components → Document Management → Product Structure Browser


Procedure

1. Call up the transaction as follows:

Menu Path	<i>Logistics → Central Functions → Engineering → Environment → Product Structure</i>
Transaction Code	CC04

2. On the *Material* tab page, enter the following data:

Field	Data
Material	T-20000

3. Choose .

The product structure display of the T-20000 turbine appears.

4. Expand the product structure.

The system displays the BOM structure of the turbine, and the components and assemblies below it.

Inquiry and Quotation Processing

Purpose

The aim of inquiry and quotation processing is to quickly hand over a binding quotation that is attractive for the customer and justifiable from a business point of view. An initial specification of the product is created in line with the customer's requirements in the process.

On receipt, the inquiry is checked for completeness, and any queries are raised to the customer. The inquiry is then checked for its commercial and technical feasibility, and the importance of the customer for the company is evaluated. Taking order probability into consideration and on the basis of the information gained from the checks and evaluations, the company decides whether to create a quotation.

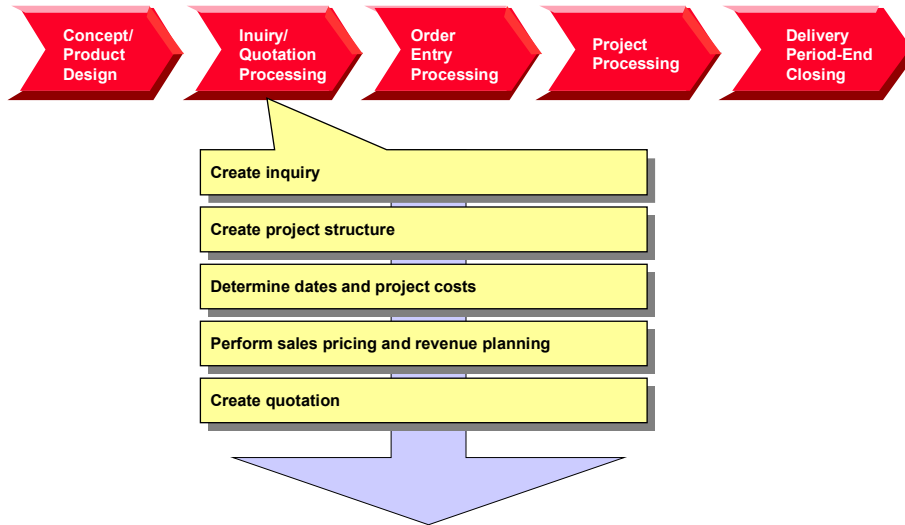
The next step is to process a technical solution. If required, the product can be configured with the help of existing variants and/or projects that have already been implemented. The technical solution is used in costing any manufacturer costs that might arise. Production and replenishment times are used to determine the delivery date. The quotation is completed by fixing the quotation price, which is determined on the basis of the price the company expects the customer will accept, or on estimated competitor prices. Legal terms and conditions are also part of the completed quotation. On completion of the quotation phase the quotation itself is created and sent to the customer. Quotation processing ends with either order placement or rejection of the quotation by the customer.

The scenario used here begins with a planning quotation. The quoted technical solution is based on estimated activity and function values, approximate measurements and weights, drawings, and brief descriptions of the main assemblies. The commercial contractual agreements indicate approximate delivery dates and general delivery terms. The quotation is created using a suggested retail price for the overall object, as well as assembly costs, and any services that might arise.

Process Flow

1. The process begins when you receive an inquiry for a turbine. Customer documents specifying the customer's requirements in more detail may accompany this inquiry. You manage all of these documents together.
2. You expect costs to arise prior to quotation creation because of the complexity of the product and the special customer requirements. Therefore, you create an inquiry project, so that you can account assign the costs for inquiry processing.
3. You perform initial planning of dates and costs on project basis.
4. On the basis of the planned costs, you determine the sales price and transfer it to the quotation. Finally, you print the quotation and send it to the customer.

The flow of inquiry and quotation processing as explained in this example is shown in the following graphic:



Result

On completion of inquiry and quotation processing, the customer receives a quotation that may have been revised several times over. In reality, the quotation process (quotation – rejection – recosting – new quotation) is repeated several times over until both the customer and the tenderer reach a satisfactory compromise. This cyclical process is not illustrated in this example for reasons of simplicity.

Creating the Inquiry

Creating the Inquiry

Use

Before you can perform sales pricing in the project system you have to create an inquiry.


Procedure

1. Call up the transaction as follows:

Menu Path	<i>Logistics → Sales and Distribution → Sales → Inquiry → Create</i>
Transaction Code	VA11

2. Enter the following data:


Field	Data
Inquiry type	IN (inquiry)
Sales organization	1000
Distribution channel	10
Division	00

3. Choose .

4. Enter the following data:

Field	Data
Sold-to party	1600
Valid from	<Today's date>
Valid to	<Today's date +1 month>
Req. deliv.date	<Today's date + 1.5 years>
Material	T-20000
Order quantity	1

5. Choose .

6. Choose  in the information window.

The inquiry number is displayed in the status bar.

7. Make a note of the inquiry number.

Creating the Project Structure

Usage

You create a project structure for the turbine in order to create the quotation. The structure of the turbine project comprises WBS elements and activities.

Since your company usually manages turbine manufacture in projects, a standard project structure already exists in the system. All you have to do is adapt this standard structure to suit the specific requirements of your current project. To do this, you copy the standard project into an operational project.

You use the *Project Builder* to create the project.

For more information on the *Product Builder*, see the SAP Library under:

Logistics → *Project System (PS)* → *Structures* → *Project Builder*


Prerequisites

Standard project T-20000 already exists in the system.


Procedure

1. Call up the transaction as follows:

Menu Path	<i>Logistics</i> → <i>Project System</i> → <i>Project</i> → <i>Project Builder</i>
Transaction Code	CJ20N

When you first call up the Project Builder, a dialog box appears containing the user-specific settings that you can select. To maintain the user-specific settings, choose .

In addition to the general settings, you can also define which project objects you would like to use as templates, for example standard templates.

2. In the *Structure Tree* screen area choose  → *Copy project*


The *Create Project* dialog box appears.

3. Enter the following data:

Field	Data
Project def.	T-10### ### equals any three figure number defined by you, for example 034.
Project profile	Turbine standard
Std proj. def.	T-20000

4. Choose .

You can see various objects in the structure tree on the left that have been copied from the standard project.


 Project definition


 WBS elements

Creating the Project Structure

 Activities

 Milestones

The activities are grouped together in two networks  with provisional numbers.

5. Increase the screen area of the structure tree so that the *Identification* column is visible.
6. In *Identification and view selection* in the work area, overwrite the current entry (Turbine standard) with the name *Turbine ###*.
7. Choose  , and Yes if any warning messages appear.

Determining Dates and Planned Costs

Purpose

To get a realistic idea of project dates and costs, you determine them on the basis of the planned activities.

Date planning

For a rough estimate you store basic dates in the WBS element. These dates represent the project deadlines. You determine the dates for the overall project using WBS scheduling. The system transfers the basic dates of the WBS elements to the basic dates for the activity scheduling. In the network, the scheduled dates (earliest start and end dates) of the individual activities are determined on the basis of the maintained duration and/or delivery dates and relationships.

Cost planning

In the SAP R/3 Project System, cost planning takes place using the WBS and the network. You will use activities to plan costs for your turbine project. When the activities are assigned, the costs of the activities are displayed for the WBS elements.

In the network, you initially plan dates, staffing resources, and operating resources. The system calculates the costs automatically on the basis of the existing price/quantity structure. If your project processing is complex (that is, if dates, resources, and costs are relevant), you use network activities for cost planning.

In integrated project management, the planned costs are determined mainly from the valuation records, prices for internal and external activities, and the required operating resources. In the network you plan the internal and external activities as well as the required operating resources against the activities. The system calculates the planned costs in consideration of the dates. The price/quantity structure stored in the system is the basis for the cost determination.

The time-based distribution of the planned costs is the result of the time-based distribution of the planned services and the operating resources for the activity.

Planning using activities and assignments to WBS elements has important advantages:

- It can be copied to other projects and stored in standard networks.
- It is easy to shift in time, if, for example, you need to postpone project work packages.
- You plan costs, dates and capacity requirements, as well as trigger procurement processes using activities (integration of planning).

You can find further information in the SAP Library under

Logistics → Project System (PS) → Costs

Process Flow

1. You schedule your project on the basis of the planned duration of activities and relationships.
2. Cost planning takes place using activities and the stored price/quantity structure. The material components are not planned yet, therefore you plan the material costs for the activities.
3. You evaluate the entire cost planning in the cost element report.

Determining Dates and Planned Costs

Scheduling the Project

Usage

To check whether you can deliver the turbines on the date agreed, you schedule your project according to that date.

Procedure

1. Call up the transaction as follows:

Menu Path	From the <i>Project</i> node, choose <i>Project Builder</i> .
Transaction Code	CJ20N

The system displays your project in the *Preview*, as set up for your user.

2. Double-click on your project.

The work area displays the detailed data for the project definition.

3. On the *Basic data* tab page, enter the following data:

Field	Data
Finish date	Today's date + 1.5 years

4. Choose .

The system expands the project structure.

5. Choose .

The project planning board appears. The project planning board offers you a graphical interface for the planning and monitoring of the dates of the WBS elements and activities.

6. Choose *Settings* → *Options*.

The *Change Standard Values in Project Planning Board* dialog box appears.

7. On the *Scheduling* tab page, enter the following data:

Field	Data
Schedul. method	WBS determines dates

8. Choose .

9. Choose .

The system selects all of the project objects.

10. Choose .


Starting with the final date for the project, the system determines the earliest and latest dates for the activities, and displays the schedule situation.

11. Choose .

12. Choose *Edit* → *Reconcile dates* → *Extrapolate dates*.

Scheduling the Project

The system transfers the maximum scheduled dates (earliest start and latest finish) for the activities to the WBS elements, and extrapolates the dates in the project structure.

13. Choose .



14. Remain in the Project Builder.

Recalculating Planned Costs



Usage

You have already planned costs for the created activities by using the quantity structure for your turbine project. This quantity structure was costed automatically when you saved the project. Use the project planning board to find the origin of the activity costs.

Procedure


1. Double-click on your project in the worklist.
2. Select your project, and choose .
3. Choose .

The project planning board appears. On the left, the system displays the structure and the selected data, on the right the scheduling data.

4. Choose , then .
5. Increase the left screen area until the field *Project costs* is displayed.

The system displays the activities costs aggregated for the activities (in other words, the highest WBS element shows the planned costs for the overall project).


Controlling costing

1. Select any activity.
2. Choose .

You now see the header data of the network.

3. Choose the *Control* tab page.

Costing variants are stored for the network costing in **Planned** (*CstgVariantPlan* PS02) and **Actual** (*CstVariantActl* PS03). The *Plan cost calc.* indicator defines that the costs are costed automatically when saved.

4. To return to the project planning board, choose .

Costs for internal processing activities

1. Double click on activity *Maßzeichnung/Berechnung/Entwurf* (1000).

Activity 1000 is an internal processing activity.




Look at the fields that have a direct affect on costing:

- Work center
- Work
- Activity type
- Control key
- DisKeyCapRqInt.
- Normal Duration

Recalculating Planned Costs

2. To call the costing report for the activity, choose *Costs planned/actual*.

The overhead rates and the planned costs from the internal activity are planned in the activity.

3. If necessary, choose .
4. Choose .
5. To display the project planning board, choose .

Costs for external processing activity

1. Double click on the *Konstruktion Regelventile* (1300) activity.

Activity 1300 is an external processing activity.

2. Choose the *Extnl* tab page.

Look at the fields that have a direct affect on costing:

- Info record
- Price
- Cost element
- Activity qty
- Control key

The *Res./Purc.req.* indicator defines that the system generates the purchase requisitions for the activity on release.

3. To call the costing report for the activity, choose *Costs planned/actual*.

The overhead rates and the planned costs from external procurement are planned in the activity.



4. Choose .
5. To display the project planning board, choose .

Costs for the general costs activity

1. Double click on the activity *Zusatzkosten* (0200).

This is a general costs activity. The planned costs are stored directly in the *Amount* field. On the tab page, look at the fields that have a direct affect on costing:

- Amount
- Distrib. Costs
- Normal Duration
- Control key

2. To display the project planning board, choose .
3. Choose .

Planning Material Costs

Use

To get as complete a view as possible of project costs at an early stage, you plan the material costs for components before they are assigned to activities.



The planned values are reduced after assigning the components. This avoids planning material costs twice.


In the meantime you have defined the project owner, to whom you assign all of the WBS elements through mass change.

Prerequisites

Your project T-10#### is open in the project builder.

Procedure

Assignment of material planning values to activities

1. Expand the *Turbine* → *Einkauf* node.
2. In the *Structure tree* area click on the activity  *Vorabbestellungen* (3000).



The activity number is in the last column (*Identification*).

3. In the work area, select the *Assignments* tab page.
4. Enter the following data:




Field	Data
Mat.planning	100.000

5. Maintain the planning values for the following activities at the same time:


Activity	Field	Data
Materialbeschaffung für Fertigung (3100)	Mat.planning	150.000
Materialbeschaffung für Anlagenteile (3200)	Mat.planning	250.000

6. Choose .

Assignment of a project owner using mass change


1. On the tool bar, choose .
2. Choose the *WBS elements* tab page.
3. Choose .
4. Select *Person responsible* from the list on the right, and choose .

Planning Material Costs


5. Choose .


6. Enter the following data:


Field	Data
New value	01

7. Choose .

The system assigns all WBS elements from your project to 01 Andreas Fischer.

8. Choose .

9. If a warning occurs, select .

10. Choose .

Evaluating Costs in the Cost Element Report

Usage

For project controlling, you evaluate the costs by cost element in the Project Information System.



Prerequisites

You update planned costs to your project.


Procedure

1. Call up the transaction as follows:


Menu Path	From the <i>Project System</i> node, choose <i>Information System</i> → <i>Financials</i> → <i>Execute Report</i> → <i>Cost Element Report</i> .
Transaction Code	GR55

2. Enter report group **z6P1** and choose .
3. If required, enter database profile *130000000000*, then choose .
4. Enter the following data:

Field	Data
Project	T-10###
Controlling area	1000
Plan version	0
From fiscal year	Current year
To fiscal year	Current year + 2
From period	1
To period	12
Additional selection criteria	Delete

5. Choose .

The aggregated costs of your project are displayed in the report.

6. To break down the planned costs according to each object, click on the different objects in the structure tree (wbs elements or activities).
7. Choose  until you reach the overview tree.
8. Choose Yes in the dialog box.

Sales Pricing, Revenue Planning, and Quotation Creation

Purpose

As a rule, you usually perform a one-off, customer-specific service in a customer project. This uniqueness means that you can rarely use standard prices to determine the sales price. You can determine a sales price on the basis of the planning data in the project and SD pricing.

The system compresses the planned costs in sales pricing into dynamic items by cost type. It then converts these into SD items by using material determination in the dynamic item processor profile (DIP profile). SD pricing is used to calculate the sales price.

You can find further information in the SAP Library under

Logistics → Project System (PS) → Revenues and Earnings

Prerequisites

You have already planned costs by cost element for your project.

Process Flow

1. You connect the project to the existing customer inquiry by account assigning the inquiry item to the highest WBS element (billing element) of your project T-10###.
2. To plan revenues for the project ahead of time, you create a billing plan for the billing element using sales pricing.
3. After you have checked your planning you generate a quotation from the sales pricing.

Account Assigning the Inquiry to the Project

Use

You account assign your customer's inquiry to the project you have already created to display the quotation costs in the project and to achieve the prerequisites for sales pricing. You store a Dynamic Item Processor Profile (DIP profile) for the sales pricing. In this profile, you define the way in which the system transfers planned costs to materials in the quotation.



Procedure

1. Call up the transaction as follows:

Menu Path	<i>Logistics → Sales and Distribution → Sales → Inquiry → Change</i>
Transaction Code	VA12

2. Enter the following data:

Field	Data
Inquiry	Your inquiry number

3. Choose .
4. Select item 10, and choose .
5. On the *Account assignment* tab page, enter the following data:

Field	Data
WBS Element	T-10###

6. On the *Sales B* tab page, enter the following data:

Field	Data
DIP profile	13000000

7. Choose .

Determining Sales Prices and Planning Revenues

Determining Sales Prices and Planning Revenues

Usage

You determine the planned sales price of the turbine using sales pricing. Sales pricing offers you two views: In the *Sales Price Basis* (internal view) the system displays all of generated project costs converted to dynamic items. You determine dynamically which costs are used for the sales price. On the other hand, the sales price view is an external view and contains the determined sales price on the basis of the actually selected costs.

To identify the planned revenues from the project in sufficient time, you create a billing plan for the billing element directly from sales pricing. In the billing plan you plan the dates on which you send down payment requests or invoices relevant to customers. The billing plan in the WBS element is used purely for planning purposes, and provides you with a realistic view of revenue.

You can find further information in the SAP Library under

Logistics → *Project System* → *Revenues and Earnings* → *Sales Pricing and Quotation Creation or Billing Plans in WBS Elements*

Procedure

1. Call up the transaction as follows:

Menu Path	From the <i>Project System</i> node, choose <i>Financials</i> → <i>Planning</i> → <i>Sales Pricing</i>
Transaction Code	DP81



2. Enter the following data:

Field	Data
Project definition	T-10###

3. Choose  *Sales price basis*.

The internal view appears with the project-planned costs that have been converted into dynamic items.

The table in the lower screen area serves to transfer individual costs to pricing, to change the transfer amount, to block costs, and to revalue and devalue in percent. By double clicking in the structure tree, you can transfer individual structure elements to the next level below in the table and perform the required activities.

4. Select the top line and choose .
5. Double click on the description of the WBS element  T-10###.



If you click on the symbol, the detail data appears.

6. To increase the transfer amount, enter the following for the WBS element T-10###:

Field	Data
Transfer amount	1.600.000

Determining Sales Prices and Planning Revenues


7. Select  and confirm  the warning in the status bar.

The transfer amount of all lower hierarchy levels is also increased in percent.

Increasing the sales price flat-rate by 10% transfer price surcharge

1. Choose  *Sales price*.

The external view with the customer quotation structure appears. The lower part of the screen contains a table (pricing procedure).


2. Select the top line in the structure tree and choose .

The system displays the items from the sales price basis sorted and grouped by SD items. Pricing is performed in SD pricing.

3. Double-click on the top line of the *Project Quotation* structure tree to call the quotation conditions.


The system copies the transfer amount maintained in the sales price basis to condition EK01 in the pricing procedure.

To define a universal surcharge of 10%, enter an additional header condition.

4. Choose .

5. Enter the following data:

Field	Data
CnTy	RA01
Rate	10 (%)


6. Choose .

Because of the additional header condition RA01, you have increased the sales-price flat-rate by 10%.

Creating a billing plan for the WBS element

1. Choose  *Billing Plan*.

The system recommends the sales price as the target value for the billing plan.

2. Choose .

The billing plan for the billing element appears.


3. Enter the following data:

Field	Data
Billing date	<Today's date + one year>
%	100
BillRule	1

4. Choose .

5. Choose .

Determining Sales Prices and Planning Revenues


6. Choose .

The Save dialog box appears.


7. In the dialog box, enter the following data:

Field	Data
SPc. short text	Sales price 01: T-10###

If you maintain several alternatives for sales pricing you require the short text for identification purposes.

8. Choose .

The PS billing plan is saved automatically when you save the sales pricing.

9. Choose . Do not exit sales pricing.

Generating the Quotation from the Sales Pricing

Usage

You have checked the sales pricing and now generate a SD quotation.



Prerequisites

You are in sales pricing.

Procedure

1. Enter the following data:

Field	Data
Project definition	T-10###

2. Choose .
3. Choose  *Sales Price*, and double click on *Project Quotation*.

The system displays the sales pricing previously created.

4. Choose  *Quotation*.


The *Create Quotation* dialog box appears.

5. Choose  *Yes*.

The system generates a SD quotation and transfers the items and sales prices from sales pricing.

6. Enter the following data:

Field	Data
Valid from	<Today's date>
Valid to	<Today's date + one month>

7. Choose .

Order Entry Processing

Purpose

Incoming orders and order entry processing are important for the value-added in the MTO process. On receipt of an order, a significant amount of money may already be due. At the same time a series of activities are triggered in the enterprise, which unlike during quotation creation are binding.

In the quotation phase, documents and data that are created can be included in the order, or are the order basis. On receipt of an order however, you have to specify and define in detail the inexact and/or rough details from the quotation. The main phases of quotation processing are repeated here.

The incoming order phase finishes externally when the order confirmation is sent to the customer. Internally, this phase is complete when the requirements are finally communicated to production and procurement or assembly.

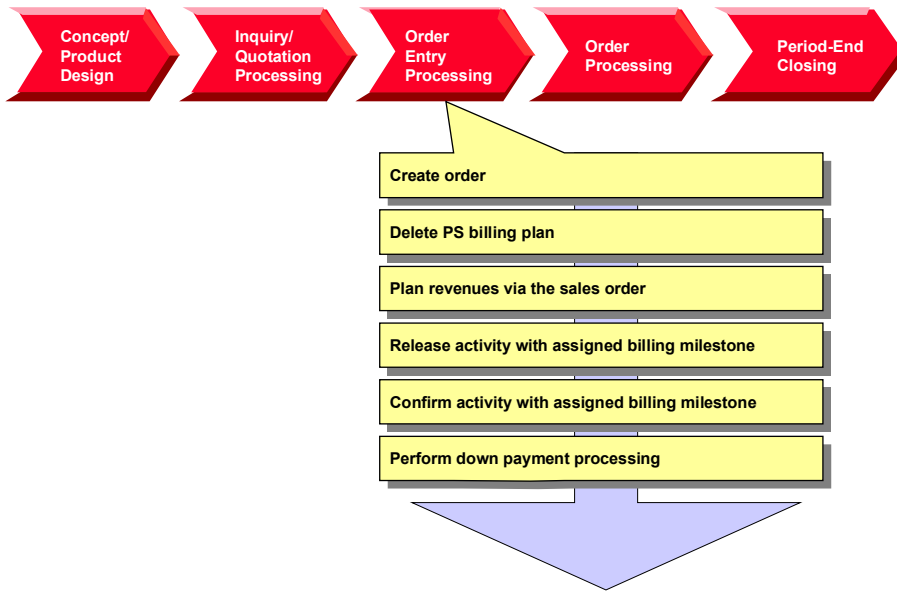
Process Flow

1. The customer has accepted your offer for the turbine project. Now you create a sales order in the system and assign it to the project.

When you create the sales order you can use the quotation as a reference. In this case, you receive different order items reflecting the services to be provided. If you create the order without reference, you can create a **single** item that describes the overall product.
2. During the contractual negotiations, you agreed on terms of payment with the customer. You store a billing plan in the sales order. You delete the billing plan for the WBS element to enable the billing dates to be transferred from the sales order to revenue planning for the project.
3. When the customer accepts the offer, you release your project and confirm the first activities. When you confirm the activities, the customer's down payment automatically becomes due through the milestone linkage. A down payment request to the customer is created.
4. You bill the down payment to the customer.
5. When the customer makes the down payment, you post the incoming payment.

The following graphic explains the steps you follow in this example:

Order Entry Processing



Creating the Order


Creating the Order

1. Call up the transaction as follows:

Menu Path	<i>Logistics → Sales and Distribution → Sales → Order → Create</i>
Transaction Code	VA01



2. Enter the following data:


Field	Data
Order type	PS1 (PS order)
Sales organization	1000
Distribution channel	10
Division	00

3. Choose .

4. Enter the following data:

Field	Data
Sold-to party	1600
Purch. order no.	Any number
Req. deliv.date	Today's date + 1.5 years
Material	T-20000
Order quantity	1

5. Choose . In the dialog box, choose .

6. Select the sales items and choose .

7. Choose the *Account assignment* tab page.

8. Enter the following data:

Field	Data
WBS Element	T-10###

The request for quotation is assigned to the billing element for the turbine project.


9. Choose the *Conditions* tab page.

10. Overwrite the amount for condition PR00 as follows:

Field	Data
CnTy	PR00
Amount	1.760.000

You agreed this price with the customer on the basis of the quotation.

11. Choose .

12. Make a note of the order number.
13. Choose  to exit order processing.
In the dialog box, choose *No*.

Evaluating Revenues in the Structure Overview

Evaluating Revenues in the Structure Overview


Use

In the structure overview for the project information system you evaluate the project data according to the structure.



Procedure


1. Call up the transaction as follows:





Menu Path	From the <i>Project System</i> node, choose <i>Information System</i> → <i>Structures</i> → <i>Structure Overview</i>
Transaction Code	CN41

2. If required, enter PS information profile **YIDES_130000**, then choose .
3. Enter the following data:

Field	Data
Project	T-10####
Additional selection criteria	Delete

4. Choose .
5. Select project definition T-10####, and choose .

In the *PrRevPI000* column, the system displays the planned revenues for the WBS element.
6. To transfer additional functions to the standard toolbar, choose  *Choose functions*.

The system shows a list of possible functions (left hand column). You can select functions from the left-hand column, and transfer them to the right-hand column using Drag & Drop.
7. Use Drag & Drop to select the following functions:
 -  *Set Filter: Object names*
 -  *Verify: Indiv. confirmation, collective confirmation*
 -  *Object: Create, change, display*
8. Choose  *Copy*.

These additional symbols are transferred to the standard toolbar.
9. Remain in the report.

Deleting the Billing Plan for the WBS Element

Usage





Within sales pricing you have planned the revenues in a billing plan for WBS element T-10###. Because you have now received a sales order and you want to plan the billing data, you delete the billing plan for the WBS element.

Prerequisites

You have called up the structure overview for your project in the project information system.

[Evaluating Revenues in the Structure Overview \[Page 42\]](#)

Procedure

1. Select the row for the  Turbines T-10### WBS element in the structure.
2. Use the right mouse button to choose *Object* → *Change*.
The *Change WBS Element: Basic Data* screen appears.
3. Choose *Details* → *Billing plan*.
This takes you to the billing plan that you maintained in sales pricing.
4. Choose  *Billing Plan*.
5. Choose Yes from the dialog box.
6. Choose .
7. Choose .
No planned revenues are displayed on the project.
8. Remain in the report.

Result

You have deleted the billing plan and thus the planned revenues on the billing element.

Planning Revenues Using the Sales Order

Usage

You plan the expected revenues using a billing plan for the sales order. This refers to the billing milestones in the project.

Prerequisites

You have called up the structure overview for your project in the project information system.




[Evaluating Revenues in the Structure Overview \[Page 42\]](#)

Procedure

1. Select the row for your sales document item  *Turbinenanlage* in the structure, click the right mouse button and choose *Object* → *Change*.




This is the first sales document item in the structure below the top WBS element (T-10### with ID #### 000010).


2. Select the item number and choose .
3. Choose the *Billing plan* tab page.
The *Selection Criteria* dialog box appears.
4. Select WBS element T-10###, and choose .
5. Select all the milestones with  and choose *Copy*.


The billing milestones for the projects are transferred as dates into the billing plan.

Your billing plan contains three dates:

- The first of these is a down payment date (billing rule 4). The billing document for this date triggers a down payment request to the customer. This date is unlocked when you confirm the assigned activity (0100).
- Dates two and three are for the partial and final invoices. After you have confirmed the plant assembly and the trial run, the customer is invoiced for 40% of the net value. The remainder is invoiced after confirmation of site assembly.

6. Choose .
- The item overview for the sales order appears.

7. Choose .
- The structure overview for the project information system appears.

8. Choose .
- The project displays the planned revenues from the billing plan for the sales order.

9. Choose  to exit the report.

Result

You have created a billing plan for the sales order by referring to existing billing milestones on the turbine project structure. The project displays the planned revenues.



In Customizing for the Project System, the planner profile specifies that the planned revenues from the sales order are updated on the project using cost element 800000.

Releasing the Overall Project

Releasing the Overall Project

Usage


You release the overall project when the customer places the order. Once you have released the project, you can start working on it. You can only start posting actual costs and actual revenues to the individual WBS elements once the project has been released.

Procedure


1. Call up the transaction as follows:

Menu Path	From the <i>Project</i> node, choose <i>Project Builder</i> .
Transaction Code	CJ20N

The Project Builder appears. The system displays your project in the tree structure as a preview.

2. Double-click on project T-10####.
3. Select the project definition  *Turbine* ####.




Note the system status (CRTD). This is displayed in the *Identification and View Selection* screen area, on the *Basic data* tab page. For more information on the system status, choose . The *Business processes* tab page shows the activities that are allowed or not allowed in the current system status for the object.

For example, the *Incoming invoice* activity is not allowed for WBS elements, nor is *Confirm activity* allowed for activities.

4. Choose Edit → *Status* → Release.

The value in the *System status* field changes from CRTD to REL. Releasing the project definition releases all of its lower-level objects.

5. Choose .
6. Remain on this screen.

Confirming a Single Activity

Usage

The project has been released, and you start working on it. You record the service provided and the project progress by confirming each activity. You start by confirming activity 0100 *Internal sales documents*. A billing milestone is assigned to this activity. When you confirm the activity, the down payment date in the sales order is released, and a down payment of 20% of the total invoice amount becomes due.



Prerequisites

You have already released the activity.

Procedure

1. Call up the transaction as follows:

Menu Path	From the <i>Project</i> node, choose <i>Project Builder</i> .
Transaction Code	CJ20N

2. Double-click on project T-10### in the preview.
3. Expand the node  *Turbine* →  *Turbine*.
4. Click on activity 100 *Interne Bestellunterlagen (Verkauf)*.

The activity is highlighted and the system displays the details in the work area.

5. Choose Edit → Activity → *Confirm*

The confirmation data for the activity appears. Accept the defaulted plan data for the confirmation.




In Customizing for the Project System, the *Final conf.* indicator is set in the confirmation parameter for the network type.

6. Choose .

The Project Builder screen appears. The system sets the extra status *CNF MCNF REL*.



For more information on the system status, choose .

7. Choose  and  if any messages appear.

Down Payment Processing

Down Payment Processing

Purpose

In the turbine project, you perform milestone billing for the sales order. Single billing milestones are maintained in the project. When these milestones are confirmed, the down payment date or billing document date is unlocked in the sales order.

Project Cash Management is activated in company code 1000. Payments are updated on the project. You evaluate down payment requests, down payments, and payments in the *Payments* information system.

For more information on processing down payments, see the SAP Library under:

Logistics → Sales & Distribution → Billing → Down Payments for Sales Orders.

For more information on Project Cash Management, see the SAP Library under:

Logistics → Project System → Payments

Prerequisites

Project Cash Management is activated in the company code.

A billing plan with a down payment date is maintained for the sales order.

The down payment date for the billing plan is linked to activity 0100 by a milestone.

You have confirmed activity 0100 *Internal sales documents*.

To evaluate the payment data, call up another session in the report (from now on: Session two).


Process Flow

1. The billing run selects all the unlocked dates from the sales order. The system creates a down payment request for the down payment date.
2. When you receive the payment, you enter the down payment in Accounts Receivable Accounting for the down payment request.

Calling Up the Payment Report

Usage


You evaluate payment data in the project information system.

You repeatedly check the payment data on the project during the process, therefore call up the payment report in a separate session (from now on: Session two *Payment report*). You do this by choosing . To evaluate the current data, you need to exit the report and rerun it.

Procedure

1. Call up the transaction as follows:

Menu Path	<i>Logistics → Project System → Information System → Financials → Payments → Receipts</i>
Transaction Code	S_ALR_87013575

2. If required, enter 130000000000, for the database profile then choose .

3. Enter the following data:

Field name	Value
Project	T-10###
Additional selection criteria	Delete
Plan version	0

4. Choose .

The payment data overview for the project appears. Under *Receipts*, for example, the *Customer fin. budget* row displays revenue plan data from the billing plan for the sales order.

5. To continue processing, switch to another session.

Billing the Down Payment

Billing the Down Payment

Use

In the sales order, the down payment date in the billing plan is unlocked when activity 0100 *Internal sales documents* is confirmed. During the billing document run, the system selects this date and creates a down payment request.

Prerequisites

The down payment date must be unlocked in the sales order.

The billing element (the WBS element to which the revenues are posted) must be released. Otherwise, the system creates the down payment request without a corresponding accounting document. The payment data is not updated to the project.

Procedure


1. Call up the transaction as follows:

Menu Path	<i>Logistics → Sales → Billing → Billing Document → Create</i>
Transaction Code	VF01

2. Enter the following data:

Field	Data
Document	<Your sales order number>



You can search for the order number by entering WBS element T-10### under *Search criteria* and then choosing  *Search*.

Normally a billing document for many sales documents is executed using the *Process billing due list* mass transaction

3. Choose .

The system selects only one item as a down payment request.

4. Choose .

Result

The down payment request has been created, and the data on the project has been updated. To evaluate the data, switch to session two (*Payment report*). To evaluate the current data, you need to exit the report and rerun it.

The system displays the down payment request in the *Customer down payt. req. row*.

Posting the Down Payment

Usage

The customer has made the down payment, and you post the down payment receipt.

Procedure

1. Call up the transaction as follows:

Menu Path	<i>Accounting → Financial Accounting → Accounts Receivable → Document Entry → Down Payment → Down Payment</i>
Transaction Code	F-29

2. Enter the following data:



Field	Data
Document date	Today's date
Type	DZ
Company code	1000
Posting date	Today's date
Currency/rate	EUR
Customer account	1600
Special G/L ind	A
Bank account	113100
Amount	408.320

3. Choose *Requests*.

The system selects the corresponding down payment request.

4. Select the down payment request and choose *Create down payments*.

The document overview appears.

5. Choose  and  if any warning messages appear.

Result

In FI and accounting, the down payment document is posted and the data on the project is updated.

To evaluate the data, switch to session two (*Payment report*). To evaluate the current data, you need to exit the report and rerun it.

The system displays the down payment in the *Cust. down payments* row. The down payment request is reduced to zero with the down payment. The net amounts are displayed on the project.

Project Processing

Project Processing

Purpose

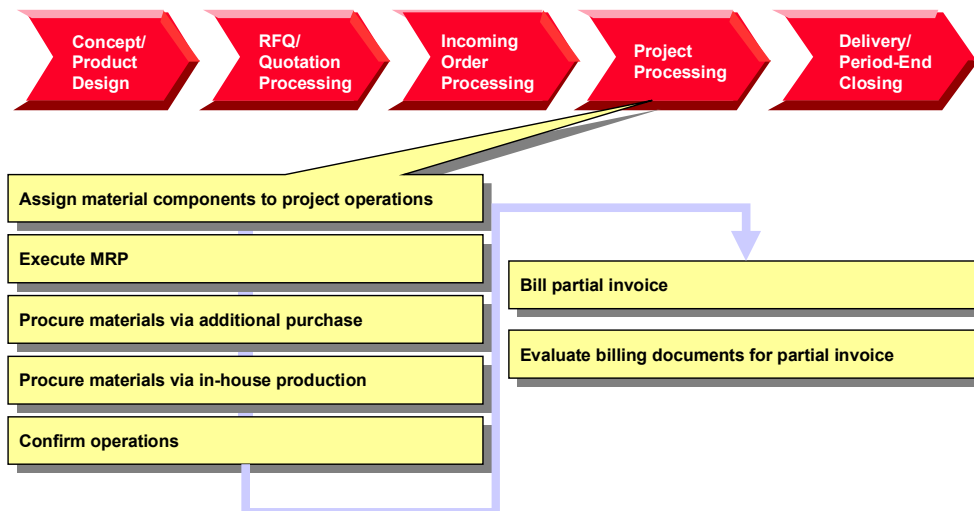
Once you have received your customer's down payment, you begin processing the project. If the construction department has released the bill of materials (BOM), you assign the components on the BOM for the turbine to the network activities of the project.

You explode the turbine assembly BOMs using material requirements planning (MRP). You order some of the turbine components from a vendor, and produce the rest in-house.

You confirm each activity, and once a certain milestone has been reached you bill a partial invoice.

Process Flow

The following shows each step in order processing:



Assigning Material Components to the Project Activities

Use

For your turbine project, the construction department has created project bills of material (BOM) and material masters using CAD systems. To plan material costs in detail and to trigger component procurement, you assign the components to the activities for your project, using the *BOM-PS Interface*.



You can either handle materials in the network or you can assign them dynamically using the BOM PS interface. The latter has the advantage that you can process the project and the BOM separately. If, due to order-specific adjustments, for example, the engineering/design department needs to update the BOM, you can copy these changes to your project by using BOM transfer functionality.

For more information on BOM transfer, see the SAP Library under:

Logistics → Project System → Material → BOM Transfer

Prerequisites

The system contains a BOM for material T-20000.

Identical reference points are maintained in the BOM and for the network activities.

Procedure

1. Call up the transaction as follows:

Menu Path	From the <i>Project System</i> node, choose <i>Material → Planning → BOM Transfer</i>
Transaction Code	CN33

2. Enter the following data:

Field	Data
Project definition	T-10###
Profile	1300
Material	T-20000
Plant	1300
BOM usage	3

3. Choose .

The results overview displays the components in the multilevel BOM that are assigned to your project activities because they have the same reference points. The components are assigned when you save your data.

4. Choose .

Assigning Material Components to the Project Activities**Result**


You have assigned material components to different activities in your turbine project. The system automatically creates reservations for the material components.

Executing Material Requirements Planning

Use

You use MRP planning for the turbine project, to schedule procurement tasks for the material requirements. The system creates planned orders for materials produced in-house, and purchase requisitions for externally procured components.



The procurement type in the material master controls the decision as to whether materials are to be produced in-house, or externally procured. You can check the procurement type for each material component in the Project Builder as follows:
In the structure area, choose a material component  and switch to the *Identification and View Selection* screen area to the *Procurement Parameters* tab page. In the *Material Master Data*, the *Procurement* field displays the procurement type specified for this material.

Until the *Purchasing* phase of the project, you only plan the independent requirements for the turbine components via the material components for the activity.

A bill of materials (BOM) and a routing is created for the bearing box. During a project-related MRP run, planned orders are created for the assembly purchase. The T-20600 assembly BOM is exploded in the planning run, and dependent requirements for the components are created.

Procedure

1. Call up the transaction as follows:

Menu Path	From the <i>Project System</i> node, choose <i>Material</i> → <i>Planning</i> → <i>MRP</i> → <i>Project</i>
Transaction Code	MD51

2. Enter the following data:

Field	Data
Project def.	T-10###
Create purch.req.	1
Also plan unchanged components	Select
Display material list	Select

Via the parameters in the *Create Purchase Order* field, you have specified that the system creates a purchase order for the externally procured materials.

3. Choose .

The system asks you to check the input parameters.

4. Choose .

The system plans the material requirements and displays statistics. Purchase requisitions were created for the externally procured materials, and planned orders were created for the in-house materials.

Processing Purchasing, Example: Material Purchasing

Processing Purchasing, Example: Material Purchasing

Purpose

Material components required for processing the project are purchased from vendors. You take on the role of the purchasing department and also execute the goods receipt for the purchase order.

For the sake of simplicity, it is assumed that all materials to be externally procured are obtained from one vendor. This is not advertised in the purchasing department.

The materials are recorded in the valuated project stock. When you receive the goods, you post the materials to the project stock. These materials are only withdrawn when required for the reservation for the network activities. You can check the effects of the different activities in the cost element report and the stock/requirements list.



Process Flow

1. For the components that are to be externally procured for the turbine, you assign the purchase requisitions to a vendor.
2. In Purchasing, you create a purchase order.
3. You post the goods receipt for the ordered components to the project stock.
4. You post the goods issue for the reservation of the components using the network of your turbine project.

Checking the Stock/Requirements List

Usage

The materials are recorded in the valuated project stock. You check each stock situation in the stock/requirements list, for example, for material T-20100.

As you repeatedly check the stock situation during the process, call up the stock/requirements list in a separate session (from now on: Session three *Stock/Requirements*). You do this by choosing . To evaluate the current data, you can use  to update the report at any time.


Procedure

1. Call up the transaction as follows:


Menu Path	<i>Logistics → Project System → Information System → Material → Stock/Requirements</i>
Transaction Code	MD04

2. Enter the following data:

Field	Data
Material	T-20100
Plant	1300

3. Choose .

The stock/requirements list appears.

4. For more information on an MRP element, choose .

Assigning a Purchase Requisition to a Vendor

Assigning a Purchase Requisition to a Vendor

Usage

For the sake of simplicity, you order all your materials from the same vendor. You use existing purchasing info records to assign the purchase orders to the vendor.



Prerequisites

A purchase requisition has been created for external procured components.


Procedure

1. Call up the transaction as follows:


Menu Path	From the <i>Project System</i> node, choose <i>Information System</i> → <i>Material</i> → <i>Purchase Requisitions</i> → <i>For Project</i>
Transaction Code	ME5J


2. If required, enter database profile 130000000000, then choose .
3. If required, enter controlling area 1000, then choose .
4. Enter the following data:

Field	Data
Project	T-10###
Scope of list	A
Plant	1300

5. Choose .

The top of the list displays the purchase requisition for the externally processed activity (*Construction of control valves*).
6. Choose *Edit* → *Select* → *Select all* followed by *Assign Automatically*.

The *Source of Supply Overview* dialog box appears.
7. Place your cursor on info record 5500000093, then choose .

The system assigns vendor 1000 with info record 5500000093 to all purchase requisitions.
8. Choose .

The purchase requisitions are changed accordingly.

Making a Purchase Order

Use

In purchasing, you create a purchase order for the vendor, by selecting the assigned purchase requisitions.

Procedure

1. Call up the transaction as follows:

Menu Path	From the <i>Materials Management</i> node, choose <i>Purchasing</i> → <i>Purchase Order</i> → <i>Create</i> → <i>Via PReq Assignment List</i>
Transaction Code	ME58

2. Enter the following data:


Field	Data
Purchasing organization	1000
Vendor	1000
Plant	1300
WBS Element	T-10####

3. Choose .

The system selects the assignment list for vendor 1000.


4. Select the line *1000 NB 1000* and choose *Process assignment*.

The *Create Purchase Order* screen appears. In the standard, the middle part of the screen shows explanatory documentation.

5. To close the documentation, choose .

The left part of the screen now shows a document overview. If it does not, choose *Document Overview On*. Adapt the screen area as necessary.

On the right-hand side of the screen, you see the work area for the activity.

6. Select your purchase requisitions in the document overview, then choose .



If you want to select more than one object at the same time, keep the control key pressed whilst you make your selection.

The system transfers the items from the purchase requisition to the purchase order.


7. Choose .

The system confirms the posting and displays a purchase order number. Make a note of this number.

Making a Purchase Order

Result

You have created a purchase order. The purchase order (BS-EIN) is now displayed as a receipt element in the stock/requirements list.

Switch to session three *Stock/Requirements* or call up the current [Stock/Requirements List \[Page 57\]](#) again. To evaluate the current data, choose .

The purchase order causes a purchase order commitment on the project. As the purchase order items are assigned to WBS element T-10###, the commitment is also displayed for this WBS element only.

[Evaluating Commitments in the Cost Element Report \[Page 61\]](#)

Evaluating Commitments in the Cost Element Report

Usage



You switch to a different session and call up the cost element report.

Procedure

Calling up the cost element report

1. Call up the transaction as follows:

Menu Path	<i>Logistics → Project System → Information System → Controlling → Execute Report → Cost Element Report</i>
Transaction Code	GR55

2. Enter report group *Z6P1* and choose .
3. If required, enter database profile *130000000000*, then choose .
4. Enter the following data:



Field	Data
Project	T-10###
Controlling area	1000
Plan version	0
From fiscal year	Current year
To fiscal year	Current year + 2
From period	1
To period	12
Additional selection criteria	Delete

5. Choose .


In the *Unfinished Products* row, the system displays a purchase order commitment for WBS element T-10###.

To check this, select another element in the structure display other than the top WBS element. The system does not display any commitment values.

Evaluating costs in detail

1. To call up the line item report, select the value in the *Commitments* column, and choose .
The line item report displays each purchase order item separately.
2. To display the document, select a row and choose  *Document*.
The purchase requisition document appears.
3. Make a note of the number for the purchase requisition document.

Evaluating Commitments in the Cost Element Report

4. Choose , until the *Cost Element Report* appears.
5. Change session.

Posting the Goods Receipt for the Purchase Order

Usage

The ordered materials are delivered and you enter the goods receipt.

Procedure

1. Call up the transaction as follows:

Menu Path	From the <i>Purchase order</i> node, choose <i>Follow-on functions</i> → <i>Goods receipt</i> .
Transaction Code	MIGO

2. Enter the following data:

Field	Data
Purch.order	Your purchase order number
Document date	Today's date
Posting date	Today's date

3. Choose .

The system transfers the purchase order data to the item overview of the goods receipt document.

4. In the *Item Overview* section, enter the following data for each item:

Field	Data	Description
Storage location	0001	Material storage

5. Set the *OK* indicator for your items in the *Item Overview* section.




If the *OK* indicator is not active in the item overview, close the item detail area or set the *Item OK* in the lower area of the item detail.

6. Choose *Post*.
7. Note the goods receipt document number.

Result

The material is posted to the project stock during goods receipt. The following applies for the current stock/requirements list:

- The material is available in the project stock
- A receipt is not expected
- The reservation via the activity is not changed

Switch to session three *Stock/Requirements* or call up the current [Stock/Requirements List \[Page 57\]](#) again. To evaluate the current data, choose .

Posting the Goods Receipt for the Purchase Order

The delivered materials are posted to the project stock. As the goods receipt is assigned to WBS element T-10###, the stock is also displayed for this WBS element only.




[Evaluating Goods Receipt in the Cost Element Report \[Page 65\]](#)

Evaluating the Goods Receipt in the Cost Element Report

1. Switch to session two or call up the cost element report.

[Evaluating Costs in the Cost Element Report \[Page 31\]](#)

In the *Unfinished Products* row, the system displays a stock value for WBS element T-10###. The commitment is reduced to zero.

2. To call up the line item report, select the value in the *Stock* column, and choose .
3. To display the document, select a row and choose  *Document*.
The material document appears.
4. Choose , until the *Cost Element Report* appears.
5. Change session.

Network Assembly

Network Assembly

Usage

The purchased components were posted to the project stock. Reservations were automatically created for the components when the bill of materials (BOM) was assigned to the activity. You now require the components for the assembly. When you withdraw the components from the project stock, goods are automatically withdrawn for the reservation.

Procedure

1. Call up the transaction as follows:


Menu Path	From the <i>Materials Management</i> node, choose <i>Inventory Management</i> → <i>Goods Movement</i> → <i>Goods Issue</i>
Transaction Code	MB1A

2. Enter the following data:

Field	Data
Plant	1300
Storage location	0001

3. Choose *To Reservation*.
4. Enter the following data in the dialog box:

Field	Data
Network	First network for your project T-10## (Search using F4 Help for the <i>Network</i> field.)

5. Choose .
6. Select all the components except components P-100 and T-20600.


These components are produced in-house.

7. Choose *Copy*.
An overview of the collected components appears.

8. Choose .

Result

The goods issue is posted. This leads to a credit of WBS element T-10### and of the activity. The project stock is reduced and the reservation is reduced to zero by the activity.

Switch to session three *Stock/Requirements* or call up the current [Stock/Requirements List \[Page 57\]](#) again. To evaluate the current data, choose .

The components are taken from the project stock via the goods issue for the reservation. On the network activity, the actual costs are posted using consumption cost element 890000. The stock

value of the WBS element under cost element 790000 *Unfinished Products* is reduced accordingly.

[Evaluating Goods Issue in the Cost Element Report \[Page 68\]](#)




Evaluating the Goods Issue in the Cost Element Report

Evaluating the Goods Issue in the Cost Element Report

1. Go to session 2 *Cost Report*.
2. To evaluate the current data, call the cost element report again.

[Evaluating Costs in the Cost Element Report \[Page 31\]](#)

The consumption causes actual costs on activities 3000, 3100, and 3200 under cost element 890000 (*consumption of Semifinished products*). The stock value for WBS element T-10### is reduced accordingly.

3. To display the actual costs separately for each activity, select activities 3000, 3100 and 3200 one after the other in the structure display.
4. To call up the line item report, select the value in the *Actual* column, and choose .
5. To display the material document, select a row and choose  *Document*.
There is only one material document as the goods issue took place for all items simultaneously.
6. Choose , until the *Cost Element Report* appears.

In-House Production of a Turbine Component

Purpose

The T-20600 assembly is produced in-house. Production begins with purchasing the components. Later in the process a production order is created and confirmed. The assembly is then delivered to the project stock where it is taken for use in the final assembly of the turbine via the network.

Process Flow

1. A planned order was already created via the MRP run for the T-20600 component (bearing boxes). You now convert this to a production order.
2. You post the goods issue for the *bearing box* components and then assemble the bearing box. You have already purchased the components and posted them to the project stock.
3. You post the goods receipt for the completed bearing box to the project stock.
4. You use the activity to post the goods issue for the reservation for the date that the components are required.

Creating Production Orders

Creating Production Orders

Usage

You produce assembly T-20600 (bearing boxes). You have already purchased the components for this assembly (T-20610, T-20620 and T-20630) via the collective purchase order for the project.

Via the order report, you select the plan order created by material requirements planning.


Procedure

1. Call up the transaction as follows:


Menu Path	From the <i>Information System</i> node, choose <i>Material</i> → <i>Order Report</i>
Transaction Code	MD4C

2. Enter the following data:

Field	Data
WBS Element	Select
WBS <i>element</i> field	T-10###
With hierarchy	Select

3. Choose .

The system displays the existing reservations for the project.

4. Select Material T-20600, then choose .

The order report appears with an overview of the reservation and the planned order for the material.

5. Choose  *All*.

The system displays the secondary requirements for the T-20600 component and the current procurement situation.

6. Place the cursor on the row for the planned order and choose *Detail* → *Plnd Ord.* → *Prod. Ord.*

7. To display the component overview, choose .

8. Choose .

You have already released the production order.

9. Choose .

The order report appears. In the status row, the system displays the number of the production order.

10. Make a note of the order number.

Posting Components Goods Issue for Production Order

Use

You need three components to produce bearing box T-20600. You post this from the project stock for the production order

Procedure

1. Call up the transaction as follows:

Menu Path	From the <i>Production</i> node, choose <i>Shop Floor Control</i> → <i>Goods Movement</i> → <i>Goods Issue</i> .
Transaction Code	MB1A

2. Enter the following data:

Field	Data
Plant	1300
Storage location	0001

3. Choose *To Order...*

4. Enter the following data:

Field	Data
Order	<Your production order number>


5. Choose .

6. Choose .

The goods issue for the three components required to produce T-20600 is posted.

Result

The goods issue is posted. This leads to the WBS element T-10## being credited. The project stock is now reduced to zero.

Switch to session three *Stock/Requirements* or call up the current [Stock/Requirements List \[Page 57\]](#) again. To evaluate the current data, choose .

The components are taken from the project stock via the goods issue for the order. At the same time, the production order is debited using a consumption cost element, and the stock value of the WBS element is reduced accordingly using cost element 79000 *Unfinished Products*. As the production order is assigned to the WBS element, the actual costs from the production order are displayed on the WBS element.

Go to session 2 *Cost Report*. To evaluate the current data, call the [Cost Element Report \[Page 31\]](#) again.

Confirming the Production Order

Confirming the Production Order

Use

The system automatically posts the following when an order is finally confirmed:

- The services rendered in the individual activities
- The goods receipt in the project stock for the produced assembly


Procedure

1. Call up the transaction as follows:

Menu Path	From the <i>Shop Floor Control</i> node, choose <i>Confirmation</i> → <i>Enter</i> → <i>To Order</i>
Transaction Code	CO15


2. Enter the following data:

Field	Data
Order	The number of your production order

3. Choose .

4. Enter the following data:

Field	Data
Final conf.	Select
Conf. Yield	2
Un.	PC

5. Choose .

Posting Goods Receipt for Material Produced In-House

Use

Production of the T-20600 component for the turbine is complete. In the following, you post the goods receipt for the production order to project stock.



Procedure

1. Call up the transaction as follows:

Menu Path	From the <i>Shop Floor Control</i> node, choose <i>Goods Movement</i> → <i>Goods Receipt</i>
Transaction Code	MB31

2. Enter the following data:

Field	Data
Movement type	101
Order	<Number of your production order>
Plant	1300
Storage location	0001


3. Choose .
4. Choose .

The goods receipt of the completed component (T-20600) is posted to the warehouse.

Result

The component produced is posted to the project stock during goods receipt. The following applies for the current stock/requirements list:

- The material is available in the project stock
- A receipt is not expected
- The reservation via the activity is not changed

Switch to session three *Stock/Requirements* or call up the current [Stock/Requirements List \[Page 57\]](#) again. To evaluate the current data, choose .

The component produced is posted to the project stock. The stock is displayed only for WBS element T-10##. The production order is credited accordingly.

Posting Goods Issue for Reservation of the Network

Posting Goods Issue for Reservation of the Network

Usage

The component produced was posted automatically to the project stock when the production order was finally confirmed. When the bill of materials (BOM) was assigned, a corresponding reservation for the activity was created. If the component is required, goods are withdrawn for the reservation.

Procedure

1. Call up the transaction as follows:

Menu Path	<i>Logistics → Materials Management → Inventory Management → Goods Movement → Goods Issue</i>
Transaction Code	MB1A



2. Enter the following data:

Field	Data
Movement type	101
Plant	1300
Storage location	0001

3. Choose *To Reservation*.

4. Enter the following data:

Field	Data
Network	First network for your project T-10## (Search using F4 Help for the <i>Network</i> field)


5. Choose .
6. Select component T-20600.
7. Choose *Copy*.
8. Choose .

The component is posted to the goods issue document.

9. Choose .


Result

The goods issue is posted. The project stock is reduced and the reservation is reduced to zero by the activity.

Switch to session three *Stock/Requirements* or call up the current [Stock/Requirements List \[Page 57\]](#) again. To evaluate the current data, choose .

Posting Goods Issue for Reservation of the Network

The components are taken from the project stock via the goods issue for the reservation. This leads to a credit of WBS element T-10### and of the activity. On network activity 4100 "Production of runners/rotors and bearing boxes, (cum.)", the actual costs are posted using consumption cost element 890000. The stock value of the WBS element under cost element 790000 *Unfinished Products* is reduced accordingly.

Switch to session two *Cost Report*, or call up the [cost element report \[Page 31\]](#) again. To evaluate the current data, choose .

Confirming the Activities

Confirming the Activities

Usage

The processing of several activities in your turbine project T-10### is complete, and you now confirm the activities. An efficient way to do so is to enter confirmation in the PS Information System (Structure/Dates). There you can evaluate the data (actual dates, actual costs) entered immediately.


Prerequisites

You have transferred the additional functions  and  Confirmation via  to the standard toolbar.




Procedure

1. Call up the transaction as follows:




Menu Path	<i>Logistics → Project System → Information System → Structures → Structure Overview</i>
Transaction Code	CN41

2. If required, enter PS information profile **YIDES_130000**, then choose .
3. Enter the following data:

Field	Data
Project	T-10###
Additional selection criteria	Delete



4. Choose .
5. Select project definition T-10###, and choose .
6. Choose  → *Object Name*.
7. Enter the following data:

Field	Data
Network	First network of your project T-10###

8. Choose  for the *Activity* field.
9. On the *Intervals* tab page, enter the following values:
 - 1000 to 1300
 - 2000 to 2200
 - 3000 to 5000
10. Choose .
11. Choose .


Confirming the Activities

The system selects all activities that meet the filter requirements. The structure overview also displays the hierarchy upwards, and the components.

12. Choose  and then  → *Collective Confirmation*.
13. For all activities, select the *F* indicator (Final confirmation)



For the sake of simplicity, use today's date for the confirmation, as real dates are not relevant for this example. In a real situation, you might expect cost changes due to price markups if there were, for example, time delays.

14. Choose .

The structure overview appears.

15. Choose  to display the current data.

Result

The confirmation resulted in the actual dates and actual costs for the network activities being updated. The actual costs are displayed in aggregated form for the WBS elements.

A billing milestone is assigned to activity 5000. Once you have confirmed the activity, the milestone is exploded and this unlocks the billing date in the sales order.

Billing Partial Invoices

Billing Partial Invoices

Usage

The "partial invoice" billing date was unlocked in the billing plan after activity 5000 was confirmed. The system generates a billing document for the customer using billing. During this process, the down payments are cleared.


Procedure

1. Call up the transaction as follows:

Menu Path	From the <i>Sales and Distribution</i> node, choose <i>Billing → Billing Document → Create</i>
Transaction Code	VF01


2. Enter the following data:



Field	Data
Document	Your sales order number, generally defaulted by the system

3. Select your order number, then choose .

In the overview for the billing items, the screen title shows that an invoice is being created. The invoice contains two items, one for the partial invoice (item 10), and one for the allocation of the down payment (item 11). In our process, the down payment is completely allocated with the first partial invoice.



You can manually reduce the amount to be cleared by using the condition schema. Select your item 11 and choose .

4. Choose .
5. Choose *Billing Document → Change*.
6. Choose .
7. Note this accounting document number.

Result

The billing request has been created, and the data have been updated in Financial Accounting and on the project.

Unlike the down payment, the data from the billing document is updated in the form of actual revenues on the project.

To evaluate the data, change the session and call up the payment report again.

[Call Up Payment Report \[Page 49\]](#).

Once the down payment has been cleared, the down payment amount is reduced to zero and displayed in the *Cust. Payments* row. The system displays the remaining amount from the billing request in the *Cust. payt obl. inv.* row.

Billing Partial Invoices

Note that due to the purchase order for the material components, the commitments on the credit side are also updated on the project.

Entering the Incoming Payment

Entering the Incoming Payment

Prerequisites

The open items should automatically be assigned to the accounting document (actively). To check this, choose *Settings* → *Processing Options* → *Open Items*. The *Selected Items Inactive* should not be selected.

Procedure

1. Call up the transaction as follows:

Menu Path	<i>Accounting</i> → <i>Financial Accounting</i> → <i>Accounts Receivable</i> → <i>Document entry</i> → <i>Incoming payment</i>
Transaction Code	F-28

2. Enter the following data:

Field	Data
Document date	Today's date
Bank data Account	113100
Amount	396070,40
Open item selection: Account	1600
Further selection Document number	Select

3. Choose .



4. Enter the following data:

Field	Data
Document number from	Accounting document number you noted

5. Choose *Process open items*.

Two open items are displayed for your document: The invoice amount and the down payment clearing. The items and the cash discount amounts are already assigned to the open amount according to the user settings.



To assign an amount, place the cursor on the amount and choose  *Items* or  *Cash Discount*.

6. Choose .

Transferring Payment

Usage

When you enter the invoice, a document with value type "Invoice" is created in Project Cash Management. This value type is not changed, even if the invoice is cleared. The cleared invoice is only displayed with the "Payment" value type once the payment has been transferred.

Procedure

1. Call up the transaction as follows:

Menu Path	From the <i>Project System</i> node, choose <i>Controlling</i> → <i>Period-End Closing</i> → <i>Single Functions</i> → <i>Payment Transfer</i>
Transaction Code	CJFN

2. Enter the following data:

Field	Data
Fiscal year	Current year
FI document number (invoice) from	Accounting document number you noted
To	Accounting document number you noted
Test run	Deselect

3. Choose .

The log for the payment transfer appears.

Result

As a result of the payment transfer, the incoming payment is also displayed correctly in the *Cust. Payments* row in Project Cash Management.

Call up the [Payment Report \[Page 49\]](#) again.

Turbine Assembly

Turbine Assembly

Purpose

In this process it is presumed that the turbine is assembled in the plant. Delivery to the customer takes place as a whole and is not entered explicitly in the system. After the turbine has been successfully assembled and inspected, the last activities are confirmed and the final invoice is created.

Process Flow

1. You enter confirmation of the activities.
2. This confirmation causes the last billing milestone to be triggered and you create the final invoice.

Entering a Construction Assembly Confirmation via the Internet

Usage

The turbine has been successfully installed at the customer site. As you are still on the construction site, you confirm the activities via Internet.

You have conducted an on-site check, to ensure that the prerequisites have been met for starting the assembly of the turbine - for example, that it has been delivered undamaged. You confirm the result of activity 5100 *First progress check* via Internet.

Prerequisites

You can only confirm work over the Internet if you are working in an IDES system that is connected to an Internet Transaction Server (ITS).

If you do not have such a system, you should enter an individual confirmation for the assembly of the construction site.

[Entering an Individual Confirmation \[Page 85\]](#)

Procedure

1. Switch to your Internet Browser (for example, Netscape Navigator or Microsoft Internet Explorer).
2. Call up the IDES home page and select the language you require.



If you do not know the Internet address of the IDES home page, ask your system administrator.

3. Choose *Internal Service*.
4. Choose *Management Service*.
5. Choose *Projects* → *Project Data Confirmation*.
6. Log on to the R/3 system as follows:

Field name	Value
Login	WF-PS-1
Password	WELCOME
Language	English

7. Choose *Logon*.

The *Project Data Confirmation* screen appears.

8. Choose *Individual Confirmation*.
9. To find the network for activity 5100, enter "Turbine" in the *Short text* field.
10. Choose *Find*.

Entering a Construction Assembly Confirmation via the Internet

The system lists all the networks whose names begin with the word *Turbine* on the left-hand side of the screen.

11. Select the network you want to process from the network list.

The system lists all the activities in the network.

12. Choose activity *5100 Construction site assembly*.

The system copies the network and activity numbers into the appropriate fields in the individual confirmation area.

13. Choose *Display*.


The R/3 System checks the activity status and displays an appropriate message.

14. Enter the following data in the *Confirmation* section of the screen:

Field	Data
Confirmation text	Assembly carried out
Complete	Select

15. Choose *Save*.

The system displays a message confirming that your confirmation has been saved.

16. Choose  *Exit* to return to the *Ides* Home Page.



Entering an Individual Confirmation

1. Call up the transaction as follows:

Menu Path	From the <i>Project System</i> node, choose <i>Progress</i> → <i>Confirmation</i> → <i>Individual Confirmation</i> → <i>Enter</i>
Transaction Code	CN25

2. Enter the following data:

Field	Data
Network	First network of your project T-10###
Activity	5100

3. Choose .
4. Choose .

Creating a Billing Document

Creating a Billing Document

Usage

When you confirm the assembly of the construction site, you trigger the activation of the milestone for the final invoice. You can now bill the final invoice.



Procedure

1. Call up the transaction as follows:

Menu Path	From the <i>Sales and Distribution</i> node, choose <i>Billing</i> → <i>Billing Document</i> → <i>Create</i>
Transaction Code	VF01

2. Enter the following data:

Field	Data
Document	Your sales order number, generally defaulted by the system

3. Select your order number, then choose .
4. Choose .

Result

The billing request has been created, and the data have been updated in Financial Accounting and on the project. In the payment report, the system display the billing document in the line: *Cust. payt obl. Inv. row.*

To evaluate the data, change sessions and call up the [Payment Report \[Page 49\]](#) again.

Period-End Closing with the Schedule Manager

Purpose

Periodic processing, such as overhead application, interest calculation, results analysis, incoming orders, and settlement are executed on the basis of fiscal year periods. This is generally at the start of a given period for the preceding period.

Schedule Manager enables you to automatically schedule and execute period-end closing tasks across modules. *Schedule Manager* lets you analyze results, correct any errors, and repeat period-end closing for all incorrect data records.

You can find further information about the Schedule Manager in the SAP Library under

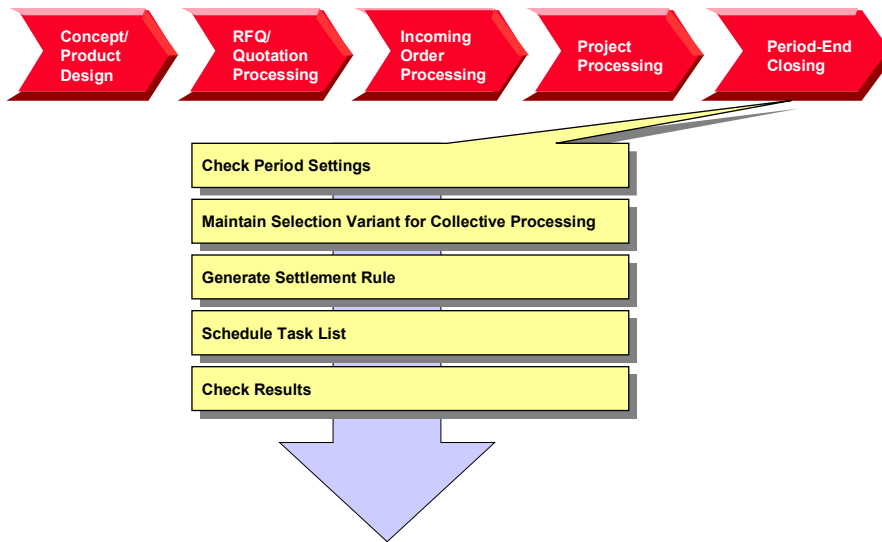
Financials → *CO Controlling* → *General Controlling* → *Schedule Manager*

Process Flow

1. You first check the period settings in the Schedule Manager and specify the objects for which you wish to execute period-end closing.
2. As no settlement rule has been maintained for your project, you schedule the task Generate Settlement Rule.
3. You then schedule the flow definition Z_130. This contains the following periodic tasks:
 - Overhead
 - Interest calculation
 - Cost forecasts
 - Results analysis
 - Incoming orders
 - Settlement
4. You monitor the results of the periodic task in the Job Monitor.
5. The person responsible receives a mail containing all information relevant to the period-end closing.

The following graphic illustrates the sequence of the necessary tasks:

Period-End Closing with the Schedule Manager



Calling Up the Schedule Manager

Use

The individual tasks for the period-end closing are defined in a task list in the Schedule Manager. The task list contains different flow definitions, notes and individual activities. The activities that run automatically are defined in the flow definition.

Prerequisites

In IDES, we have maintained the cross-module task list ZIDES. Different individual activities and flow definition Z_130 have been defined in this task list for the Project System.

Procedure

1. Call up the transaction as follows:

Menu Path	From the <i>Project System</i> node, choose <i>Financials</i> → <i>Period-End Closing</i> → <i>Schedule Manager</i>
Transaction Code	SCMA

The Schedule Manager appears.

2. After you have read the instructions that the system displays for the Scheduler, choose *User notes off*.
3. Choose *Task list* → *Other task list*.
4. Enter the following data:

Field	Data
Task list	ZIDES

5. Choose .
6. Choose *Period-End Closing PS*.

The various tasks for the Project System are summarized under this node. You will process the individual tasks sequentially.

7. Remain on this screen.





Checking the Period Settings

Checking the Period Settings

Usage

As period-end closing is largely automated, you first check the variables that have been used, such as the current period and the fiscal year.

Procedure

1. Select the task for checking the period settings under the node *Period-End Closing PS*.
2. Choose .
3. Choose . In the dialog box, choose .
4. Select the entry PS_BUDAT.
5. Choose .

The field is ready for input.

6. Enter the following data:

Field	Data
PS_BUDAT	Today's date; MMDDYYYY

7. Choose .
8. Change the following entries:

Field	Data
PS_PERIOD	Current period
PS_YEAR	Current year

9. Choose .

The Schedule Manager appears.

Maintaining Selection Variants for Collective Processing

Usage

You generally execute periodic tasks (such as, overhead calculation, results analysis, settlement) using collective processing - for many projects, and in the background. With collective processing, the system selects the projects using a selection variant. You now make changes to the selection variant for your turbine project.

Prerequisites

You have created collective variant Z13.

Procedure

1. Select the task for determining the scope of the selection under the node *Period-End Closing PS*.

2. Choose .

The *ABAP Variants: Initial Screen* appears.

3. Enter the following data:

Field	Data
Variant	Z13

4. Choose  *Change*.


5. If required, enter database profile 130000000000, then choose .

6. If required, enter controlling area 1000, then choose .

7. Enter the following data:

Field	Data
Project	T-10###

8. Choose .

9. Choose  until the Schedule Manager appears.

Determining Settlement Rules

Determining Settlement Rules


Usage

You require results analysis keys or settlement rules for results analysis, incoming orders or settlement of your project. You can enter these master data either manually in the WBS elements or activities, or generate them automatically. In this case, you generate the settlement rules automatically for your turbine project.

Prerequisites

In Customizing, you have defined strategy *10* for the generation of the settlement rule, and assigned this to project profile *2000 Standard Turbine*.

Procedure

1. Use the drag and drop function to move the task *Autom. Generation of the Settlement Rule* into the daily overview. Select a time earlier than the current time.
2. To start the task immediately, select *Immediate Start*, then choose .

The task has now been scheduled and activated for the current time in the daily overview. In the monthly overview, the day of the process flow has been selected.

Monitoring the Period-End Closing in the Job Monitor


1. Choose .

In the monitor, you see all of the activated and completed tasks. On the left side of the screen, you see the executed processing steps and the current processing status.

2. Double-click on the processing step *Automatic Generation of the Settlement Rule* to call up detailed information and any messages.

The messages refer to WBS element T-10###.1.2, which is not used in this process.

3. Reduce the size of the message dialog box, until you can see the selection buttons for the detailed information.

4. Choose  *Spool*.

You now see the log with the detailed list. A settlement rule has been generated for billing elements T-10### and T-10###.12 to the relevant profitability segments. These WBS elements have also been assigned to results analysis key 130001. No settlement rule has been generated for any of the other WBS elements. Instead they have been assigned to settlement profile 130002 "Not for settlement" (Column *SProf*). Results analysis at billing element level includes all plan and actual values for lower-level WBS elements or orders/activities. For this reason, you settle only the billing elements.


5. To return to the Schedule Manager, choose .

Executing Period-End Closing

Use


Now that you have completed all of the preparations, you can plan the period-end closing. You can check the periodic tasks for errors in the Job Monitor.

Procedure


1. Select the flow definition *PS Period-End Closing (Large)* and use Drag & Drop to move it into the daily overview. Select a time earlier than the current time.
2. To confirm both of the dialog boxes, choose .

The process flow *PS Period-End Closing (Large)* has now been scheduled and activated for the current time in the daily overview. The day of this process flow has been selected in the monthly overview.

Monitoring the Period-End Closing in the Job Monitor

1. Choose .
2. If required, confirm the message that you have received an express mail.

In the monitor, you see all of the activated and completed tasks. On the left side of the screen, you see the executed tasks and the current processing status. To display the object list and check the processing status, double-click on a processing step.

3. Choose , until you see the processing step *Check objects in worklist*.

The last processing step has been defined in flow definition Z-130 to the effect that user WF_PS_1 receives a message with a workflow item.

Processing the Workflow Items

1. Call up the IDES R/3 System again.
2. Enter the following data:


Field	Data
User	WF-PS-1
Password	Welcome

3. Call up the transaction as follows:

Menu Path	<i>Office → Workplace</i>
Transaction Code	SBWP


4. Choose *Inbox → Workflow → Grouped according to task*.
5. Click on *Generic Decision Task*.

The workflow item is opened.

6. Select the workflow item, then choose .
7. In the *Job Monitor*, select *End Processing of the Worklist*.

Executing Period-End Closing

Checking the Results in the Schedule Manager

1. Switch to the IDES System, in which you have logged on with your user ID.
2. If required, call up the Schedule Manager again.
3. To refresh the calendar, choose .

Period-end closing now has the status  (*completed without errors*).

Result

You have executed period-end closing for your turbine project. To evaluate the results, you can use various reports:

- In the Project System
 - Cost element report Z6P1 (actual / stock / commt / plan)
 - Cost element report 6PPW (project result)
Choose *Logistics* → *Project System* → *Information System* → *Financials* → *Execute Report* → *Cost Element Report* to call the reports.
 - Hierarchy report 11ERL1F (incoming order)
Choose *Logistics* → *Project System* → *Information System* → *Financials* → *Execute Report* → *Hierarchy Report* to call the report.
- In the profitability analysis
 - Profitability report IDES-100 (planned/actual comparison according to divisions)
 - Profitability report IDES-085 (incoming order)
Choose *Accounting* → *Controlling* → *Profitability Analysis* → *Information System* → *Execute Report* to call the reports.

Constructing a Power Station

Purpose

In this process, you carry out project processing for the construction of a power station.

A typical production method for the construction of a power station is **Make-to-Order Production**, which involves considerable risks with regard to technical solutions, costs and dates.

This process is characterized by the following:

- When the order is placed, there is a **comprehensive quotation phase**.
- The power station is characterized by its **complexity** and **one-off** nature. This leads to a large portion of order-specific project and engineering activities. To depict the functional and spatial product structure, we require various methods from Engineering Data Management during the entire life cycle.
- The order lead time (from the quotation to the processing of the warranty) lasts several years. **Long lead times** require corresponding control mechanisms for individual activities and results. The success of the project is to be ensured through integrated planning, monitoring and controlling of the capacities, materials, costs and dates. You also need to plan and monitor the down payments and payments.
- The expenses required to convert the customer requests into the final product are very high. The task is made even more difficult by constant **changes**. The flexibility and speed with which an enterprise can react to these changes during the project are fundamental competitive factors. Engineering Change Management can be used as a crucial component, for example, with respect to product liability.

Process Flow

During the project, you need to integrate the various business processes and approaches into the different phases of the value creation process. We detail the project management functions at the corresponding points in the process. However, we have summarized central functions, such as PS Cash Management.

Responsibility for the overall processing of the project is taken by IDES Canada. This consists of planning, engineering, procurement and construction of the power station.

1. [Concept and Product Development \[Page 103\]](#)

IDES Canada has the know-how required to build the power station. This know-how is managed in the SAP System using PDM functions. This means that knowledge and experience are stored in master data, such as the standard WBS, standard networks and technical locations.

2. [Creating RFQs and Quotations \[Page 111\]](#)

IDES Canada receives a request for quotation (RFQ) from North Energy Ltd / Calgary regarding the construction of a power station.

This is followed by an extensive quotation phase before the order is placed. The activities, resources and costs available for internal project planning, as well as the assessment of vendor quotations, ensures that you can select a quotation that is attractive from both a technical and economic perspective. There is a comprehensive basic engineering phase. Project-specific documents (specifications) are created, which describe the functional requirements of the power

Constructing a Power Station

station. When the order is placed, these documents provide the basis for a more detailed description in the technical departments.

3. [Processing the Incoming Order \[Page 144\]](#)

The project-specific data determined during quotations processing are checked against the incoming order, and then revised and refined as required. When the results of the technical inspection are ready, you report back to Basic Engineering, thereby releasing the project for additional processing in the specialist departments. You also create a project-specific cash budget planning.

4. [Order Processing \[Page 158\]](#)

Based on the specifications of Basic Engineering, we describe in detail the individual components of the power station, split by specialist area. On the basis of these specifications, you produce or procure the components.

The location at which the power station is to be constructed, corresponds to the construction site to which the power station parts and the tools are to be delivered. Assembly and commissioning take place at the construction site.

All of the cost centers involved in the project confirm their work. These confirmations are made using time sheets (CATS).

The detailed recording of components, the issuing of orders, and the control of deliveries and activities allows you to retain a clear cost overview so that the planned values from the cost estimate are not exceeded.

[PS Cash Management \[Page 190\]](#) values the planned cash flow for the project and monitors the cash flows on the credit and debit sides.

[Periodic Processing \[Page 201\]](#) in Project Controlling involves the creation of reports, which promote transparency of the value flows for the project.

You calculate the overhead costs for the cost estimate of the project costs.

The comparison of costs and revenues is important for determining the profitability of the project (results analysis, calculating the incoming orders).

Progress analysis lets you determine the progress of the project and its current status.

Data Used in This IDES Process

If you want to be able to perform this business process, please ensure that the following data has been maintained in the R/3 system:

- Organizational Structures

See also:

[Organizational Structures FI/CO \[Page 98\]](#)

[Logistics Organizational Structures \[Page 100\]](#)

- Master Data

See also:

[Organizational Structures FI/CO \[Page 99\]](#)

[Logistics Master Data \[Page 101\]](#)

- Customizing Settings

You can find further information in the prerequisites section for each of the individual processes or procedures.

Organizational Structures FI/CO

Field	Data	Usage
Company code	4000	
FM area	4000	
Operating concern	IDEA	
Controlling area	2000	CO North America
Cost center group	H4500	Plant engineering and construction
Cost center group	H4510	Project management
Cost center group	H4520	Engineering
Cost center group	H4530	Procurement
Cost center group	H4540	Site processing/assembly
Cost center	4-5100	Project management
Cost center	4-5200	Engineering
Cost center	4-5300	Procurement
Cost center	4-5400	Assembly

Master Data FI/CO

Cost Centers

Cost center	Activity type	Price	Allocation cost element
4-5100 (Project management)	1463 (Manager hours)	300	626300 (DIAA Managers)
4-5200 (Engineering)	1429 (Basic engineering)	200	622000 (DIAA Engineering)
4-5200 (Engineering)	1430 (Detail engineering)	150	622000 (DIAA Engineering)
4-5300 (Procurement)	5400 (Procurement - power plant)	150	618100 (DIAA management)
4-5400 (Assembly)	4821 (Site supervisor hour)	200	626300 (DIAA Managers)
4-5400 (Assembly)	4822 (Foreman hour)	150	622100 (DIAA Foremen)
4-5400 (Assembly)	4823 (Construction worker hour)	100	622200 (DIAA Auxiliary workers)
4-5400 (Assembly)	1421 (Labor hour)	100	619000 (DIAA Production)

Activity Types

Activity type	1421	Labor hours
Activity type	1429	Basic engineering
Activity type	1430	Detail engineering
Activity type	1463	Project manager hours
Activity type	5400	Employee hours
Activity type	4821	Site supervisor hours
Activity type	4822	Foreman hours
Activity type	4823	Construction worker hours

Logistics Organizational Structures

Logistics Organizational Structures

Field	Data	Usage
Plant	4000	Toronto
Work center	4100	Project management
Work center	4200	Assembly
Work center	4300	Procurement
Work center	4000	Engineering
Sales organization	4000	Toronto, Canada
Distribution channel	40	New business
Purchasing organization	4000	IDES Canada
Warehouse	4000	Warehouse, construction site

Logistics Master Data

Project System

Field	Data	Usage
Standard WBS	A-20000	Power plant
Standard network	A-20201	Basic engineering
Standard network	A-20301	Power plant - control station technology
Standard network	A-20302	Power plant - fuel supply
Standard network	A-20303	Power plant - vessel
Standard network	A-20304	Power plant - gas turbine
Standard network	A-20305	Power plant - cooling system
Standard network	A-20306	Power plant - steam turbine
Standard network	A-20307	Power plant - generator
Standard network	A-20308	Power plant - transformer
Standard network	A-20309	Power plant - administration/social building
Standard network	A-20401	Power plant - site equipment
Standard network	A-20402	Power plant - earthwork
Standard network	A-20403	Power plant - carcass
Standard network	A-20404	Power plant - assembly
Standard network	A-20405	Power plant - interior work
Standard network	A-20406	Power plant - putting into operation
Standard network	A-20407	Power plant - site clearance

Functional Location

Field	Data	Usage
Material	IECPP	Power plant
Material	IECPP-01	Control station technology
Material	IECPP-02	Energy area
Functional Location	IECPP-02-01	Vessel
Functional Location	IECPP-02-02	Gas turbine
Functional Location	IECPP-02-03	Steam turbine
Functional Location	IECPP-02-04	Generator
Functional Location	IECPP-02-05	Transformer

Logistics Master Data

Functional Location	IECPP-03	Cooling system
Functional Location	IECPP-04	Fuel supply
Functional Location	IECPP-04-01	Port of shipping
Functional location	IECPP-02-01	Mechanical handling/producing practice
Functional location	IECPP-05	Administration/social building

Material for Sales View

Field	Data	Usage
Material	IECPP-1-PP01	Power plant
Material	IECPP-1-EN01	Engineering
Material	IECPP-1-PR01	Procurement
Material	IECPP-1-IN01	Assembly
Material	IECPP-1-CP01	Components
Material	IECPP-1-PC01	Control station technology
Material	IECPP-1-FS01	Fuel supply
Material	IECPP-1-VE01	Vessel
Material	IECPP-1-TU01	Gas turbine
Material	IECPP-1-CS01	Cooling system
Material	IECPP-1-TU02	Steam turbine
Material	IECPP-1-GE01	Generator
Material	IECPP-1-TR01	Transformer
Material	IECPP-1-BU/01	Administration/social building
Material	IECPP-1-SP-01	Construction site

Material for Internal View

Field	Data	Usage
Material	IECPP-2-VE01	Vessel
Material	IECPP-2-VE02	Vessel pipe
Material	ICEPP-2-GE01	Generator
Material	IECPP-2-GE11	Rotor
Material for advance procurement	IECPP-2-GE12	Bolts
Material for advance procurement	IECPP-2-GE13	Sound protection
Material	IECPP-2-GE14	Posts and beams
Material	IECPP-2-GE15	Casing

Concept and Product Development

Purpose

IDES Canada, the Canadian subsidiary of the North American IDES corporate group, has comprehensive knowledge of power plant construction.

This knowledge is included in templates and documents such as work breakdown structures, networks, BOMs, technical drawings and instructions. This know-how is managed in the SAP System using PDM functions. In other words, the knowledge and experiences are stored in master data and, for example, standard WBS, standard networks and functional locations.

Project-independent definition of the templates ensures that when the quotation is processed, complete and correct information is available to estimate and limit technical and economical risks and to keep costing and planning efforts to a minimum.

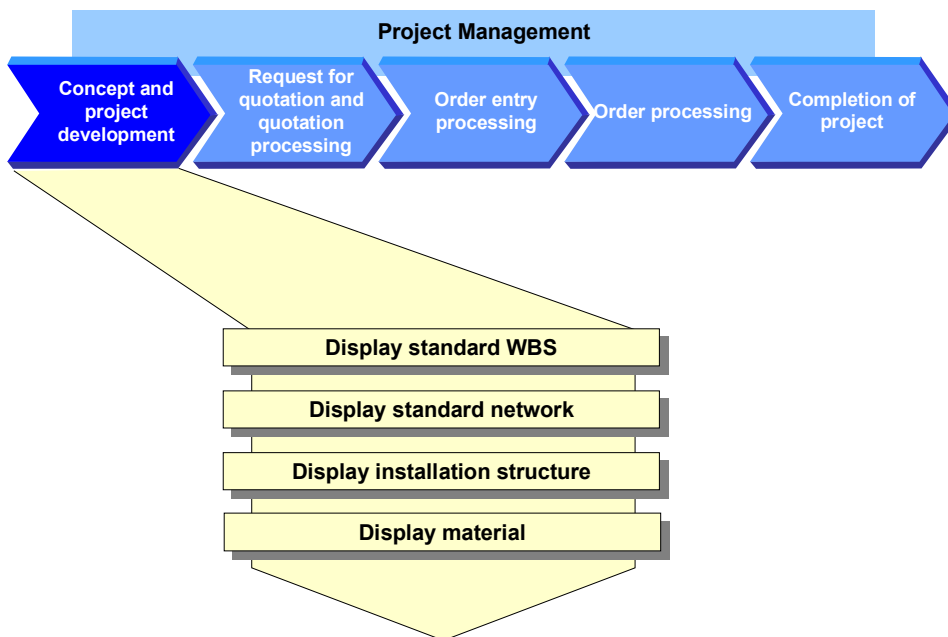
The templates are amended regularly to reflect changes and improvements in technology and certain areas of business and experiences from operational business.

Process Flow



You do not have to perform these steps as they have no influence on the further process. However, it helps your understanding if you make yourself familiar with the basic structures.

The following graphic clarifies the process:



Concept and Product Development1. [Display Standard WBS \[Page 105\]](#)

A standard work breakdown structure (WBS) serves as template for creating or enhancing an operative project structure. You can use this standard WBS to automatically generate a project with all the objects and hierarchical relationships required for processing a customer inquiry.

2. [Displaying a Standard Network \[Page 107\]](#)

The planned process flow (for the construction of a power plant) is displayed in networks. Appropriate activities with their time-based dependencies are created for the individual tasks. These milestones are used within a project to control when certain phases in the process have been achieved. You can adapt predefined networks when you process a customer inquiry, a quotation or a sales order.

3. Functional Locations

You can use functional locations to help you structure the operational systems. A project-independent structure for the power plant serves as template for processing quotations. It has to be adapted to suit the customer's needs for an operational project.

4. [Displaying a Material \[Page 109\]](#)

Materials that are used in the construction of a power plant are stored in a material master record.

Displaying a Standard WBS

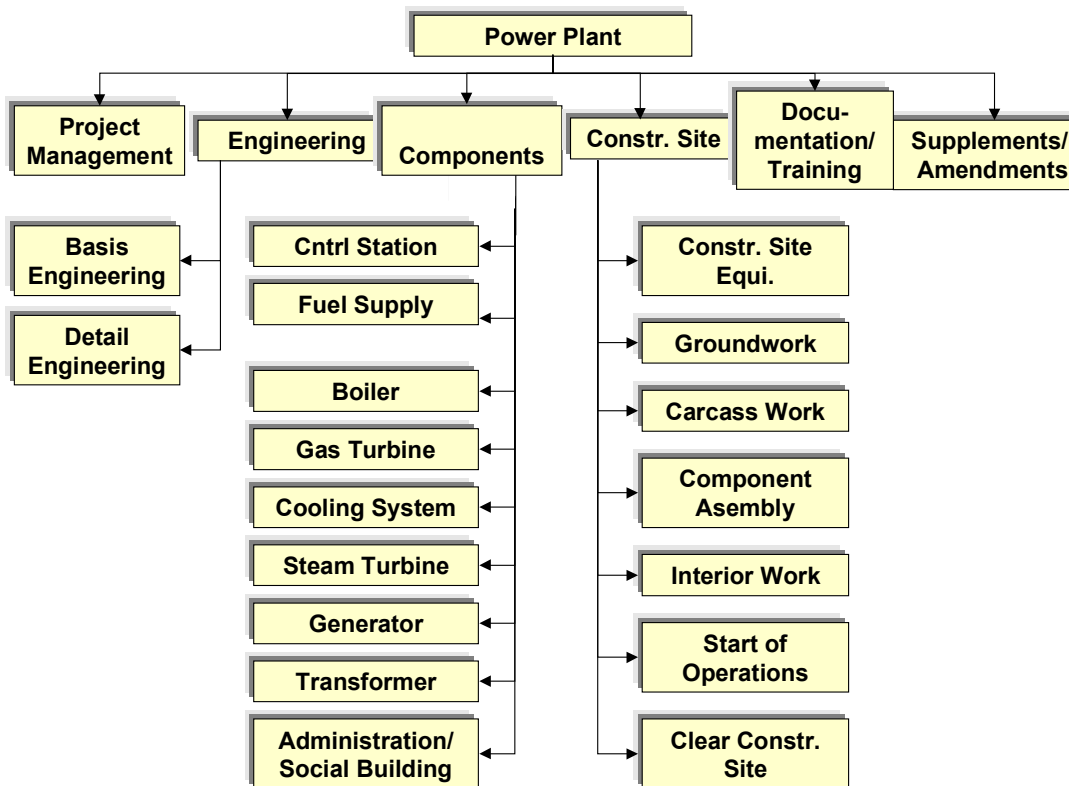
Use

You have reflected your experience in standard structures so that large projects can be processed quickly and in a standard way. Project activities to be performed are displayed in the form of a hierarchy in the work breakdown structure.

You can find further information in the SAP Library under

Logistics → PS Project System → Structures → Standard Structures → Standard Work Breakdown Structure (Standard WBS).

The standard WBS A-20000 for the construction of a power plant has the following structure:



Displaying a Standard WBS


Procedure

1. Call up the transaction as follows:

Menu Path	<i>Logistics → Project System → Basic data → Templates → Standard WBS → Display</i>
Transaction Code	CJ93

2. Enter the following data:

Field	Data
Standard project definition	A-20000


3. Choose .

4. Choose the *Basic data* tab page.

Here you can see information on the default organizational data and status profiles.

5. Choose the *Control data* tab page.

Here you can see information on the default profiles for the project, accounting and scheduling.

6. Choose .

7. Choose .

The *Hierarchy Graphic* screen appears.

Displaying a Standard Network

Use

The standard networks provide you with templates for internal and external activity or services and for operating resources that you require for activities. These networks form the base for planning, control and monitoring of dates, costs and resources in project execution.

You can find further information in the SAP Library under

Logistics → PS Project System → Structures → Standard Structures → Standard Network.

The planned process flow for the construction of a power plant is displayed in 15 standard networks. These networks form the template for the operative networks created with the project.

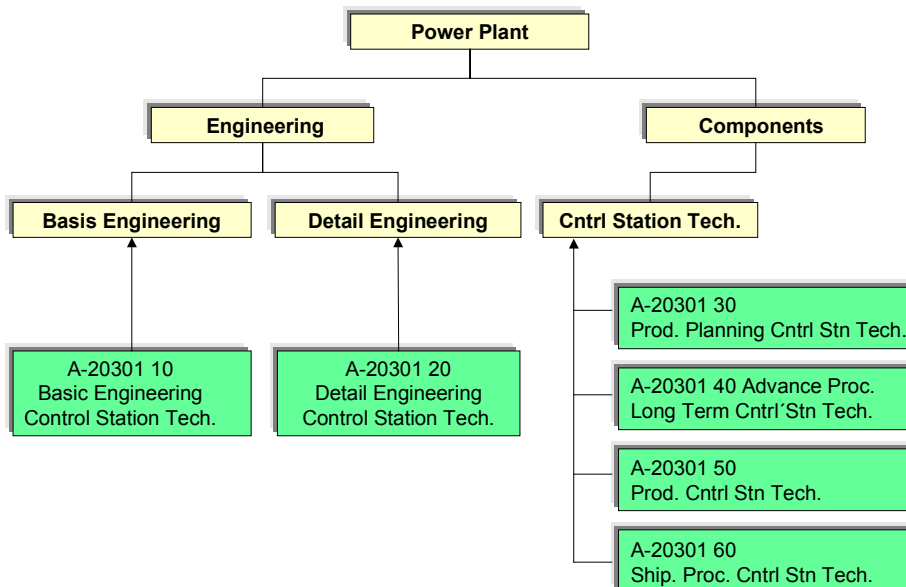
See also:

[Logistics Master Data \[Page 101\]](#)

The activities in the standard networks are linked to the standard WBS elements.

Planning using activities and assignments to WBS elements has important advantages:

For example, the network activities for control station technology are assigned to the following standard WBS elements:



Displaying a Standard Network

Procedure

1. Call up the transaction as follows:

Menu Path	Choose <i>Standard network</i> → <i>Display</i>
Transaction Code	CN03

2. Enter the following data:

Field	Data
Standard Network	A-20301 (internal processing) A-20307 (external processing)

3. Choose  *Activities*.

You see an overview of the activities.


4. Choose the *Total* tab page.

You can see the assignment of activities to standard WBS elements on the *Total* tab page.


5. Select an activity, then choose .

The *Relationship Overview* screen appears.

6. Choose .

7. If you want to display the individual activities and their relationship to one another, choose .

An overview screen displaying the network structure appears.

8. Choose .

9. Select an activity, then choose .

The detail screen for this activity appears.

Displaying a Material

Use

Materials are stored in the material master record. These materials can be used in SD documents when a power plant is constructed or in project processing.

- Materials that are relevant to SD in this process are indicated by IECPP-1-####.
- Materials that are used in project processing are indicated by IECPP-2-####.

These two different types of material differ with regard to which data is maintained and the selection of the view. For example, 2 is set for MRP in the material master record whether the material is procured internally or externally.

See also:

[Logistics Master Data \[Page 101\]](#)




Procedure

1. Call up the transaction as follows:

Menu Path	<i>Logistics → Materials Management → Material Master → Material → Display → Display Current</i>
Transaction Code	MM03

2. Enter the following data:

Field	Data
Material	IECPP-1-PP01 (SD material) IECPP-2-VE01 (external procurement) IECPP-2-GE01 (in-house production)

3. Choose .
4. To select all views, in the dialog box, choose .
5. Choose .

Depending on which views have been maintained for the material, further entries are required by the system.

6. Make the following entries, depending on the material:

Field	Data
Plant	4000
Purchasing org.	4000
Sales org.	4000
Distr.Channel	40

7. Choose .

Displaying a Material

Processing RFQs and Quotations

Purpose

The customer describes the most important requirements of the power plant in the RFQ. Since the probability of receiving an order is great, you decide to create a quotation.

The quotation contains the technical specifications in accordance with the customer's wishes and details on prices and dates. For this, you must carry out internal planning for the activities, resources and costs known of at this time.

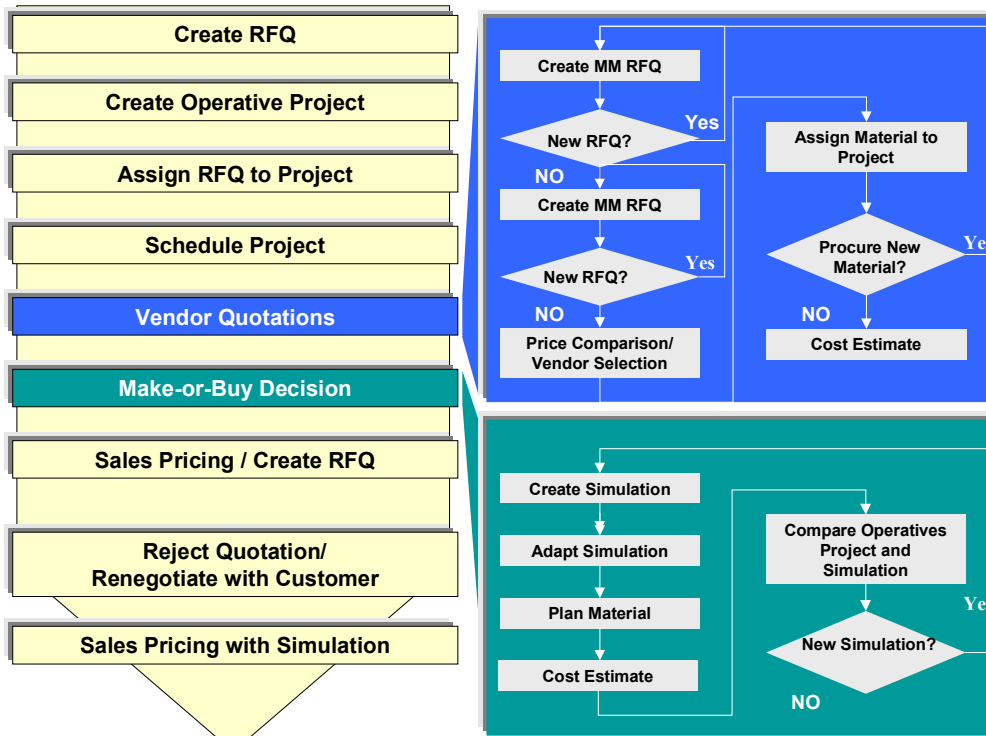
Quotations are collected from vendors for parts that have to be procured externally such as materials, accessories, tools or equipment. Furthermore, project-specific RFQs can be made to subcontractors in order to collect and compare dates and prices for services. This must be done so that the quotation price can be created in detail.

In practice, there are often negotiations with customers and vendors until a satisfactory compromise has been found for all parties.

In the planning phase particularly, knowledge about a specific project changes constantly. Quotation processing represents an iterative process: the individual steps can be carried out several times. However, management of project simulation and several quotations is necessary to keep the process clear and comprehensive and so that different scenarios can be compared to one another.

Process Flow

The following graphic clarifies the process:



Processing RFQs and Quotations1. [Creating an SD Inquiry \[Page 114\]](#)

The process starts when a customer inquiry is entered. The customer is, for example, the Canadian corporate group North Energy Ltd / Calgary.

2. [Creating an Operational Project \[Page 115\]](#)

You decide to create a project structure for the power plant and assign the RFQ to the project account for the purposes of quotation creation (planning, scheduling and costing).

4. Preliminary Project Planning (Structures, Work, Dates)

In order to be able to make a quotation, preliminary project planning must have taken place. For this reason, project structures (WBS, networks) are adapted to suit the current RFQ. WBS elements are deleted or created. Duration, work, sequence, components etc. are adapted in the networks.

The ideal case that standard structures can implemented unchanged is used in the example process, so the scenario mentioned above cannot be used.

In the next step, you schedule the project for the first time ([Scheduling a Project \[Page 118\]](#)) to determine whether the delivery date can be kept.

5. [Requests for Quotations \[Page 120\]](#)

As well as calculating the cost of in-house services, you also have to collect prices for components to be procured externally in a request for quotation.

Using the *Boiler* component as an example, collect quotations from vendors and adapt your project planning accordingly.

6. [Make or Buy Decision \[Page 129\]](#)

You have to make a make or buy decision for the generator, for example, because it can either be manufactured in-house or procured externally. To do this, create a simulation (in-house production) that will then be compared to the operational project.

Due to cost issues, you decide to procure the generator externally.

7. [Create Sales Price Calculation / SD Quotation \[Page 138\]](#)

You use sales pricing to create a resource-related quotation on the basis of detailed project planning. The quotation contains the technical specifications in accordance with the customer's wishes and details on prices and dates.

8. [Rejecting a Quotation / Renegotiating \[Page 141\]](#)

The customer has special requests and requirements so the generator is manufactured in-house after all.

9. [Sales Pricing Using Simulation/Creating a Quotation \[Page 142\]](#)

Using sales pricing, you create a new quotation based on the results of negotiations.

Result

Quotation processing ends when the customer places an order (letter of indent).

Creating an SD Inquiry

Creating an SD Inquiry

Prerequisites

The following settings have been made in Customizing for *Sales and Distribution*:

- Sales document type ZEC1 (IECPP inquiry)
- Item category ZEC1


Procedure

1. Call up the transaction as follows:

Menu Path	<i>Logistics → Sales and Distribution → Sales → Inquiry → Create</i>
Transaction Code	VA11

2. Enter the following data:

Field	Data
Inquiry type	ZEC1 (IECPP inquiry)
Sales organization	4000
Distribution channel	40
Division	00


3. Choose .

4. Enter the following data:

Field	Data
Sold-to party	4000
Purch. order no.	A-20### (# stands for any number)
PO date	Today's date
Valid from	Today's date
Valid to	Today's date +6 months
Req. deliv.date	Today's date +4 years
Material	IECPP-1-PP01
Order quantity	1

5. Choose .

6. In the dialog box, choose .

7. To confirm possible warning messages, choose .

8. Make a note of the inquiry number.

Creating an Operational Project

Use

You create a project structure for the power plant for planning and costing a quotation.

Since your company usually manages the construction of power plants by using projects, a standard project structure already exists in the system. All you have to do is to adapt this standard structure to suit the specific requirements of your current project. To do this, copy the standard project into an operational project.

Use the *Project Builder* to create the project. You can find further information in the SAP Library under *Logistics → Project System → Structures → Project Builder*.

Prerequisites

Standard project A-20000 is available.




The following settings have been made in Customizing for *Project System*:

- Project profile ZECPP01
- Network profile ZECPP01



Procedure

1. Call up the transaction as follows:

Menu Path	<i>Logistics → Project System → Project → Project Builder</i>
Transaction Code	CJ20N

2. Click on  *Templates* in the lower part of the screen containing the worklist and the templates.
3. Expand the  *Standard templates* node.
4. Call up the *Include in Templates* dialog box by double-clicking on  *Standard project definitions*.
5. Enter the following data:

Field	Data
Standard project definition	A-20000

6. Choose .
7. In the *Templates* area of the screen, select the standard project definition  *Power Plant A-20000* and drag it into the structure tree part (upper part) of the screen by keeping the left-hand mouse button pressed.

The *Create Project* dialog box appears.


8. Enter the following data:

Creating an Operational Project


Field	Data
Project def.	A-20###
Description	Power Plant A-20###
Finish date	Today's date + 4 yaers
Project profile	Empty



The finish date corresponds to the desired delivery date from the inquiry/RFQ.

9. Choose .

The first release milestone is triggered when you create the project.

10. Choose .

You can now see various objects in the structure display that have been copied from the standard project.



Project definition



WBS elements



Activities



Milestones

11. Choose .

Result

When a project is created, the release milestone *Release activities* (in activity *Plant engineering* of WBS element *Basic Engineering*) releases all activities up to the next release milestone *Down payment* (in activity *Acceptance* of WBS element *Basic Engineering*).

Assigning a Project Inquiry to an Account

Use

After you have created your project, assign your project inquiry to an account. Since you want to create a quotation for your inquiry on the basis of the project data, check whether the settings in the quotation are correct.

Prerequisites

You must have entered a customer inquiry in the system and you must have created a project.

Procedure

1. Call up the transaction as follows:


Menu Path	From the <i>Inquiry</i> node, choose <i>Change</i>
Transaction Code	VA12

2. Enter the following data:

Field	Data
Inquiry	Your noted inquiry number



You can search for the document number of your inquiry using the purchase order number A-20###.

3. Choose .
4. Call the item data by double-clicking on the item with material IECPP-1-PP01.
5. Choose the *Account assignment* tab page.
6. Enter the following data:

Field	Data
WBS element	A-20###

7. Choose the *Sales B* tab page.
DIP (dynamic item processor) profile ZECPP01 has been maintained for creating offers.
8. Choose .

Scheduling the Project

Scheduling the Project

Use

You schedule the project for the first time to determine whether the delivery date can be kept.

The project planning board enables you to plan using the work breakdown structure and the network. Basic dates in the project structure are determined by the dates for each activity and compressed into the structure. Bottom-up planning: networks are always scheduled forwards and backwards in time. Backward scheduling is determined as the starting direction in which scheduling takes place.

There are several options for defining control parameters for scheduling. In this example, you choose a different setting than that which is set in Customizing for *Project System*. You decide that the work breakdown structure should determine the dates since, at the moment, the required delivery date is the only known date for the definition of the project.




Prerequisites

WBS scheduling profile IECPP1 has been maintained and entered in project profile IECPP01 in Customizing for *Project System*.

Procedure

1. Call up the transaction as follows:

Menu Path	From the <i>Project</i> node, choose <i>Project Builder</i> .
Transaction Code	CJ20N

2. In the *Worklist* screen area, choose *Last projects processed*.
3. Open your project by double-clicking on  *Power Plant A-20####*.
4. To expand the project completely, choose .
5. Choose .





The *Project Planning Board* screen appears.

6. Choose *Settings* → *Options*.

A dialog box appears.

7. On the *Scheduling* tab page, enter the following data:

Field	Data
Schedul. method	WBS determines dates

8. Choose .
9. Choose .
10. Choose .
11. Choose .

Result

You can see red horizontal bars in the overview for the project planning board. These indicate critical paths. In other words, you must adhere to the times planned (no buffer). If you do not, you will cause delays.

The required delivery date can be kept since the start of the project is in the future.

Requests for Quotation

Purpose

To be able to calculate a quotation price, you require, amongst other things, the price of the components that have to be procured externally.

The request for quotation can be illustrated by using a boiler as an example. You collect quotations and choose a vendor.

Process Flow

1. [Determining a Delivery Date \[Page 121\]](#)

You have to make a note in the project of the requirement date calculated by scheduling.
2. [Create MM Request for Quotation \[Page 122\]](#)

Create a request for quotation (RFQ) in purchasing. Assign a collective number to the request for quotation. The collective number helps you when you want to assign requests for quotations to bid invitations. You enter the collective number once and the system then copies it for every request for quotation that you create for a bid invitation.
2. [Create MM Quotation \[Page 124\]](#)

After you have collected the quotations from the different vendors, enter them in the system using the collective number.
3. [Comparing Prices \[Page 125\]](#)

Then you compare the prices and decide on one of the vendors. To do this, you use the price comparison list to compare the prices of all the quotations in your collective request for quotations. The quotations are listed in this price comparison list as items in ascending/descending order.
4. [Assigning Materials in a Project \[Page 126\]](#)

So that complete data is available for costing purposes, the materials for the boiler have to be assigned to the appropriate activity and be assigned the price demanded by your chosen vendor.
5. [Costing \[Page 128\]](#)

You can cost your project using the data that is updated in the project.

Determining a Delivery Date







Use

You have to make a note in the project of the requirement date calculated by scheduling.

Procedure

1. Call up the transaction as follows:

Menu Path	From the <i>Project</i> node, choose <i>Project Builder</i> .
Transaction Code	CJ20N

2. Open your project by double-clicking on  *Power Plant A-20###* in the area of the screen containing the work list.
3. Expand the following nodes in the project:
 -  Power plant
 -  Components
 -  Vessel
 -  Vessel
4. Select the  *Transportation vessel* activity.
5. Choose the *Dates* tab page.
6. Make a note of the earliest start date.

This date is the desired delivery date.

Creating an MM Request for Quotation

Creating an MM Request for Quotation

Use

You create a request for quotation with collective number, material and requirement date. In practice, the specifications and plans, for example, would also be sent in addition to the request for quotation.

Prerequisites

The vendor master record has been maintained.

Procedure

1. Call up the transaction as follows:

Menu Path	<i>Logistics → Materials Management → Purchasing → RFQ/Quotation → Request for Quotation → Create</i>
Transaction Code	ME41

2. Enter the following data:

Field	Data
RQF type	AN
Quotation deadline	Today + 2 months
Purch. organization	4000
Purchasing group	010

3. Choose .

4. Enter the following data:

Field	Data
Coll.no	IECPP

5. Choose .

An overview screen displaying the items appears.

6. Enter the following data:


Item	Material	RFQ quantity	Delivery date
010	IECPP-2-VE01	1	Earliest start date from network vessel, activity <i>Transportation Vessel</i>
020	IECPP-2-VE02	10	Earliest start date

7. Choose  to go to the screen displaying a selection of vendors.


8. To confirm possible warning messages, choose .


9. Enter the following data:


Field	Data
Number of vendor	4000

10. Choose .

The system copies the address data from the vendor master record.

11. If necessary, in the dialog box, select language EN for the vendor and choose .

12. To confirm possible warning messages, choose .

13. Choose .


14. Make a note of the inquiry number.

The *Create RFQ: Vendor Address* screen appears.

15. Create a request for quotation for the following vendors:

Field name	Value
Number of vendor	4010
Number of vendor	4020

16. Make a note of each RFQ number.

17. Choose .

Result

You have assigned the vendor RFQs using the collective number of a collective request for quotation.

Creating an MM Quotation

Creating an MM Quotation

Use

After a while, the quotations arrive from the vendors. You enter the quotations in the system and use the collective number to help you do this.

Procedure


1. Call up the transaction as follows:

Menu Path	From the <i>RFQ/Quotation</i> node, choose <i>Quotation</i> → <i>Maintain</i>
Transaction Code	ME47

2. Enter the number of the request for quotation for vendor 4000.



You can use the collective number IECPP to help you search. Choose the possible entries button and then the *Requests for Quotation per Collective Number* tab page.

3. Choose .

4. Enter the following data:


Material	Field	Data
IECPP-2-VE01	Net price	10,000,000
IECPP-2-VE02	Net price	700,000

5. Choose .

The quotation for the RFQ for vendor 4000 has been maintained.

6. Repeat this procedure for the remaining RFQs and enter the following data:

Vendor	Material	Net price
4010	IECPP-2-VE01	11,000,000
	IECPP-2-VE02	650,000
4020	IECPP-2-VE01	11,500,000
	IECPP-2-VE02	630,000

7. Choose  until the overview tree appears.

Comparing Prices

Use

After the quotations have arrived from the vendors and been entered in the system, you can run a price comparison in order to determine which is the cheapest quotation.

Procedure


1. Call up the transaction as follows:

Menu Path	From the <i>Quotation</i> node, choose <i>Price Comparison</i> .
Transaction Code	ME49

2. Enter the following data:

Field	Data
Purchasing organization	4000
Collective request for quotations	IECPP

By entering the collective number IECPP, you can select all the quotations in the current collective request for quotations.

3. Choose .

Result

The system compares the prices. The following data is displayed:

- the variance of each quotation in the comparison, expressed as a percentage
- the price and value per item
- the total value

Vendor 4000 offered the cheapest quotation.

Assigning Materials in a Project

Assigning Materials in a Project

Use

You assign the boiler materials to the appropriate activity and assign the cheapest quotation price from the request for quotations from the vendors to them.





Procedure

1. Call up the transaction as follows:

Menu Path	<i>Logistics → Project System → Project → Project Builder</i>
Transaction Code	CJ20N

2. Open your project by double-clicking on  *Power Plant A-20###* in the area of the screen containing the work list.

3. Expand the following nodes in the project:

-  Power plant
 -  Components
 -  Vessel
 -  Vessel

4. Select the  *Transportation vessel* activity.

The detail screen for the activity appears in the area of the screen containing the worklist.

5. In the *Identification and View Selection* area of the screen, choose .

The component overview appears in the worklist.

6. Enter the following data:

Field	Data
Material	IECPP-2-VE01
Rqmts qty	1
Item category (I)	L
Material (item 020)	IECPP-2-VE02
Rqmts qty	10
Item category (I)	L

7. Choose .

The *Reservation* dialog box appears twice.

8. Select *Purchase requisition + Res. WBS element* and choose .



By making this choice, you activate the material to be accounted for in project stock and determine that a purchase requisition is generated directly (without an MRP run). The purchase requisition is created when the activity is released.

The system includes the components *Boiler (IECPP-2-VE01)* and *Boiler pipe (IECPP-2- VE02)* in the structure overview underneath the activity *Transportation vessel*.

9. Select the *Boiler* component in the structure overview.

The detail screen for the component appears in the area of the screen containing the worklist.

10. On the *Purchasing data* tab page, change the price as follows:

Field name	Value
Price/currency	10,000,000

11. Select the *Boiler pipe* material in the structure overview.

12. On the *Purchasing data* tab page, change the price as follows:

Field name	Value
Price/currency	700,000

13. Choose .

14. Do not exit the *Project Builder*.

Costing

Costing

Use

You have scheduled internal and external services for the activities in the network.

Taking the dates into account, the system calculates the planned costs using the valuation records or the prices for internal and external services and the required operating resources.

The time-based distribution of the planned costs is the result of the time-based distribution of the planned services and the operating resources for the individual activities.

The costs of the activities are assigned to the WBS elements by assigning the activities.







You can find further information in the SAP Library under *Logistics* → *Project System* → *Structures* → *Project Planning Board and Logistics* → *Project System* → *Costs*.

Prerequisites

The controlling area must have been set to 2000. In a North American corporate group, cost accounting that takes place across different company codes is performed using the currency USD (U.S. dollars).

You are still in the Project Builder.

Procedure

1. Open your project by double-clicking on  *Power Plant A-20####* in the area of the screen containing the work list.
2. If the project is not completely expanded, choose .
3. Choose .
The *Project Planning Board* screen appears.
4. Choose .
5. Choose .
6. Draw the dividing line between the hierarchy display and the graphical display further to the right until the *Project Costs* column appears.
7. Choose .

Result

The system has determined the planned project costs.

Make or Buy Decision

Purpose

The standard structure presumes that you want to procure your generator externally since a standard version of this component is being dealt with here.

IDES Canada also produces generators in-house. If you want to be able to compare both these options, create a simulation for this alternative.

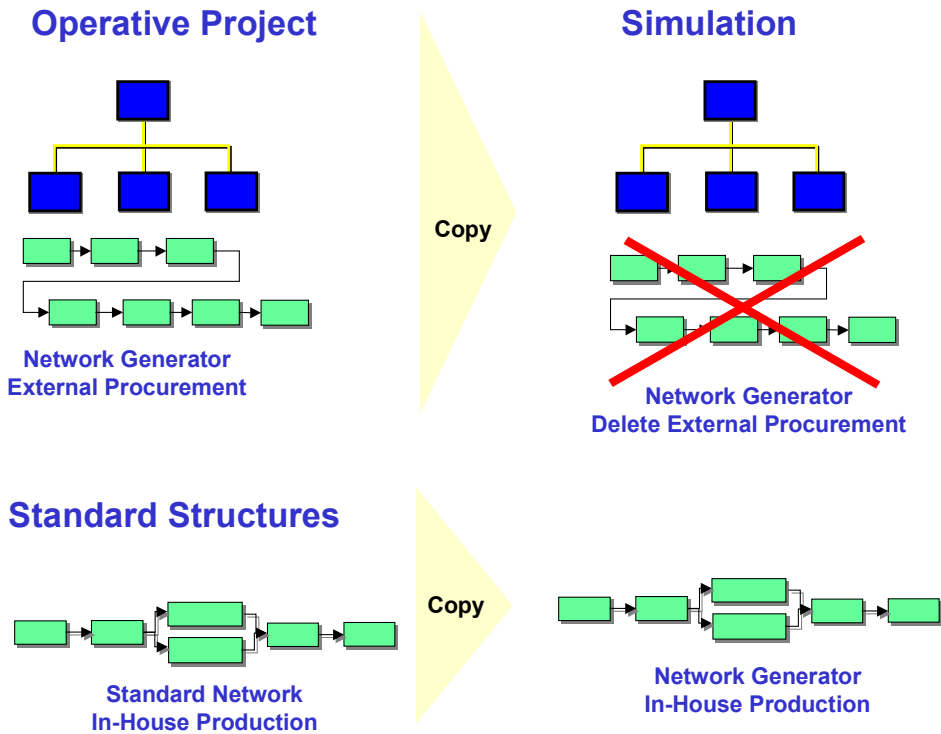
Process Flow

1. [Creating the Simulation \[Page 131\]](#)

Check whether in-house production of the generator is cheaper than external procurement. Create a simulation to do this.

2. [Changing the Network Generator \[Page 132\]](#)

The simulation is a copy of the operative project. The network for the generator has to be changed so that activities for in-house production have to be planned instead of activities for external procurement.



Make or Buy Decision3. [Planning Material Costs \[Page 135\]](#)

You have to plan costs for in-house production of the generator.

4. [Comparing the Operative Project With the Simulation \[Page 137\]](#)

You compare the costs of your operative project with those of the simulation to decide which project you want to use as a base for the creation of a quotation.

Result

On the grounds of the cost situation, you choose the operative project – and therefore also external procurement of the generator.


Creating a Simulation

1. Call up the transaction as follows:


Menu Path	From the <i>Project</i> node, choose <i>Simulation</i> → <i>Transfer Project</i>
Transaction Code	CJV4

2. Enter the following data:

Field	Data
Project definition	A-20###
Operative data -> Version	Select
Target version	SIM20###

3. Choose .

A dialog box appears.

4. To create the simulation, choose Yes.
5. Choose .

Result

The system has created a copy of your project as a simulation version. You receive a log.

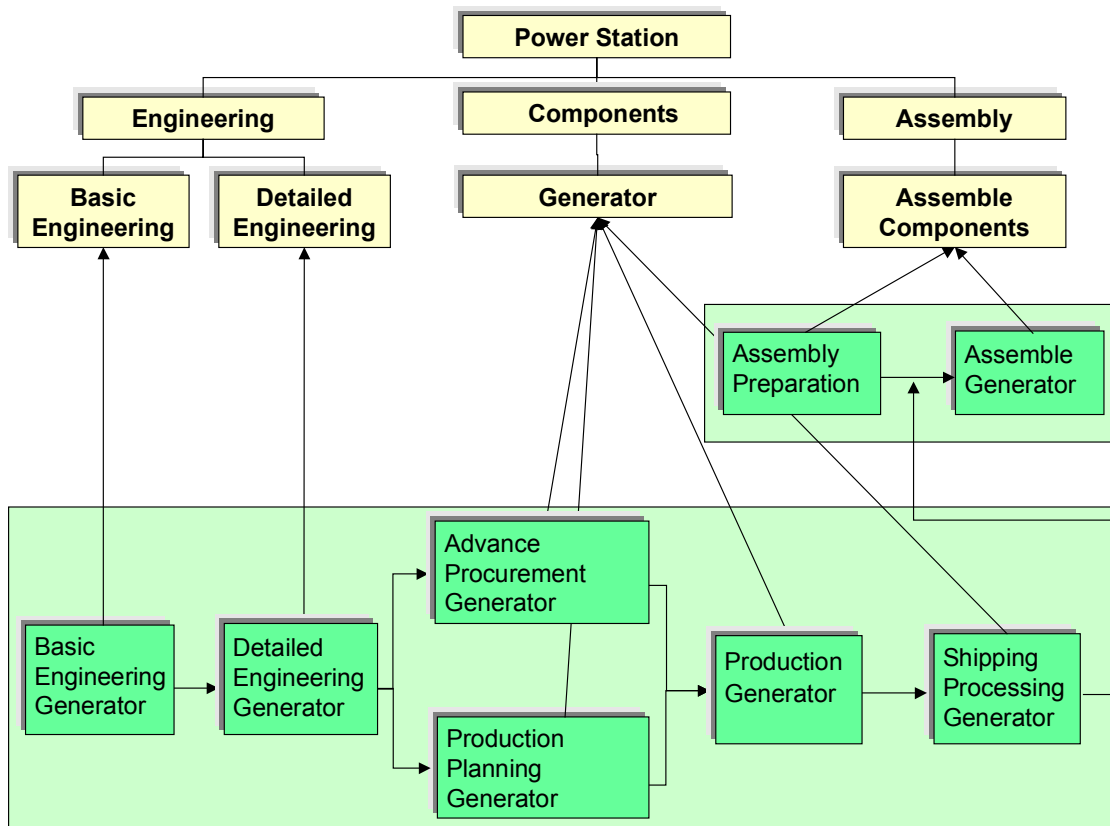
Changing the Network for the Generator

Changing the Network for the Generator

Use

The network for the generator has to be changed so that activities for in-house production have to be planned instead of activities for external procurement.

First of all, delete all the activities that belong to the *Generator* network. You can find these under the WBS elements *Basic Engineering*, *Detail Engineering* and *Generator*. Then you can copy a standard network for in-house production and assign the *Basic Engineering*, *Generator* and *Detail Engineering* *Generator* activities to the appropriate WBS elements. Furthermore, change the relationship of the *Sales Processing Generator* activity. Assembly is to become part of this activity. Therefore, a successive, or follow-up relationship ensues for the *Assembly Generator* activity (please see graphic below).



Procedure

1. Call up the transaction as follows:

Menu Path	From the <i>Simulation</i> node, choose <i>Change</i> .
Transaction Code	CJV2

2. Enter the following data:

Field	Data
Vers. key	SIM20###
Project def.	A-20###

3. Choose  *Open project*.

Deleting an Activity

1. Select the following activities:

Activity	Assigned to WBS element
Basic Engineering Generator	Basic Engineering
Detail Engineering Generator	Detail Engineering
Activity 030 RFQ/Inquiry Generator to 070 Shipping Processing Generator	Generator (below WBS element component)




You can select more than one activity by keeping the Cntrl key pressed.

2. Choose *Edit* → *Delete* → *Deletion flag*.
3. In the dialog box, choose *Yes*.

The systems flags the activities for deletion.

Creating a New Activity

1. Select WBS element *Generator*.
2. Choose .

A structure overview with templates appears on the left-hand side of the screen.

3. Call the dialog box for copying to templates by double-clicking on *Standard networks*.
4. Enter the following data:

Field	Data
Standard network	A-20301


5. Choose .


The network is copied to the structure overview as a template.

6. Copy the activities and relationships to the simulation below the WBS element *Generator* by double-clicking on the standard network A-20301.


Changing the Network for the Generator

Processing an Activity

1. Select all the activities that have just been added.
2. Choose .

The detail screen for the first activity appears.
3. For each activity, replace the short text *Control station technology* with *Generator*.
4. To scroll back to the activity *Basic Engineering Generator*, choose .
5. On the *Assignments* tab page, change the WBS element that has been assigned for the *Basic Engineering Generator* and *Detail Engineering Generator* as follows:

Activity	WBS element
Basic Engineering Generator	A-20###-02-01
Detail Engineering Generator	A-20###-02-02


6. Choose .

Changing the Relationship

1. Select the activity *Transportation generator*.





By copying the relationships from the control station technology standard network, this activity follows up activity 20 for the assembly of the control station in the network *Assembly Components*.

2. Choose .
3. To change the relationships, choose the *Successors* tab page.
4. Enter the following data in the upper area of the table:

Field	Data
Activity	80

You have set this activity in a follow-up relationship to the activity for the assembly of the generator.

5. Choose .
6. Choose .

Planning Material Costs

Use

If you copy the *Control station technology* standard network, the *Control station technology* component that has been assigned to it is also copied. The components are not assigned to the activities until later for the generator. For this reason, you plan the costs using material planning and delete the component *Control station technology*.

This planning is important for the quotation costing which has to be created at this point in time using the project.



The planned values are reduced when components are assigned later on. This avoids planning material costs twice.

Prerequisites

If you want to be able to use material planning, you must have entered a material cost element in Customizing for *Project System* on the tab page *Activities*.

Procedure

1. Call up the transaction as follows:

Menu Path	From the <i>Simulation</i> node, choose <i>Change</i> .
Transaction Code	CJV2

2. Enter the following data:

Field	Data
Vers. key	SIM20###
Project def.	A-20###

3. Choose *Open project*.
4. Select the operation for the production of the generator within the WBS element for the generator.
5. Choose .

The detail screen for the activity appears.

6. Choose the *Assignments* tab page.
7. Enter the following data:

Field	Data
Material planning	8.000.000

8. Choose .

Planning Material Costs




Deleting Assigned Components

1. Choose *Goto* → *Component overview*.

The system opens the component overview in the lower part of the screen.

2. Select the component IECPP-2-PC01 (Power control center).
3. If you want to delete the component, click the right-hand mouse button and choose *Delete*.
4. In the dialog box, choose *Yes*.
5. If you want to close the component overview, choose icon X.



Rescheduling and Recosting a Project

1. Choose .
2. To reschedule the dates, choose .
3. To calculate the costs for the simulation, choose .

The system calculates the costs.

It's not allowed to calculate costs of activities flagged for deletion.

An identical warning message appears.

4. To confirm the warning message, choose .
5. Choose .

Comparing the Operative Project With the Simulation

Prerequisites

The PS information profile ZECPP0000001 and the status selection profile ZECPP01 (IECPP without deletion flag) have been defined in Customizing for *Project System*.


Procedure

1. Call up the transaction as follows:

Menu Path	<i>Logistics → Project System → Information System → Structures → Structure Overview</i>
Transaction Code	CN41


2. In the dialog box, enter the following data:

Field	Data
PS Info Profile	ZECPP0000001 (IECPP: dates and costs/versions)

3. Choose .

4. Enter the following data on the initial screen:

Field	Data
WBS element	A-20###-03-07
Additional selection criteria	Delete
Current data	Select
Version data	Select
Structure-related	Select
Project version	SIM20###

5. Choose .

Result

You can see the comparison of costs for project A-20### and simulation SIM20###.

On the grounds of the cost situation, you choose the operative project – and therefore also external procurement of the generator.

Sales Pricing / Creating an SD Quotation

Use

As a rule, you usually perform a one-off, customer-specific service in a customer project. Due to the uniqueness of the project, you can rarely use standard prices to determine the sales price. You can determine a sales price on the basis of the planning data in the project and SD pricing.

The system compresses the planned costs in the sales price calculation to dynamic items according to cost types and uses material determination for the dynamic item processor profile to change these in key form to SD items.

This view of the sales price basis uses the dynamic item processor to display compressed planned costs from the billing structure, the so-called sales price basis items. You can process the sales price basis items (dynamic items) in this view and accept the sales price determination completely, partly or not at all.

SD pricing is used to calculate the sales price. You can use SD conditions to help you process the individual or header items in the sales price calculation. You enter a risk and gain surcharge to determine the sales price.

You can find further information in the SAP Library under *Logistics* → *Project System* → *Revenues and Earnings* → *Sales Pricing and Quotation Creation* → *Sales Pricing in the Project System*.

Prerequisites

The sales document type ZEC2 (IECPP: quotation) must have been maintained in Customizing for *Sales and Distribution*.

A dynamic item processor profile (DIP profile) must have been maintained in the customer inquiry. Dynamic item processor profile (DIP profile) ZECPP01 (IECPP: quotation for power plant) has been entered for this purpose in Customizing for *Project System*.

For the purpose of controlling quotation creation, this DIP profile must have been entered on the *Sales B* tab page of the item detail view in the SD order.

The following settings have been made in Customizing for *Sales and Distribution*:

- Pricing procedure ZECPP2 (IECPP: quotation)
- Condition type ZEC3 (risk)
- Condition type ZEC4 (profit/gain)

The following materials have been entered in the material master record:

- IECPP-1-EN01 (engineering)
- IECPP-1-PR01 (procurement)
- IECPP-1-IN01 (assembly)
- IECPP-1-CP01 (components)

A customer inquiry with at least one item that has been maintained and assigned to a billing element must exist. The system determines the SD data for sales pricing from this inquiry item.

Cost element group EC_SALARY must have been maintained in Customizing for *Project System*.

You have planned costs (in concordance with cost elements) for your project.

Procedure

1. Call up the transaction as follows:

Menu Path	From the <i>Project System</i> node, choose <i>Financials</i> → <i>Planning</i> → <i>Sales Pricing</i>
Transaction Code	DP81


2. Enter the following data:

Field	Data
Project definition	A-20###
Additional selection criteria	Delete
Version	Delete entry SIM20###

3. Choose  *Sales pricing*.

4. Choose .

The cost structure for the project is displayed in the upper part of the sales pricing screen. Settings to determine how the cost structure is displayed (3 levels in the project structure with cost element groups below) are made in the DIP profile.


5. To copy the object descriptions to the item overview, choose *Extras* → *Settings*.
6. Choose the *Description* tab page and then the *Object* tab page, select the option *Description* and choose .
7. Double-click on the object description *Power plant*.

The planned costs are distributed to the sales materials in the lower part of the screen.

Processing the Sales Price View

1. Choose  *Sales price*.

The sales price basis is converted to the order items. This takes place in accordance with the settings in the DIP profile.

2. To display the order items, choose .
3. If you double-click on *PS: Quotation*, the pricing procedure that you can process appears in the lower part of the screen.
4. Enter the following data for the risk and profit surcharge:


CnTy	Rate
ZEC3 (IECPP: risk)	5
ZEC4 (IECPP: profit)	3

5. Choose .


Creating a Quotation

1. Choose  *Quotation*.

Sales Pricing / Creating an SD Quotation

- Choose  Yes in the *Create Quotation* dialog box.
- Enter the following data:


Field	Data
SPc short text	Quotation IECPP

- Choose .

The *Change Quotation: Overview* screen appears.

- Enter the following data for the quotation deadline:

Field	Data
Valid to	Today's date +6 months
Purch. order no.	A-20###

- Choose .
- Note the number of the quotation.

Result

You have created a quotation based on the planning data in the project. You can send this quotation to your customer.

Rejecting a Quotation / Renegotiating

Use

In the course of contractual negotiations, agreements are reached that require a new quotation to be made. The old quotation is cancelled.

Prerequisites

The reason for rejection ZEC (negotiations, new quotation) must have been maintained in Customizing for *Sales and Distribution*.

Procedure

1. Call up the transaction as follows:


Menu Path	<i>Logistics → Sales and Distribution → Sales → Quotation → Change</i>
Transaction Code	VA22

2. Enter the following data:

Field	Data
Quotation	Document number already noted



You can search for the document number of your inquiry using the purchase order number A-20###.

3. Choose .
4. Choose the *Reason for rejection* tab page.
5. Enter the following data for each item:

Field	Data
Reason for rejection	Subsequent negotiation, new quotation (ZEC)

6. Choose .

Creating a New Quotation on the Basis of the Simulation Version

Creating a New Quotation on the Basis of the Simulation Version

Use

In this example, the customer decides that the technical statistics and performance of the generator should be changed. Efficiency and performance are to be increased and it therefore becomes necessary to manufacture this generator in-house.

A similar scenario has already been costed in simulation SIM20###, so it only remains to recalculate a new sales price. This time, however, on the basis of the simulation.

Prerequisites

See also:

[Sales Pricing / Creating a Sales Quotation \[Page 138\]](#)

Procedure

1. Call up the transaction as follows:

Menu Path	<i>Logistics → Project System → Financials → Planning → Sales Pricing</i>
Transaction Code	DP81

2. Enter the following data:

Field	Data
Project definition	A-20###
Pricing date	Today's date
Version	SIM20###

3. Choose  *Sales price*.

The sales price basis is converted to the order items. This takes place in accordance with the settings in the DIP profile.

4. If you double-click on *IECPP: Quotation*, a pricing procedure that you can process appears in the lower part of the screen.

5. Enter the following data for the risk and profit surcharge:

CnTy	Rate
ZEC3 (IECPP: risk)	5
ZEC4 (IECPP: profit)	3


6. To create a quotation, choose  *Quotation*.

7. Choose  Yes in the dialog box.

8. Enter the following data:

Creating a New Quotation on the Basis of the Simulation Version


Field	Data
VPK short text	Quotation 20### simulation


9. Choose .

The *Change Quotation: Overview* screen appears.

10. Enter the following data for the submission deadline for the quotation on the *Item overview* tab page:

Field	Data
Valid to	Today's date + 6 months
Purch. order no.	A-20###

11. Choose .

12. To confirm possible warning messages, choose .

13. Note the number of the quotation.

Result

You have created a new quotation on the basis of the planning data for the simulation. You can send the new quotation to your customer.

Order Entry Processing

Order Entry Processing

Purpose

Order entry processing begins when the customer makes a binding confirmation (letter of indent).

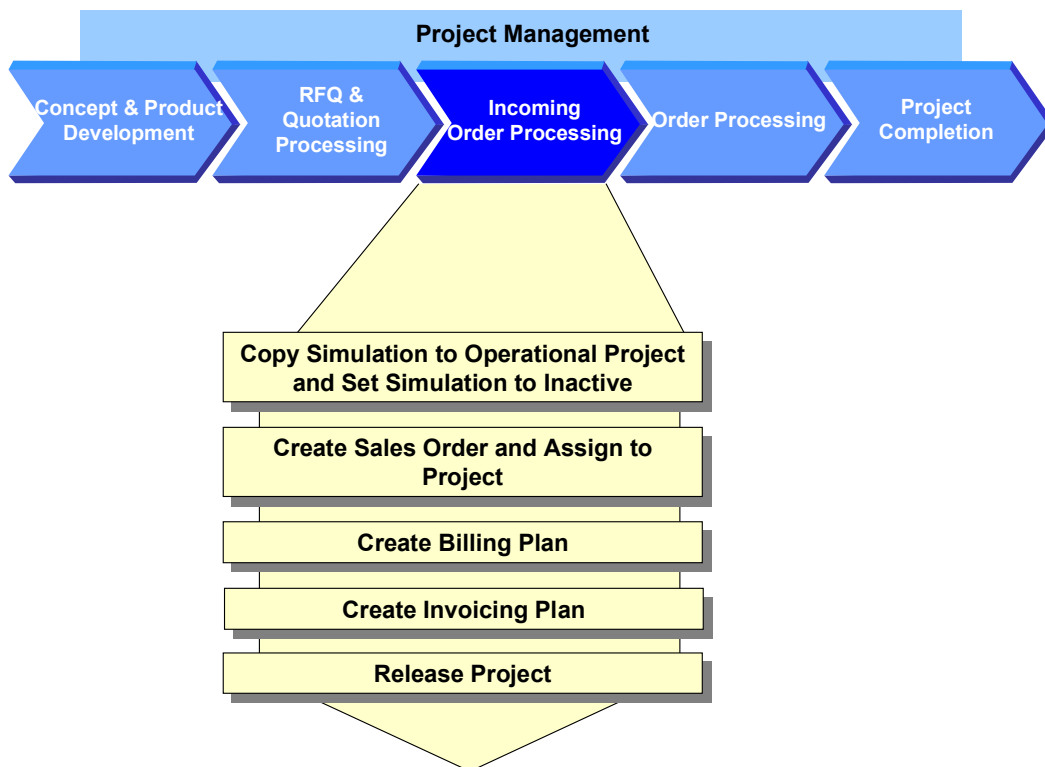
The quotation leads to the generation of an order. The project-specific data determined during the processing of the RFQ and the quotation are checked, edited, and detailed with respect to the incoming order. At the same time, the incoming order triggers a series of activities within the enterprise that differ from the fictitious case of quotation creation with respect to liability.

You create a project-based payment planning. It could be that a considerable cash amount is due when the incoming order arrives.

The incoming order phase ends externally with the confirmation of the order to the customer. Internally, the sales department transfers the operational tasks to the relevant departments.

Process Flow

The following graphic clarifies the process:



1. [Copying the Simulation to an Operational Project \[Page 146\]](#)

As the customer has placed the order for the quotation on the basis of the simulation, you copy the simulation to the operational project.
2. [Setting the Simulation to Inactive \[Page 147\]](#)
3. [Creating a Sales Order and Assigning it to the Project \[Page 148\]](#)

You create the order with reference to the quotation so that you can adopt the already maintained data and depict a complete document flow within the system.

You maintain the order items and assign these to your project.
4. [Creating the Billing Plan \[Page 150\]](#)

During a business inspection, you plan the revenues via the sales order by saving a billing plan. On the basis of the payment milestones that exist in the project, the system lists the dates for which the down payment requests and sales-relevant invoices are to be sent to the customer.
5. [Creating the Invoicing Plan \[Page 154\]](#)

The expenditure side is especially important to the planning of project-based liquidity and financial resources. For expenditure blocks that have not yet been defined in detail, you create invoicing plans to ensure that you have the first rough planned data for the expenditures.
6. [Releasing the Project via the Basic Engineering Confirmation \[Page 156\]](#)

You perform the technical inspection of the set of agreements underlying the sales order in the same way as for the business inspection. The basic engineering phase ends with the confirmation of the basic engineering acceptance. You release the entire project to production and procurement for additional processing. When you confirm this activity, the system automatically triggers the down payment for the customer. For more information, see [PS Cash Management \[Page 190\]](#).

Copying the Simulation to an Operational Project

Copying the Simulation to an Operational Project

Use

The customer has accepted a second offer (on the basis of the simulation). You therefore copy the simulation to the operational project.

Procedure

1. Call up the transaction as follows:

Menu Path	<i>Logistics → Project System → Project → Simulation → Transfer Project</i>
Transaction Code	CJV4


2. Enter the following data:

Field	Data
Project definition	A-20###
Version -> Operative data in the screen area <i>Transfer from -> to...</i>	Select
Source version	SIM20###

3. Choose .

A dialog box appears.

4. Choose Yes.

5. Choose .

Result

The system copies the simulation to the existing operational project. In the operational project, the system sets the deletion flag for the activities deleted in the simulation.



Setting the Simulation to Inactive

1. Call up the transaction as follows:

Menu Path	From the <i>Simulation</i> node, choose <i>Administrative data</i>
Transaction Code	CJV6

2. Enter the following data:

Field	Data
Vers.key	SIM20###
Project definition	A-20###

3. Choose .
4. If necessary, select *Inactive*.
5. Choose .

Creating an Order and Assigning it to the Project

Creating an Order and Assigning it to the Project

Use

You create the order with reference to the RFQ and assign it to the top element of your work breakdown structure.

Generally, you would enter multiple document items, for example, to correspond with the components of the power plant. In this example, however, you create only two items:

- *Vessel*

The *Vessel* item is created as a component of the power plant that is to be billed separately.

- *Power plant*

The *Power plant* item is created to summarize all of the other items contained in the order. We do this for simplification reasons.

This type of splitting the order into items, the type of billing, the prices, and so on, were agreed with the customer during the contract negotiations on the basis of the quotation.

Prerequisites

In Customizing for *Sales and Distribution* we have maintained the following data:

- Sales document type *ZEC3 (IECPP: Order)*
- Pricing procedure *ZEC3 (IECPP: Order)*

We have stored the following materials in the material master:

- IECPP-1-VE01 (Vessel)
- IECPP-1-PP01 (Power plant)


Procedure

1. Call up the transaction as follows:

Menu Path	<i>Logistics → Sales and Distribution → Sales → Order → Create</i>
Transaction Code	VA01

2. Enter the following organizational data:

Field	Data
Order Type	<i>ZEC3 (IECPP: Order)</i>

3. Choose  *Create with reference*.
4. Choose the *Quotation* tab page.
5. Enter the following data:

Field	Data
Quotation	The document number of the quotation you noted for the simulation version

Creating an Order and Assigning it to the Project



You can search for the document number of your quotation using WBS element A-20###.

6. Choose Copy.

7. Enter the following data:

Field	Data
PO number	A-20###

8. In the *Item Overview* section, enter the following data:

Material	Quantity
IECPP-1-PP01	1
IECPP-1-VE01	1

9. Choose .

Process document items

1. Select both document items, then choose .

2. On the *Account assignment* tab page, enter the following data:

Field	Data
WBS element	A-20###

3. On the *Conditions* tab page, enter the price (condition type PR00).

Field	Data
Rate (Item 10)	300.000.000

4. To display the next item, choose .

5. On the *Account assignment* tab page, enter the following data:

Field	Data
WBS element	A-20###

6. Choose the *Conditions* tab page.

7. Enter the price (condition type PR00).

Field	Data
Rate (Item 20)	30.000.000

8. Choose .

9. Make a note of the number.

Creating the Billing Plan

Creating the Billing Plan

Use

You create a billing plan on the basis of milestones that have been defined for specific network activities of your project. The system determines the planned dates using the scheduled milestones.

You use a billing plan to plan for each order item:

- The billing to the customer
 - If a milestone has been reached successfully, the customer is billed for a percentage of the total project costs.
 - When you confirm the billing milestone that exists in the project, this triggers a down payment request to the customer. Additional payment milestones generate partial or final payments.
- The expected sales revenues, that is, each time revenue is to be posted in Financial Accounting
 - The planned revenues are derived automatically from the billing plan and updated to the corresponding WBS elements.
- The time of the expected cash receipt ([PS Cash Management \[Page 190\]](#))

Prerequisites

You have created a project with billing milestones and a sales order.

The sales order has been assigned to project.

You have indicated the WBS element on which you wish to plan the revenues as a billing element.

In Customizing of the *Project System*, we have defined that the system updates the billing data from a project-assigned sales order to the assigned WBS element.

Procedure

1. Call up the transaction as follows:

Menu Path	From the <i>Order</i> node, choose <i>Change</i>
Transaction Code	VA02

2. Enter the following data:



Field	Data
Order	Your sales order number




To search for the document number of your order, you can use the PO number A-20###.

3. Choose .




Creating the Billing Plan

4. Select both document items, then choose .
5. Choose the *Billing plan* tab page, then choose  *Create date*.
6. Enter the following data:






Field	Data
WBS element	Select
Field for WBS element	A-20###

7. Choose .

The *Select Milestones* dialog box appears.
8. Select the following milestones:
 - Down payment
 - Partial invoice for assembly
 - Final acceptance
9. Choose *Copy*.

The system adopts the milestone dates as billing dates. The system issues a block to all of the billing dates. These blocks are only removed when you make the final confirmation for the milestone.
10. To display the next item, choose .
11. In the dialog box, choose .
12. Choose the *Billing plan* tab page, then choose  *Create date*.
13. Enter the following data:

Field	Data
WBS element	Select
Field for WBS element	A-20###

14. Choose .
15. To select all of the milestones, choose .
16. Choose *Copy*.
17. Choose .
18. In the dialog box, choose .
19. Choose .

Result

You used billing plans to plan the expected revenues of the document items of your sales order. These refer to the existing billing milestones contained in the project.

Your billing plan for document item IECPP-1-VE01 contains the following dates:

Creating the Billing Plan

- The first date is the down payment date. This billing date triggers a down payment request of 10% to the customer. This date is unlocked when you confirm the activity *Basic Engineering Acceptance*.
- The additional dates are dates for the partial or final invoicing.
When you have confirmed the activity *Follow-Up Assembly* the customer is invoiced for 50% of the net value after confirmation of final acceptance of the remainder.

Your billing plan for document item IECPP-1-PP01 contains the following dates:

- The first date is the down payment date. This billing date triggers a down payment request of 10% to the customer. This date is unlocked when you confirm the activity *Basic Engineering Acceptance*.
- The additional dates are dates for the partial or final invoicing.
When you have confirmed the activity *Foundations* the customer is invoiced for 35% of the document item.
When you have confirmed the activity *Follow-Up Assembly* the customer is invoiced for 50% of the net value after confirmation of final acceptance of the remainder.

Displaying Revenues

Use

The report *Revenues: Planned Contribution Margin* displays the revenues according to the billing plan. The down payment requests do not affect revenues. The first revenues are recorded only when this first partial invoice is made.

Procedure

1. Call up the transaction as follows:

Menu Path	<i>Logistics → Project System → Information System → Financials → Revenues and Earnings → Hierarchical → Planned Contribution Margin</i>
Transaction Code	S_ALR_87013565

2. In the dialog box, choose ✓.
3. If required, enter controlling area 2000, then choose ✓.
4. If required, enter database profile ZECPP0000001, then choose ✓.
5. Enter the following data:

Field	Data
Project	A-20####
Additional selection criteria	Delete

6. Choose ⏴.
7. Double-click project definition *PRJ A-20####*.

You see an overview of the planned values, displayed by individual years.

Creating an Invoicing Plan

Creating an Invoicing Plan

Use

You create an invoicing plan.

In this process, the invoicing plan contains the planned outgoing payments for the externally procured component *Vessel*.

For more information about invoicing plans, see the SAP Library under *Logistics → Project System → Payments*.

Prerequisites

In Customizing of the *Project System*, network profile IECPP01 has been assigned to invoicing plan type 30.

Procedure


1. Call up the transaction as follows:

Menu Path	<i>Logistics → Project System → Project → Special Maintenance Functions → Network → Change</i>
Transaction Code	CN22

2. Enter the following data:

Field	Data
Network	Number of the network <i>Vessel</i>



You can search for the number of the network using the F4 input help. Choose the *Networks by Project Definition* tab page, then enter the number of your project definition A-20### and choose .

3. Choose .


You now see the component overview of the network.

4. Select the line for the material IECPP-2-VE01 (boiler), then choose *Details → Component → Invoicing plan*.


The system uses the material value from the purchasing data as the target value for the invoicing plan.


5. Enter the following data:

Field	Date 1	Date 2	Date 4
Invoice date	Current date +1 year	Today's date + 18 months	Today's date +2 years
Date description	Down payment	Engineering/Design	Operational
%	10	50	
CheckRule	4	1	3

6. Choose .

The system determines the invoice values.

7. Choose .

8. Choose .

Releasing a Project Using a Basic Engineering Confirmation

Releasing a Project Using a Basic Engineering Confirmation

Use

All WBS elements, networks and activities as of the release milestone *Down payment* in the activity *Basic Engineering Acceptance* have the system status *Open (EROF)*.

When you confirm the *Basic Engineering Acceptance* activity for the last time, milestone functions are triggered by the assigned milestone.

This leads to:

- the release of all activities in the project
- the partial release of WBS elements
- the creation of a down payment request in accordance with the order in the billing plan for North Energy Ltd / Calgary

To simplify the process, you then release the entire project. After having released the project, you can then start to execute it. You cannot post actual costs and actual revenue to the individual WBS elements and activities until you have released the project.

You can find further information on confirmations in the Project System in the SAP Library under *Logistics → Project System → Confirmation*.








Prerequisites

A milestone has been maintained for the *Basic Engineering* network. This milestone has been assigned to the *Acceptance Basic Engineering* activity.

Procedure

1. Call up the transaction as follows:

Menu Path	Choose from the <i>Project</i> node in the <i>Project Builder</i> .
Transaction Code	CJ20N

2. If required, expand the  *Last projects processed* node in the area of the screen containing the work list.
3. Open your project by double-clicking on  *Power Plant A-20###* in the area of the screen containing the work list.
4. Expand the following nodes in the project:
 -  *Power plant*
 -  *Engineering*
 -  *Basic Engineering*
 -  *Basic Engineering*
5. Select the  *Acceptance Basic Engineering* activity.


Releasing a Project Using a Basic Engineering Confirmation

6. Choose *Edit* → *Activity* → *Confirm*.


A dialog box for entering confirmations for the network (actual data) appears.

7. Enter the following data:

Field	Data
Final confirmation	Select

8. Choose .

A message appears informing you that the project will be released by the next release milestone

9. Choose .

All the activities in the project receive the released status. The WBS elements receive a status dictating that they have been partially released.

10. Choose .

11. Open your project by double-clicking on  *Power Plant A-20###*.

12. To release the WBS elements, select the  *Power Plant* project definition in the structure overview.

13. Choose *Edit* → *Status* → *Release*.

The system status changes from open to released. You have released the project definition and all its subordinate WBS elements.

14. Choose .

Order Processing

Order Processing

Purpose

Procurement, production coordination of construction sites, shipping and assembly are carried out so that the power plant is ready for operation as a result.

Engineering and design becomes more detailed during project processing. Changes are to be analyzed with respect to the possible effects on costs, dates and resources and should be documented and agreed on with the sold-to party. Furthermore, BOMs should be adjusted to fit the results in the detail construction and should be checked with regard to the effects on the whole concept. The process described contains, in praxis, repetitions and changes in many different places.

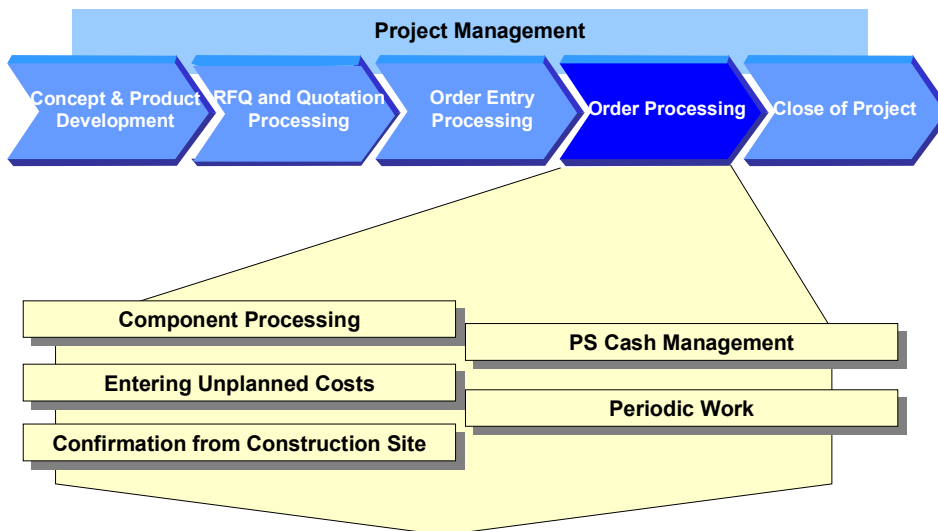
You execute material requirements planning for the project in order to plan procurement measures for the material requirements. Advance procurement and partial deliveries are commonplace since the projects often last a long time.

You can display and value the stock situation at any time using the project-related stock/requirements list. Goods receipt and goods issue can be traced with regard to quantity and value and be accounted to the project appropriately using the valued project stock.

Within the framework of a central planning and control system, confirmations from all areas involved in the project are supported so that there is complete entry of all company-internal and company-external deliveries and services and double entry is avoided.

Process Flow

The following graphic clarifies the process:



1. [Component Processing \[Page 160\]](#)

The engineering/design department has generated a WBS BOM for your power plant project using CAD systems. In order to plan material costs in detail and trigger the procurement of components, you assign individual BOM components to an activity in your project using the BOM/PS interface. Certain equipment, for example two components for the generator, has long procurement times and must be procured in advance.

After detailed planning, you assign the BOM to the project and execute material requirements planning.

2. [Entering Unplanned Costs \[Page 178\]](#)

Unplanned costs arise on the construction site. You post the appropriate invoice.

3. [Confirmation from the Construction Site Using CATS \[Page 180\]](#)

In the power plant project, work done and activities performed on or for the site are confirmed using time sheets and then transferred to the project system. Since an authorization procedure is in force, the confirmation has to be authorized before the transfer.

4. [PS Cash Management \[Page 190\]](#)

From a project point of view, it is important for the project manager to be able to plan and oversee the flow of payments, especially for capital-intensive projects or projects of long duration. The payment flow per activity is then evaluated in reporting.

In praxis, the individual steps are carried out by different employees at different points in time. The individual activities are grouped together in order to clarify the process.

5. [Periodic Work \[Page 201\]](#)

You carry out periodic work regularly during the processing of the project. The following belongs to project controlling:

- Determination of the overhead cost surcharges
- Progress analysis
- Calculation of incoming orders
- Project-related/company-wide result determination

Component Processing

Purpose

The engineering/design department for your power plant project has used CAD systems to create work breakdown structure BOMs and material master records. In order to be able to plan material costs in detail and trigger procurement of the components, you transfer a BOM to one of the activities in your project.



You can either handle materials in the network or you can assign them dynamically using the BOM PS interface. The latter has the advantage that you can process the project and the BOM separately. If, due to order-specific adjustments, for example, the engineering/design department needs to update the BOM, you can copy these changes to your project by using BOM transfer functionality.

You execute material requirements planning if you want to ensure that the materials you require are available.

Prerequisites

A BOM for material IECPP-2-GE01 exists in the system.

Process Flow

1. [Checking a BOM \[Page 162\]](#)

You check the BOM for the generator component for completeness.

2. [Maintaining the Reference Point for the Network Activity \[Page 163\]](#)

You have to maintain the reference point in the network activity in order to create a logical connection between the BOM item and the appropriate network activity (advance procurement for generator).

3. [Checking the Stock/Requirements List \[Page 165\]](#)

The stock/requirements list displays the currently valid requirements and stock situation for a specific material.

You can often make use of this function to check stock when you process components.

4. [Executing a BOM Transfer \[Page 166\]](#)

After a successful design phase, you now want to transfer individual BOM components for the generator to the appropriate network for further processing in order to trigger the procurement process on time.

5. [Executing Material Requirements Planning \[Page 168\]](#)

You execute materials requirements planning for the whole project. The system generates planned orders for materials that are to be produced in-house and purchase requisitions for the purchasing department for components that are to be procured externally. At this moment in time, the materials that first have to be procured are of interest.

6. [Creating a Purchase Order \[Page 170\]](#)

Component Processing

The ordering transaction is triggered for materials that have to be procured externally. You can create purchase orders from the purchase requisitions in the stock/requirements list.

7. [Posting the Goods Receipt for the Purchase Order \[Page 172\]](#)

You enter the goods receipt from external procurement. The vendor has only delivered part of the purchase order. The quantities provided by external procurement are kept in store and managed with inventory management.

8. [Entering an Invoice Receipt \[Page 174\]](#)

The invoice is with respect to the purchase order. Freight costs have been incurred. Moreover, the incoming invoice contains sales/purchase tax. You enter this tax data when you enter the invoice.

The invoice check creates a link between materials management and accounting (financial accounting, asset accounting and cost accounting).

9. [Assigning BOM Material in a Project \[Page 176\]](#)

You assign the BOM (generator) to the activity (production of generator) in your project. Since you have created a new material in the project, calculate your planned costs again.

Checking the BOM

Checking the BOM

Use

You check the BOM for the generator component and the reference point for two components.

Prerequisites

The reference point ZECPP01 (IECPP: advance procurement for power plant) is maintained in Customizing for the Project System.



Procedure

1. Call up the transaction as follows:


Menu Path	<i>Logistics → Central Functions → Engineering → Bill of Material → Bill of Material → Material BOM → Display</i>
Transaction Code	CS03

2. Enter the following data:

Field	Data
Material	IECPP-2-GE01
Plant	4000
BOM Usage	1

3. Choose .
4. Select the materials IECPP-2-GE12 and IECPP-2-GE13.
5. Choose .

The reference point *ZECPP01* has been maintained in the *General data* area on the *Basic data* tab page.

6. To go to the next material, choose .

The reference point *ZECPP01* has been maintained.

Maintaining a Reference Point for the Network Activity

Use

You have to maintain the reference point in the network activity in order to create a logical connection between the BOM item and the appropriate network activity (advance procurement for generator). In contrast to manual assignment of individual components, BOM changes made in the network activity in retrospect can be updated automatically.


Prerequisites

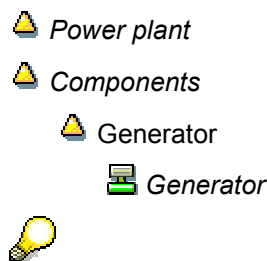
The reference point ZECPP01 (IECPP: advance procurement for power plant) is maintained in Customizing for the Project System.

Procedure


1. Call up the transaction as follows:

Menu Path	<i>Logistics → Project System → Basic Data → Project → Project Builder</i>
Transaction Code	CJ20N

2. Open your project by double-clicking on  *Power Plant A-20###* in the area of the screen containing the work list.
3. Expand the following nodes in the project:



The activities flagged for deletion are underlined in blue.

4. Select the  *Prel. procurement generator* activity.

The detail screen for the activity appears in the area of the screen containing the worklist.

5. Choose the *Assignments* tab page.

6. Enter the following data:

Field	Data
Reference point	ZECPP01

7. Choose .

Result

After you have maintained the reference points, you can transfer the BOM. At this point in time, still no requirements for materials IECPP-2-GE12 and IECPP-2-GE13 have been deducted.

Maintaining a Reference Point for the Network Activity

Since you want to check the stock situation every now and then throughout the process, call the stock/requirements list in another session (also referred to as session two in this documentation).

Choose  to do this.


[Checking the Stock/Requirements List \[Page 165\]](#)



Checking the Stock/Requirements List

Use

The stock/requirements list displays the currently valid requirements and stock situation for a specific material. You use this function to check stock at various times during your component processing.

- before and after BOM transfer
- after material requirements planning
- when the purchase order is created
- after goods receipt has been posted

If you have not opened another session, call a second session (also referred to as session two – stock/requirements list) by choosing .

To evaluate the current data, you must update the report after changes have been made to material stock by choosing . If you want to display the stock list for another material, enter the material and then choose .

You can find further information in the SAP Library under *Logistics → PP Production Planning and Control → PP Material Requirements Planning*.

Procedure

1. Call up the transaction as follows:

Menu Path	<i>Logistics → Project System → Material → Planning → Stock/Requirements List</i>
Transaction Code	MD04

2. Enter the following data:

Field	Data
Material	IECPP-2-GE12 IECPP-2-GE13 or IECPP-2-GE01
Plant	4000

3. Choose .

Executing a BOM Transfer

Executing a BOM Transfer

Use

Preliminary requirements are created by assigning material components to the advance procurement activity in the generator network during BOM transfer. Preliminary requirements serve as coverage for real requirements that are generated at a later stage. This is useful for material components with a long replenishment lead time.

Planned independent requirements are generated (instead of reservations) for materials that are procured using MRP (item category L).

You can find further information in the SAP library under *Logistics → Project System → Material → Bill of Material Transfer*.

Prerequisites

The following data has been maintained in Customizing for Project System:

- The BOM transfer profile ZEC1 (IECPP: advance procurement power plant)
The preliminary requirements indicator has been set.
- Reference point ZECPP01 (IECPP: advance procurement power plant)

Settings for advance procurement have been made in the material master record.

Procedure

1. Call up the transaction as follows:

Menu Path	<i>Logistics → Project System → Material → Planning → Bill of Material Transfer</i>
Transaction Code	CN33


2. Enter the following data:

Field	Data
Project definition	A-20####
Profile	ZEC1 (IECPP: advance procurement power plant)
Material	IECPP-2-GE01
Plant	4000
BOM usage	1
Additional selection criteria	Delete

3. Choose .




In the results overview you can see the components of the multi-level BOM that will be assigned to the appropriate activities of the project due to their common reference points. The components are assigned when you save your data.

4. Choose .

Result

After you have assigned materials IECPP-2-GE12 and IECPP-2-GE13 to the activity and the activity has been released, the system creates planned independent requirements to cover the requirements.

Branch to session two (stock/requirements list), or call up [Stock/Requirements List \[Page 165\]](#) again. Enter the material and choose .

Executing a Material Requirements Planning Run

Executing a Material Requirements Planning Run

Use

You execute material requirements planning (MRP run) for the whole project in order to plan procurement measures for the material requirements. The system generates planned orders for materials that are to be produced in-house and purchase requisitions for the purchasing department for components that are to be procured externally.

You can find further information in the SAP library under *Logistics* → *Project System* → *Material* → *Advance Procurement*.

Execute an MRP run:

- after the [BOM Transfer \[Page 166\]](#)

The BOM for the generator has not been assigned to the project yet and will therefore not be exploded yet. At this moment in time, the materials that first have to be procured are of interest.
- after the [Assignment of the BOM in the Project \[Page 176\]](#)

For materials that are produced in-house, the BOM explosion also determines dependent requirements, in other words the quantity of components that is required to manufacture the finished product or the assembly.

Prerequisites

The appropriate settings have been maintained for the materials in the MRP views 1 to 4 in the material master record.


Procedure

1. Call up the transaction as follows:

Menu Path	From the <i>Material</i> node, choose <i>Planning</i> → <i>MRP Project</i>
Transaction Code	MD51


2. Enter the following data:

Field	Data
Project def.	A-20###
Create purch. req.	1 (basically purchase requisitions)
Planning mode	1
Schedule lines	3
Scheduling	1
Display material list	Select

3. Choose .

The system asks you to check the entry parameters.

Executing a Material Requirements Planning Run

4. Choose .

The system executes materials requirements planning and displays statistics.

5. Choose  *Materials*.

A screen displaying an overview of the results appears. From here you can branch to the current stock/requirements list for a material, for example.

Creating a Purchase Order

Creating a Purchase Order

Use

The ordering transaction is triggered for materials that have to be procured externally. First of all, you want to order sound protection casing and ten bolts. You create the purchase order from the stock/requirements list.



Prerequisites

You are in session two [Stock/Requirements List \[Page 165\]](#).


Procedure

1. Enter the following data:

Field	Data
Material	IECPP-2-GE12

2. Choose .
3. Choose  to refresh the stock/requirements list after the MRP run.
4. Double-click on the purchase requisition (*PurRqs*) to call a dialog box displaying the details for the MRP element.
5. Make a note of the purchase requisition number.
6. Choose *->Purchase order*.

The *Create purchase order* screen appears. In the middle screen area an explaining documentation appears.

7. To close the documentation, choose .

In the left screen area you see the documentation overview. If it's not displayed, choose *Document overview on*. You can adjust the document overview area to your requirements.

On the right side you see the work area of the activity.

8. Enter the following data:

Field	Data
Vendor	4000


9. To open the item header area, choose  *Header*.

10. In the *Org.data* tab page, enter the following data:


Field	Data
Purchasing org.	4000
Purchasing group	010

11. Choose .

Creating a Purchase Order

12. In the document overview, select your purchase requisition and choose .

The system copies the item of the purchase requisition in the item overview area.


If the item overview area is closed, choose .

13. In the item overview, enter the following data:

Field	Data
Net price	20,000
Currency	CAD
Storage location	4000

14. In the item area, choose the *Invoice* tab page, then enter the following data:

Field	Data
Tax code	I1

15. Choose .

16. Make a note of the purchase order number.

17. To refresh the stock/requirements list after the MRP run, choose .

From the stock/requirements list you can see that the system has created a purchase order for the purchase requisition for material IECPP-2-GE12.

18. Proceed in the same way for material IECPP-2-GE13 and enter 2 000 000 as net price.

19. Choose .

20. To refresh the stock/requirements list after the MRP run, choose .

From the stock/requirements list you can see that the system has created a purchase order for the purchase requisition for material IECPP-2-GE13.

21. Make a note of the second purchase order number.

22. Switch to the other session.

Posting the Goods Receipt for the Purchase Order

Posting the Goods Receipt for the Purchase Order

Use

The ordered materials have been delivered and you enter a goods receipt for them. The vendor has only delivered part of your order: sound protection casing and 8 bolts.

Procedure

1. Call up the transaction as follows:

Menu Path	<i>Logistics → Materials Management → Purchasing → Purchase Order → Follow-On Functions → Goods Receipt</i>
Transaction Code	MIGO

2. Enter the following data:

Field	Data
Purchase order	First purchase order number (Search the purchase order for the material IECPP-2-GE12 if necessary)
Document date	Today's date
Posting date	Today's date

3. Choose .

The system copies all the purchase order items as they are into the goods receipt document.

4. Choose the *Qty* tab page, then enter the following data:

Field	Data
Qty in unit of entry	8



You overwrite the default value of ten with the actual quantity delivered of eight.

5. Choose .

6. In the *purchase order* field enter the number of the second purchase order you noted.

7. Choose .

8. In the item overview area select the indicator *OK* for both items.



If the *OK* indicator in the item overview area is not active, either close the item detail area or select *Item OK* at the bottom of the detail area.


9. Choose *Post*.

Posting the Goods Receipt for the Purchase Order**Result**

The requirement for material IECPP-2-GE12 has not been completely covered. The result is:

- a project stock (P-BEST) of eight bolts
- a purchase order (B-EIN) with an expected receipt/requirement of two bolts and an available quantity of 10 for the requirement date
- planned independent requirements of ten bolts

The requirements have been fully covered for material IECPP-2-GE13. A goods receipt covering the entire quantity ordered for material IECPP-2-GE13 has lead to the system removing this purchase order (BS-EIN) from the list. The result is a project stock (P-BEST) of one.

Branch to session two (stock/requirements list), or call up the [Stock/Requirements List \[Page 165\]](#) again. Enter the material and choose .

Entering an Invoice Receipt

Entering an Invoice Receipt

Use

You receive an invoice with the following items from your vendor:

Item	Value
Protection against sound	2 000 000
Bolts	160 000
Freight costs	5 000
Tax amount	324 750


Freight costs have been incurred. You enter these costs as unplanned costs.

The invoice includes sales/purchase tax. This is entered as the tax amount. You enter this tax data when you enter the invoice and the system makes the appropriate postings automatically.




Procedure

1. Call up the transaction as follows:

Menu Path	<i>Logistics → Materials Management → Logistics Invoice Verification → Document Entry → Enter Invoice</i>
Transaction Code	MIRO

2. If required, enter company code 4000 and choose .
3. On the *Basic data* tab page, enter the following data:

Field	Data
Invoice date	Today's date
Amount	2 489 750
Tax amount	324 750
Tax amount (field on the right)	I1 (A/P 7%GST, 8% PST distributed)

4. Next to the *Purchase order/scheduling agreement* field, choose .
5. In the left area of the dialog box, enter your noted PO numbers and choose  *Adopt*.
6. Choose .

The system copies the items and the net amount from the goods receipt.

7. To enter unplanned freight costs, choose the *Detail* tab page.
8. Enter the following data:

Field	Data
Unpl.del. csts	5000

9. Choose .

Entering an Invoice Receipt



The traffic lights for the balance are green which indicates that no deficits have been incurred.


If there is a value in the balance field, you must correct the entries you have made. The posting can only take place if the balance equals zero.

10. Choose  *Simulate*.



The appropriate posting records are displayed.

At the same time as the invoice is entered, the system finds the accounts that have to be posted to for this invoice. In addition, the system automatically generates postings for sales/purchase tax, discount clearing and price variances.

11. Choose  *Post*.

Assigning BOM Material in a Project

Assigning BOM Material in a Project


Use





During quotation processing you have maintained planning material costs for the generator activity. Since the BOM for the generator material has been completely maintained, assign the material to the activity. The planning value is reduced by the value of the material.

Procedure



1. Call up the transaction as follows:

Menu Path	<i>Logistics → Project System → Project → Project Builder</i>
Transaction Code	CJ20N


2. Open your project by double-clicking on  *Power Plant A-20###* in the area of the screen containing the work list.
3. Expand the following nodes in the tree structure:

-  *Power plant*
 -  *Components*
 -  *Generator*
 -  *Generator*


Checking the Planned Costs

1. Select the activity for the production of the generator .
2. Choose *Edit → Costs → Plan/Actual → Activity/element*.
Material planning costs have been planned for the material.
3. Choose .


Assigning Material Components

1. In the *Identifikation and view selection* area, choose .
- The system displays the component overview in the work area.
2. Enter the following data:

Field	Data
Material number	IECPP-2-GE01
Rqmts qty	1
Item category	L

3. Choose .


Recalculating Costs for the Network

1. In the structure tree, select  *Generator*.

Assigning BOM Material in a Project



2. Choose *Edit* → *Costs* → *Calculate costs*.

Checking Costs in the Cost Element Report

1. Select the  *Production generator* activity.
2. Choose *Edit* → *Costs* → *Plan/Actual* → *Activity/element*.


The values of the cost elements have changed.

The planned costs for material planning have been reduced by the price of the material.
The planned costs for the stock change (production) result from the material price from the material master record.

3. Choose .
4. Choose .

Result

By assigning BOM IECPP-2-GE01 to the project, the BOM has received a pegged requirement in the form of an order reservation (AR-RES).

Branch to session two (stock/requirements list), or call up the [Stock/Requirements List \[Page 165\]](#) again. Enter the material and choose .

Entering Unplanned Costs

Entering Unplanned Costs

Use

Additional materials are required on the construction site. These materials are procured by the site supervisor on the telephone. After a while, you enter the invoice for the appropriate WBS element for carcass work.

Prerequisites



The following data has been maintained in Customizing for Financial Accounting:

- G/L account 476900
- Tax code I1

Procedure

1. Call up the transaction as follows:

Menu Path	<i>Accounting → Financial Accounting → Accounts Payable → Document Entry → Invoice</i>
Transaction Code	FB60

2. If required, enter company code 4000 and choose .
3. If the tree structure is not displayed, choose  *Tree on*.
4. Open the structure in the tree area and choose *Screen variants for items → With project*.
5. On the *Basic data* tab page, enter the following data:

Field	Data
Vendor	4000
Invoice date	Today's date
Amount	10,800
Tax amount (field on the right)	I1
Calculate tax	Select

6. Make the following entries in the table:

Field	Data
G/L account	476900
Amount doc. curr.	10,800
Tax code	I1
WBS element	A-20###-04-03 (carcass work)

7. Choose  *Simulate*.



The appropriate posting records are displayed. At the same time as the invoice is entered, the system finds the accounts that have to be posted to for this invoice. In addition, the system automatically generates a posting for the sales/purchase tax (account 175000).

8. Choose .
9. Choose .
10. In the dialog box, choose Yes.

Confirmation from the Construction Site Using CATS

Confirmation from the Construction Site Using CATS

Purpose

Determining how many work hours are required and from which cost center is a task for the personnel planning department for the construction site. Exact confirmations from the site for the required working time are of great importance if you wish to plan and execute the project realistically. The CATS time sheet (Cross Application Time Sheet) allows you to enter working time and is a self-service application for internal employees and external agencies.

The work done is then transferred to the Project System. Since an authorization procedure is in force, the confirmation has to be authorized before the transfer.

You can find further information in the SAP Library under *Logistics* → *Project System* → *Confirmation* and under *Cross-Application Components* → *CA Time Sheet*.

Process Flow

1. [Creating a Pool of Confirmations \[Page 181\]](#)

Create a pool of confirmations for the WBS element for the site facilities.
2. [Entering a Confirmation Using the Time Sheet \[Page 183\]](#)

Employees record their working hours on the time sheet. Two employees release this data for authorization.
3. [Displaying Confirmed Data \[Page 185\]](#)

After a while, you, as supervisor, require an overview of the status of the work that has already been completed. A traffic light function informs you of the processing status.
4. [Approving and Authorizing Confirmed Data \[Page 186\]](#)

Since an authorization procedure is in force, the confirmation has to be authorized before the transfer. As supervisor, you approve the confirmations made by one of your employees. You do not approve the work done by another employee.
5. [Displaying a Reason for Rejection \[Page 188\]](#)
6. [Transferring Data to the Project System \[Page 189\]](#)

You transfer data that is required in the Project System to the Project System.

Generating Pools of Confirmations

Prerequisites


The PS info profile ZECPP0000001 (IECPP: project objects without components) determines which fields are displayed in the BOM overview, for example, the project object, actual dates, actual costs or work.

You can only confirm activities and activity elements if these activities and elements have been assigned the *Released* status.

Procedure

1. Call up the transaction as follows:

Menu Path	<i>Logistics → Project System → Information System → Structures → Structure Overview</i>
Transaction Code	CN41

2. If required, enter PS info profile **ZECPP0000001**, then choose .
3. Enter the following data:

Field	Data
WBS element	A-20###-04-01
Additional selection criteria	Delete

4. Choose .

The structure overview appears.

5. Select your project and choose .

Setting up the Application Toolbar

1. To include the function  in the application toolbar, choose  *Choose functions*.

The *Choose functions* dialog box appears.


2. In the window area on the left open the *Verify*  node and draw the  *Create confirmations pool* node into the window area on the right by keeping the left-hand mouse button pressed.
3. Choose  *Copy*.

Generating Pools of Confirmations

1. Select all the activities under network  *Site facilities*.





You can select more than one activity at a time by keeping the *Control* key pressed.

2. Choose  *Verify → Create confirmation pool*.
3. In the dialog box enter the following data:

Generating Pools of Confirmations

Field	Data
Confirmation pool	A-20###-04-01
Description	Site facilities confirmation pool

4. Choose .
5. Make a note of the earliest start date for the activity for setting up the site infrastructure.
6. Choose .

Result

You have created a confirmation pool. You can use this confirmation pool at a later date to display the activities assigned to you automatically.

Entering a Confirmation Using the Time Sheet

Use

Employees confirm the time that they have spent working on the construction of the site and its facilities. These confirmations are made by three of the employees in your company. These employees enter the working times on the time sheet on a daily basis.

After a plausibility control, two employees release their data for approval. Since the third employee still has some questions to be answered, this employee does not release his confirmations yet.

Prerequisites

Employee numbers 1100, 1110 and 1120 have been maintained in the personnel master data.

The CATS profile *IECPP001 (IECPP: confirmation of network (release and check))* has been maintained in Customizing for Cross-Application Components.

You have the authorization for entry profile IECPP001 in order to be able to confirm using the time sheet. This authorization can also be maintained in Customizing for Cross-Application Components.

Procedure

1. Call up the transaction as follows:


Menu Path	<i>Logistics → Project System → Progress → Confirmation → Time Sheet → Time Data → Enter</i>
Transaction Code	CAT2

2. Enter the following data:

Field	Data
Data entry profile	IECPP001 (IECPP: network confirmation (release and check))
Key date	Date of first activity in the pool of confirmations
Personnel number	1100

3. Choose .


You can use the entry profile to determine that processing can take place using the pool of confirmations.



4. Enter **A-20###-04-01** as confirmation pool.
5. Choose  and confirm any information dialog boxes that may appear.

The *Time Sheet: Entry Sheet* screen appears. The system displays the activities for which the employees can make confirmations in the upper part of the screen.



Entering a Confirmation Using the Time Sheet


Settings made in entry profile IECPP001 determine that the system displays the confirmation pool for the next two weeks after the entry date. Choose  to check or change these settings. A dialog box appears for editing the settings appears.

6. Select activity 30 *Create site warehouse*.
7. Choose  to copy the data to the confirmation list.
8. Enter 8 working hours a day for all the days in the first week.
9. Choose  *Release view*.

The *Time Sheet: Release View* screen appears. All the values displayed in blue have not been released yet.

10. Select the activity you want to release and choose .

The system confirms the release in the status bar.

11. Choose .
12. Repeat steps 2 to 10 for the employee with personnel number 1110.
13. Repeat steps 2 to 9 and step 11 for the employee with personnel number 1120.



Do not release the confirmation for this employee.

Displaying Confirmed Data

Use

You want to display the data that has been entered using a time sheet for each person. To display this, you choose the relevant employees from the time sheet data.


Procedure

1. Call up the transaction as follows:


Menu Path	<i>Logistics → Project System → Progress → Confirmation → Time Sheet → Information System Time Sheet Data By Personnel Number</i>
Transaction Code	CADO

2. Enter the following data:



Field	Data
Reporting period:	Select all

3. To choose more than one employee, choose *Multiple selection*  next to the *Personnel no.* field.

The *Multiple Selection for Personnel No.* dialog box appears.

4. Make the following entries on the tab page for single values .

Field	Data
	1100
	1110
	1120

5. Choose .
6. Choose .

A screen displaying the time sheet data appears.

Result

The system displays an overview of the confirmations that have been entered for the appropriate employees. Furthermore, you receive information on the processing status:

- The confirmations for employees 1100 and 1110 have been released for authorization.
- The confirmation for employee 1120 is being processed.

This information is clarified by the use of the traffic light function.

Approving Confirmed Data

Approving Confirmed Data

Use

As supervisor it is your job to check the confirmations made by your employees. You want to authorize the confirmation for the employee with personnel number 1100 and reject the confirmation for employee 1110 on the grounds of incorrect account assignment.

Prerequisites

The reason for rejection IECPP (IECPP: incorrect account assignment) has been maintained in Customizing for the time sheet.


Procedure

1. Call up the transaction as follows:


Menu Path	<i>Logistics → Project System → Progress → Confirmation → Time Sheet → Approval → Selection Using Time Sheet Data</i>
Transaction Code	CAPP

2. Enter the following data:



Field	Data
Reporting period: all	Select

3. To choose more than one employee, choose *Multiple selection*  next to the *Personnel no.* field.

The *Multiple Selection for Personnel No.* dialog box appears.


4. Make the following entries on the tab page for single values .

Field	Data
	1100
	1110
	1120

5. Choose .
6. Choose .
7. Select all the work performed by the employee with personnel number 1100.




You can select more than one entry at a time by keeping the *Control* key pressed.

8. Choose  to approve this work.

The traffic light changes to green.


9. Select all the work performed by the employee with personnel number 1110.

10. Choose  to reject the work you have selected.

A dialog box appears.

11. By double-clicking on the entry IECP, choose the reason for rejection as incorrect account assignment.

The traffic light changes to red.

12. Choose .

Displaying a Reason for Rejection


Displaying a Reason for Rejection

1. Call up the transaction as follows:

Menu Path	<i>Logistics → Project System → Progress → Confirmation → Time Sheet → Time Data Display</i>
Transaction Code	CAT3

2. Enter the following data on the initial screen:

Field	Data
Data entry profile	IECPP001 (IECPP: network confirmation (release and check))
Key date	Date of first activity in the pool of confirmations
Personnel number	1110

3. Choose .

The *Time Sheet: Entry Sheet* screen appears.

4. Call an information dialog box by double-clicking on one of the entered times.

You receive information on the reason for rejection.

5. Choose .

Transferring Data to the Project System

Use

You use program *CATS: Transfer to Project System (RCATSTPS)* to transfer data to the Project System.


Procedure

1. Call up the transaction as follows:



Menu Path	<i>Logistics → Project System → Progress → Confirmation → Time Sheet → Transfer → Project System → Transfer</i>
Transaction Code	CAT5

2. Enter the following data:

Field	Data
Test run	Deselect

3. To choose more than one employee, choose *Multiple selection*  next to the *Personnel no.* field.

The *Multiple Selection for Personnel No.* dialog box appears.

4. Make the following entries on the tab page for single values  .

Field	Data
	1100
	1110
	1120

5. Choose .

6. Choose .

The *Time Sheet: Transfer to Project System* screen appears.

Result

Since only the confirmations for employee 1100 have been authorized, only these will be transferred.

After you have transferred the confirmation, the system performs the following activities:

- posts your confirmation on the posting date entered
- copies actual dates to the network or to the WBS elements
- calculates actual costs on the posting date and updates them for the activity

Cash Management Project

Cash Management Project

Purpose

When a project is being processed, expenditures and costs that affect revenues are incurred on the project. It is of particular importance for the project manager to plan and monitor the payment flow from a project point of view for long term projects, which require intensive capital. You use Project Cash Management for this project-related view of the payment flow.

For more information, see the SAP Library standard documentation, under *Logistics* → *Project System* → *Payments*.



The individual steps are normally processed by different employees in their current activities. To explain the process, the steps in this example are listed one after another, and then are all evaluated in reporting.

The following particularly concentrates on monitoring customer payments. The payment update on the credit-side is made when you post the corresponding business transactions during order processing.

Prerequisites

You need to activate Project Cash Management for controlling area 4000.

Process Flow

Customer Payments

1. You use the billing plan stored in the sales order to plan customer payments. When you update the values to Project Cash Management, the system automatically takes the payment terms into account. The system uses milestone billing to create the billing dates, which are then invoiced to the project earned value accordingly.

You already created the billing plan during order processing. The system created dates for the sales order using milestone billing:

- Down payment date for 10% of the total amount
- Partial invoice date for 35% and 50% of the total amount
- Final invoice date

See [Creating Billing Plan \[Page 150\]](#)

2. The down payment date is unlocked using the corresponding milestone, and a down payment request.

You confirmed the *Acceptance Basic Engineering* activity during order processing. A billing milestone is assigned to the activity for a down payment. When you make the confirmation, the system automatically unlocks the billing date, so you can [create a down payment request \[Page 192\]](#).

3. You post the down payment after the payment has been received.

[Posting Incoming Down Payments \[Page 194\]](#)

Cash Management Project

4. During order processing, you confirm more activities. When you confirm the *Fundamentals* activity, you automatically unlock the first partial invoice date.

[Confirming an Activity \[Page 196\]](#)

5. You create the billing document, in which the down payment already made is automatically cleared.

[Creating Milestone Billing \[Page 197\]](#)

6. The customer pays the open receivable and you post the incoming payment.

[Posting Incoming Payments \[Page 198\]](#)

7. To ensure that the payments made are also correctly displayed in Project Cash Management, you transfer the payments when you execute your periodic tasks.

[Transferring Payment \[Page 200\]](#)

8. You create the second partial invoice in the same way as the first, and then you create the final invoice when the power plant is accepted.

These steps are not relevant for the example process. You can process it in the same way as the partial invoice. To unlock the billing date for the second partial invoice, confirm the *Follow-up Assembly* activity. To do so for the final invoice, confirm the *Final Acceptance* business transaction.

Creating Down Payment Requests

Creating Down Payment Requests

Use

The down payments are part of the agreement with the customer. You stored a down payment date in the billing plan for the sales order. The down payment amount is 10% of the total value of the item.

The down payment date is linked to a milestone in the project. When you create the billing plan, all the dates are initially locked. When you confirmed the *Basic Engineering Acceptance* activity, the corresponding milestone was triggered, and the down payment date was unlocked. During the billing document run, the system selects this date and creates a down payment request. The system automatically updates the down payment request to FI and on the project.

Prerequisites

The down payment date must be unlocked in the sales order.

The billing element (the WBS element to which the revenues are posted) must be released. Otherwise, the system creates the down payment request without a corresponding accounting document, and does not update the payment data on the project.


Procedure

1. Call up the transaction as follows:

Menu Path	<i>Logistics → Sales and Distribution → Billing → Billing Document → Create</i>
Transaction Code	VF01

2. Enter the following data:

Field	Data
Document	Your sales order number

3. Choose .

The system selects the down payment requests for the *Boiler* and *Power plant* sales order items.

4. Choose .

Result


The down payment requests have been created, and the payment data is updated on the project. To evaluate the data change the session (from now on: Session 2 (*Customer payment report*)) and call up the payment report.

[Calling Up The Customer Payment Report \[Page 193\]](#)

The system displays the down payment request in the *Customer DP Reqs* row.

Calling Up The Customer Payment Report





Use

As you regularly monitor the payment data on the project during the process, call up the payment report in another session (from now on: Session 2 *payment report*). Therefore choose . To evaluate the current data, you need to exit the report and run it again.


Procedure

1. Call up the transaction as follows:

Menu Path	<i>Logistics → Project System → Information System → Financials → Execute Report → Hierarchy Report</i>
Transaction Code	CJE0

2. Enter controlling area *2000*, then choose .
3. In the structure overview, choose *001 Project Report* →  *ZECPP01B IECPP: Cash in (Reference 31 FIMB)*.
4. Choose .
5. If required, enter database profile *ZECPP0000001*, then choose .
6. Enter the following data:

Field	Data
Project	A-20###
Additional selection criteria	Delete
Plan version	0

7. Choose .

The payment data overview for the project appears. In the *Cust. fin. budget* row, the system displays the revenue data from the billing plan for the sales order.
8. To obtain a period-specific display, in the Navigation area on the left side of the screen, double-click on *Period/Year*.
9. To continue processing, change session.

Posting Incoming Down Payments

Posting Incoming Down Payments

Use

The customer has paid the down payment request, and you post the incoming payment. You use the down payment request as a reference. The down payment request is cleared.

Procedure

1. Call up the transaction as follows:

Menu Path	<i>Accounting → Financial Accounting → Accounts Receivable → Document Entry → Down Payment → Down Payment</i>
Transaction Code	F-29

2. Enter the following data:



Field	Data
Document date	Today's date
Document type	DZ
Company code	4000
Posting date	Today's date
Currency	CAD
Customer Account	4000
Spec. G/L indicator	A
Bank Account	113100
Amount	37,950,000

3. Choose *Requests*.

The system selects the down payment requests for the two sales order items.

4. Select your down payment requests, and choose *Create down payments*.

The document overview appears, displaying the down payment amount and the tax portion.

5. Choose  and if required  should any warning messages appear.

Result

The system updates the payment data from the down payment to FI and Project Cash Management, with reference to the down payment request.

To evaluate the data, change to session 2 (*Customer payment report*) and call up the report again.

Posting Incoming Down Payments

The system displays the down payment in the *Customer down payment* row. The down payment request is reduced to zero with the down payment. The net amounts are displayed on the project.

Confirming an Activity

Confirming an Activity

Use

The *Begin shell* billing milestone is assigned to the *Fundamentals* activity. When you confirm the activity, the billing date in the sales order is automatically unlocked.

Prerequisites

You have already released the activity.

Procedure

1. Call up the transaction as follows:

Menu Path	<i>Logistics → Project System → Project → Project Builder</i>
Transaction Code	CJ20N


2. Open your project by double-clicking on the *A-20###* project in the work list.
3. Expand the following nodes in the project:

 *Power plant*


 *Construction Site*

 *Shell*

 *Shell*

4. Select the  *Foundations* activity.
5. Choose *Edit → Activity → Confirm*

The confirmation data for the activity appears. Accept the defaulted plan data for the confirmation.

6. Select *FinalConf*.
7. Choose .

The Project Builder screen appears. The system sets the extra status *RMAN CONF*.

8. Choose  and if required  should any messages appear.

Creating Partial Invoices

Use

By confirming the *Fundamentals* activity, you unlock the *Partial invoice* date using milestone billing. During billing, the down payments already made are automatically cleared with the billing document. The customer is billed for 35% of the total value.

Procedure

1. Call up the transaction as follows:

Menu Path	<i>Logistics → Sales and Distribution → Billing → Billing Document → Create</i>
Transaction Code	VF01

2. Enter the following data:

Field	Data
Document	Your sales order number

3. Choose .

In the overview for the billing items, the screen title shows that an invoice is being created. The invoice contains two items, one for the partial invoice (item 10), and one for clearing the down payment (item 11). In our process, the down payment is completely cleared with the first partial invoice.



The system does not calculate the amount to be paid. The customer receives only information on the amount, which they can deduct from the payment.

4. Choose .

Result

The system posts the total amount of the billing document in FI as a receivable, and updates it in Project Cash Management. The amount paid is thus cleared out of the billing document with the receivable.

Unlike the down payment, the data from the billing document is updated in the form of actual revenues on the project.

To evaluate the data, switch to session 2 (*Customer payment report*) and call up the [payment report \[Page 193\]](#) again.

Clearing the down payment reduces the down payment amount to zero. As the incoming payment has already been posted for the down payment, the cleared down payment amount is displayed in the *Customer payments* row. The remaining amount from the billing request is displayed in the *Cust. payt obl. Inv.* row.

Posting Incoming Payments

Posting Incoming Payments

Use

Once the customer has paid the billing document, you post the incoming payment.

Prerequisites

Under *Settings* → *Processing Options*, the *Selected Items Initially Active* indicator on the *Open Items* tab page.

Procedure

1. Call up the transaction as follows:

Menu Path	<i>Accounting</i> → <i>Financial Accounting</i> → <i>Accounts Receivable</i> → <i>Document entry</i> → <i>Incoming payment</i>
Transaction Code	F-28

2. Enter the following data:

Field	Data
Document date	Today's date
Company code	4000
Currency / rate	CAD
Bank data: Account	113100
Amount	8625000
Open item selection: Account	4000

3. Choose *Process open items*.

The *Incoming Payments (Fast Entry): Process Open Items* screen appears.

4. Select both items (invoice amount and down payment to be added) and choose  *Items*.

The amount of the activated items is assigned to the paid amount. The entered amount is cleared.

5. Choose .

Result

The open items are cleared by the incoming payment in FI.

In Project Cash Management, the cleared payments are correctly displayed once you have transferred payment.

Displaying the Document Flow for the Sales Order

Use

In the sales order, you can see the document flow and thus keep an overview of the posted documents at all times.


Procedure

1. Call up the transaction as follows:

Menu Path	<i>Logistics → Sales and Distribution → Sales → Order → Display</i>
Transaction Code	VA03

2. Enter the following data:


Field	Data
Order	Sales order number (You can search for the number using WBS element A-20##)

3. Choose .

The system displays the document flow for the sales order.

4. Note down the accounting document for the invoice.

You need the document number for the payment transfer.

5. Select the accounting document for the invoice and choose  *Display document*.
6. Double-click on the first row (account 4000) to call up the financial accounting document.
7. Note down the date in the *Clearing* field.

You need the clearing date for the payment transfer and for the results analysis.

Transferring Payment

Transferring Payment

Use

You need to transfer payment to enable the cleared invoice to be displayed in Project Cash Management under the payment value type. In practice, you transfer payment as part of your periodic tasks.

Procedure


1. Call up the transaction as follows:

Menu Path	<i>Logistics → Project System → Financials → Period-End Closing → Single Functions → Payment Transfer</i>
Transaction Code	CJFN

2. Enter the following data:

Field	Data
Company code	4000
Fiscal year	Fiscal year of the clearing date from the FI document
FI document number (invoice) from - To	Noted accounting document for the invoice
Test run	Deselect

3. Choose .

4. Choose .

Result

The down payment request has been created, and the data is updated on the project. To evaluate the data, switch to session 2 (*Customer payment report*) and call up the [payment report \[Page 193\]](#) again.

The system displays the cleared invoice in the *Payments* row. In the *Cust. payt obl. inv.* row, the amount is reduced accordingly.

Periodic Processing

Purpose

During project execution, there are often variances between the project planning data and the actual project development. Unforeseen events can lead to cost variances and date shifts. It is therefore vital that you always have up-to-date information regarding the status of your project and project progress.

Periodic processing, such as overhead application, interest calculation, results analysis, incoming orders, and settlement are executed on the basis of fiscal year periods. This is generally at the start of a given period for the preceding period.

Process Flow

You will carry out the following activities several times during the lifetime of a project.

Periodic Allocations During the Planning Phase

1. Generating the Settlement Rule

A prerequisite for results analysis is the correct maintenance of the PA transfer structure for the project. The system uses the automatic generation of the [Settlement Rule for WBS Elements \[Page 203\]](#) in accordance with the strategy to assign the settlement rule and PA transfer structure to the WBS elements.

2. Planned results analysis

You can then determine the project-specific results ([Executing Results Analysis in the Plan Version \[Page 205\]](#)). You use results analysis to determine, for example, the work in process or the cost of sales for a given period. To view cross-enterprise planning data, you need to [Transfer the Results Planning Data to Profitability Analysis \[Page 208\]](#).

You can find further information in the SAP Library, under *Accounting* → *Controlling* → *Profitability Analysis*.

Periodic Processing in Project Controlling

1. Calculating overhead

In the first step, you enter a [Collective Confirmation for the Detailed Engineering \[Page 210\]](#). You then post the [Overhead \[Page 213\]](#) in the actual version. The system determines the overhead portions of the actual costs incurred for the project and updates them appropriately to the project.



The system determines the planned overhead costs automatically during the costing. For the actual costs, you need to calculate and update the actual overhead rates explicitly.

You can find further information in the SAP Library, under *Accounting* → *CO Controlling* → *Overhead Cost Controlling*

2. Progress Analysis

Periodic Processing

The system uses [Progress Analysis \[Page 214\]](#) to determine the cost and activity variances for the project, based on the planning data and the percentage of completion (POC). These values enable you to forecast the expected cost and activity developments.

You use the [Progress Report \[Page 216\]](#) for internal cost controlling and as an activity confirmation for the sold-to-party.

For more information, see the SAP Library, under *Logistics → Project System → Project Earned Value*.

3. Results Analysis

To get an overview of the results of your project, you [Execute Results Analysis \[Page 218\]](#). Results analysis is a prerequisite for the correct determination of the project incoming orders.

4. Project incoming orders

At the end of the period, you [Determine the Project Incoming Orders \[Page 219\]](#).

The system determines key figures for the incoming orders and open orders based on the sales orders assigned to the project. You can now evaluate your project data in the Project Information System ([Displaying Project-Specific Results \[Page 207\]](#)). It is now possible for you to make statements at an early stage regarding the expected results or results development of your projects.

You can find further information in the SAP Library under *Logistics → Project System → Revenues and Earnings → Project-Related Incoming Orders*.

Entering the Settlement Rule for the WBS Element

Use

In this project step, you generate the relevant settlement profiles and settlement rules on the WBS elements.

The system uses the automatic generation of settlement rules (settlement rule and parameters for the settlement rule) according to the strategy defined in Customizing.

For more information, see the SAP Library, under *Logistics → Project System → Costs*.

Prerequisites

In Customizing of the *Project System* you have defined settlement profile ZEC001 and strategy Z4 for the automatic generation of the settlement rule on the WBS element.

In project profile IECPP01 we have stored strategy Z4.


Procedure

1. Call up the transaction as follows:


Menu Path	<i>Accounting → Project System → Financials → Period-End Closing → Single Functions → Settlement Rule → Individual Processing</i>
Transaction Code	CJB2

2. Enter the following data:

Field	Data
Project definition	A-20###
Period	Final period of the project
Fiscal year	Final fiscal year of the project
Test run	Deselect
Detail lists	Select

3. Choose .

You see the basic list of the log.

4. To call up detailed information, choose .

The lists shows you, for example, the strategy used and the generated settlement profile.

Result

As defined in strategy Z4, which is stored in project profile IECPP01, the system generates a settlement rule, and, if required, a PA transfer structure, for each WBS element.

In line with the settlement rule, the relevant data is settled to Profitability Analysis CO-PA.

Determining the Results Analysis Date

Determining the Results Analysis Date

1. Call up the transaction as follows:



Menu Path	<i>Logistics → Sales and Distribution → Sales → Order → Display</i>
Transaction Code	VA03

2. Enter the following data:

Field	Data
Order	Your order number



To search for the document number of your order, you can use the PO number A-20###.

3. Choose .
4. Select the document item for the power station IECPP-1-PP01.
5. To display the detailed data, choose .
6. Choose the *Billing plan* tab page.
7. Note the billing date of the second partial invoice.

Executing Results Analysis in the Plan Version

Use

You execute a revenue-proportional results analysis in the plan version.

Prerequisites

In Customizing for *Controlling* we have maintained the following settings for determining and updating the results:

- Results analysis key 130001 on the top WBS element
- Allocation structure 40 (IECPP: Settle. CO-PA power station)
- PA Transfer Structure 30 (sales orders/project)
- Settlement profile ZEC001 (IECPP: Settle. Res. Power Station)
- Plan version results analysis CO-PA 400 (CO-PA IECPP Power station)

In the master data, we have also maintained the settlement cost elements 650000 (all costs) and 666000 (all revenues).




Procedure

1. Call up the transaction as follows:

Menu Path	<i>Logistics → Project System → Financials → Planning → Allocations → Results Analysis → Proceed → Individual Processing</i>
Transaction Code	KKA2P

2. Enter the following data:

Field	Data
WBS element	A-20###
Period	Period of the noted billing date
Fiscal year	Fiscal year of the noted billing date
RA version	0

3. Choose .
4. Choose .
5. In the dialog box, choose .



To save the results analysis for both the controlling area currency and the company code currency, you need to save twice.

6. Choose .

Executing Results Analysis in the Plan Version

Result




The system has assigned the cost of sales to the revenues incurred. It has also determined the stocks of work in process or reserves.

Displaying the Project-Specific Result

Procedure

1. Call up the transaction as follows:

Menu Path	<i>Logistics → Project System → Information System → Financials → Execute Report → Hierarchy Report</i>
Transaction Code	CJE0

2. Choose 001 Project Report →  ZECPP02 IECPP: Plan Oper. Profit.
3. Choose .
4. In the dialog box, choose .
5. Enter the following data:

Field	Data
Project	A-20###
Additional selection criteria	Delete
Object currency	CAD

6. Choose .

Result

The report contains the following key figures for this project:

- Cost of sales
- Work in process
- Reserves

Transferring Sales and Profit Planning Data to CO-PA

Transferring Sales and Profit Planning Data to CO-PA

Use

To get an enterprise-wide viewpoint, you settle the values to Profitability Analysis (CO-PA).


Procedure


1. Call up the transaction as follows:

Menu Path	<i>Accounting → Controlling → Profitability Analysis → Planning → Integrated Planning → Transfer Order/Project Planning → Transfer Project Plan – Individual Processing</i>
Transaction Code	CJ7E

2. Enter the following data:

Field	Data
WBS element	A-20###
Period	Period of the noted billing date
Version	0
Fiscal year	Fiscal year of the noted billing date
Test run	Deselect
Detail list	Select

3. Choose .

4. To call up detailed information, choose .

Result

Your project-related planning results have been transferred to Profitability Analysis (CO-PA).

Displaying the Cross-Project Results


Procedure

1. Call up the transaction as follows:


Menu Path	<i>Accounting → Controlling → Profitability Analysis → Information System → Execute Report</i>
Transaction Code	KE30

2. Enter the following data:

Field	Data
Profitability Reports	IDEA
Costing-based	Select


3. Choose .

4. Choose *001 Projekt Report → IDES-400 (IECPP: Plan Analysis)*.

5. Choose .

6. Enter the following data:

Field	Data
From Period/Year	Period/Year des Projektbeginns
To Period/Year	Period/Year des Projektabschlusses

7. Choose .

Result

You now see the following key figures for the entire enterprise:

- Revenue
- Cost of sales
- Contribution margin

Confirming the Detail Engineering

Confirming the Detail Engineering

Use

You use collective confirmation to confirm all activities for WBS element *Detailed Engineering* at the same time. The confirmed data form the basis of the progress determination. The posting date is the earliest start date of the activity *Detail Engineering: Instrumentation and Control*.


Procedure

Note the value of the *Earliest start date*.

Collective Confirmation from the Information System


1. Call up the transaction as follows:

Menu Path	<i>Logistics → Project System → Information System → Structures → Structure Overview</i>
Transaction Code	CN41

2. If required, enter PS info profile **ZECPP0000001**, then choose .

3. Enter the following data:




Field	Data
Project	A-20###

4. Choose .

Setting up the Application Toolbar

1. To include the function  in the application toolbar, choose  *Choose functions*.

The *Select Functions* dialog box appears.

2. On the left side of the screen, expand  *Verify* then click on  *Collective confirmation* and hold down the left mouse button to drag it into the right side of the screen.
3. Choose  *Copy*.

Confirming the Activities


1. Expand the nodes

 *Power plant*

 *Power plant(A-20###)*

 *Engineering(A-20###-02)*

 *Detail Engineering (A-20###-02-02)*

2. Note the value of *ESchStrt (Earliest scheduled start)* for the activity  *Detail Engineering Power Control Center*.


Confirming the Detail Engineering




The start date of the confirmation is the earliest start date of the activity *Detailed Engineering Instrumentation and Control*. The work continues until the end of the month. You therefore enter the posting date and the end date of the confirmation as the final working day in the month containing the earliest start date.


3. Select all of the lower-level activities assigned to the WBS element *Detailed Engineering*.



To select the entire line, click on  for the given activity. You can select more than one activity by keeping the Cntrl key pressed.

4. Choose  *Verify* → *Collective confirmation*.
5. Enter the following data in the upper area of the table:

Field	Data
PostgDate	Final working day in the month of the earliest start date
Un. (Unit)	HR
ExecStart (Confirmed start date of the execution)	Earliest start date
ExecFinsh (Confirmed finish date of the execution)	Final working day in the month of the earliest start date

6. Choose .


The system adopts the values from the upper table area for all activities.

7. In the lower table area for the individual activities, enter the following data:

Line	Act.work (actual work)	Pct (Percentage of completion)	Short Text
1	4320	50	Detail engineering: power control center
2	1800	75	Detail engineering: fuel supply
3	3720	25	Detail engineering: vessel
4	10800	50	Detail engineering: gas turbine
5	14760	75	Detail engineering: cooling system
6	7560	25	Detail engineering: steam turbine

Confirming the Detail Engineering

7	4200	75	Detail engineering: Transformer
8	168	25	Detail engineering: Buildings
9	2160	50	Detail engineering Generator

8. Choose .

Calculating Overhead Rates

Use

You now apply overhead to the actual costs incurred by the confirmation of the activities for detailed engineering.

You determine the overhead costs in the period in which you confirm the detailed engineering.

Prerequisites

In Customizing of the *Project System* under Controlling, costing sheet ZECPP01 has been maintained. The parameters for the overhead calculation are summarized in the costing sheet.

This costing sheet is assigned to all activities of detailed engineering. The assignment is made indirectly via project profile ZECPP01.

Procedure

1. Call up the transaction as follows:

Menu Path	<i>Logistics → Project System → Financials → Period-End Closing → Single Functions → Applied Overhead → Individual Processing, Actual</i>
Transaction Code	CJ44


2. If required, enter controlling area 2000, then choose .

3. Enter the following data:

Field	Data
Project definition	A-20###
With orders	Select
Period	Month of the earliest start date
Fiscal year	Year of the earliest start date
Test run	Deselect
Detailed lists	Select

4. Choose .

You now see the log containing the results of the actual overhead calculation.

5. To analyze the individual overhead values, choose .

Result

The system calculates the overhead costs and updates them by cost element on the project activities under overhead cost elements.

Executing Progress Analysis

Executing Progress Analysis

Use

You use progress analysis to monitor the planned and actual progress of the project using the actual work (activity) performed.

The system valuates the activity using the total planned costs, the percentage of completion (POC) and the posted actual costs. Progress analysis provides you with precise information regarding the progress of the project, as well as the cost and date situation. This enables you to recognize trends and take appropriate control measures.

The results include the following data for the Detail Engineering activities, which form the basis for the progress analysis.

Activity	Planned POC in %	Total Planned Work in Hours	Actual Work in Hours	POC in %
Detail engineering: power control station	50	8640	4320	50
Detail engineering: fuel supply	50	2400	1800	75
Detail engineering: vessel	50	14880	3720	25
Detail engineering: gas turbine	50	14400	10800	50
Detail engineering: cooling system	50	14760	14760	75
Detail engineering: steam turbine	50	15120	7560	25
Detail engineering: generator	50	8640	2160	50
Detail engineering: transformer	50	8400	4200	75
Detail engineering: buildings	50	16800	168	25

In the Project Builder you can view the values entered for the individual activities. On the *Internal* tab page you see the planned values and on the *Dates* tab page the actual values.

Prerequisites

The following values have been defined in Customizing for *Project System*:

- Progress version 132
- Statistical key figure ZEC001
- Statistical key figure ZEC002

- Statistical key figure ZEC003
- Measurement method ZECPP00001 (Start-Finish 50-50)
- Cost element 650500 (PS-Progress analysis Default-KA)
- Cost element group EC_Salary
- Value category ZEC01
- Value category ZEC02
- Value category ZEC03


Procedure

1. Call up the transaction as follows:

Menu Path	<i>Logistics → Project System → Progress → Progress Determination → Individual Processing</i>
Transaction Code	CNE1

2. Enter the following data:

Field	Data
Project definition	A-20###
With orders	Select
Progress version	132
To period	Month and year of the earliest start date
Test run	Deselect

3. Choose .

Displaying the Progress Report

Displaying the Progress Report

Use

In the information system you evaluate the data together with additional project key figures.

In addition to standard reports, you can also define your own reports. The flexible project reports enable you to define comparison figures in addition to the progress analysis values. Cost and activity variances are important project key figures. You can evaluate these values either at the level of individual project elements or aggregated for the entire project or subproject.

Prerequisites

Report ZECPP03 has been maintained.

Procedure

1. Call up the transaction as follows:

Menu Path	<i>Logistics → Project System → Information System → Tools → Hierarchy Report → Report → Execute</i>
Transaction Code	CJE0

2. Enter the following data:

Field	Data
Report type	Project report
Report	ZECPP03

3. Choose *001 Projekt Report* →  *ZECPP03 IECPP: Earned Value*.

4. Choose .

5. In the dialog box, choose .

6. Enter the following data:

Field	Data
Project	A-20###
Period / year	Period and year of the posting date of the confirmation in the form ###.#### (for example, 002.2000)

7. Choose .

The *IECPP: Execute Progress: Report* screen appears.

8. Expand the structure.
9. To call up the detailed view, expand the structure.

Result

The values determined by the system lead to the cost and activity variances for the Detail Engineering activities.

Displaying the Progress Report

The values can be interpreted as follows:

- A negative cost variance shows that you have incurred more costs than intended. A positive cost variance shows that the work has been cheaper than planned.
- A positive activity variance shows that the project progress on the key date is better than planned. A negative value shows that the project progress is less than planned.

In the Planning accuracy column you see a planning index.

- A planning index of 1 means that your cost planning was perfect.
- An index of 0.5 means that you have incurred twice as many costs as planned.

Additionally, you can see the forecast cost to complete, the forecast total costs and the difference between the planned costs and the forecast total costs.

Executing Results Analysis

Executing Results Analysis

Use

You execute a revenue-proportional results analysis in the actual version. In this process, you require results analysis to correctly display the project order stock. As the payment triggers the invoice only on the clearing day of the FI document, you execute results analysis for the corresponding period.




Procedure

1. Call up the transaction as follows:

Menu Path	From the <i>Controlling</i> node, choose <i>Period-End Closing</i> → <i>Single Functions</i> → <i>Results Analysis</i> → <i>Proceed</i> → <i>Individual Processing</i>
Transaction Code	KKA2


2. Enter the following data:

Field	Data
WBS element	A-20###
Period	Period of the clearing date for the invoice
Fiscal year	Fiscal year of the clearing date for the invoice
RA version	0

3. Choose .
4. Choose .
5. In the dialog box, choose .



To save the results analysis for both the controlling area currency and the company code currency, you need to save twice.

6. Choose .

Result

The system has assigned the cost of sales to the revenues incurred. It has also determined the stocks of work in process or reserves.

Determining the Project Incoming Orders

Use

The system uses this function to determine key figures for incoming orders and open orders, based on sales orders assigned to projects. The key figures for the incoming orders are the expected revenues, costs, and quantities from sales orders that have been closed or changed during the current period. It is now possible for you to make statements at an early stage regarding the expected results or results development of your customer projects.

You execute the run to determine the incoming orders at the end of the period. You can execute the run more than once within a given period. The system determines the changes for the incoming orders compared to the previous run.

In this demo, you enter the project finish as the period to ensure that you generate meaningful key figures.

You can find further information in the SAP Library under *Logistics → Project System → Revenues and Earnings → Project-Related Incoming Orders*.

Prerequisites

The top WBS element Power station (A-20####) is indicated as a billing element. The billing element has the status Released.

The system updates the sales order value on the billing element. This is because in Customizing of the Project system we have activated the update of planned revenues from sales documents.

The following values have also been defined in Customizing for the *Project System*:

- Cost element group EC_Salary
- Value category ZEC01
- Value category ZEC02
- Value category ZEC03

Procedure

1. Call up the transaction as follows:


Menu Path	From the <i>Period-End Closing</i> node, choose <i>Single Functions → Incoming Orders → Individual Processing</i>
Transaction Code	CJA2

2. Enter the following data:

Field	Data
Project definition	A-20####
Period	Final period of the project
Fiscal year	Final fiscal year of the project
Additional selection criteria	Delete

Determining the Project Incoming Orders

Test run	Deselect
Detail lists	Select

3. Choose .

When the incoming order run is complete, the system displays a log.

This log consists of

- A basic list with output parameters and statistics regarding the number of processed objects
- A detailed list, containing information about the individual objects, such as, cost element, revenues, costs and quantity

Result

The system determines the values for the incoming orders on the billing element. It also updates the values on the incoming order cost elements for the specified period under value type 19. The system calculates the reduction values for the incoming order from the accrued actual data and updates the value for the relevant category (open orders: reduce through billing).

Displaying the Incoming Orders and Order Stock

Use

You evaluate the incoming orders and the order stock in the Project Information System. You can compare the current planned and actual revenues with the sales order value.

Procedure

1. Call up the transaction as follows:

Menu Path	From the <i>Information System</i> node, choose <i>Financials</i> → <i>Revenues and Earnings</i> → <i>Hierarchical</i> → <i>Incoming Orders / Balance</i>
Transaction Code	S_AL_87013569

2. Enter the following data:

Field	Data
Project	A-20###

3. Choose .
4. In the dialog box, choose .

Result

The key figures for the incoming orders are the expected revenues, costs, and the results of the sales order for project A-20###, which has been closed or changed in the current period.