PROJECT ADVAITA

SAP IMPLEMENTATION
IIT ROORKEE

USER MANUAL
AMC/ CAMC Processing

MODULE: PLANT MAINTENANCE

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1. Order Creation

Creation of Order

Trigger:

BUSINESS PROCESS PROCEDURE OVERVIEW
A Maintenance Order can be used to plan execution of maintenance task, monitor the work progress and allocates the costs for maintenance tasks. A maintenance order can be created with reference to notification or without the reference of the Notification.
Whenever any resources- Material, Labor, Contractor Services- are required to be consumed to carry out any maintenance task, it is necessary to create a Maintenance Order.

Output – Results	Comments
The output is a Maintenance order document, which can contain internal costs or PR cost (For External Service Procurement)	√

Tips and Tricks

Whenever any resources- Material, Labor, Contractor Services- are required to be consumed to carry out any maintenance task, it is necessary to create a Maintenance Order as to carry out Maintenance job with various tasks.

Creation of maintenance order directly without a notification can be possible.

Following Maintenance Order has been finalized for IIT Roorkee.

- ZPM1 → Construction Maintenance Order
- ZPM2 → Breakdown Maintenance Order
- ZPM3 → AMC Maintenance Order
- ZPM4 → Corrective Maintenance Order
- ZPM5 → E&W Horticulture Maintenance Order
- ZPM6 → Calibration Maintenance Order
- ZPM7 → Shutdown Maintenance Order E&W
- PMTE → Repair and Maintenance Telephone Exchange

- ➢ Construction Maintenance Order.
  A maintenance and renovation task or white wash and polishing task related to E&W Division is created through maintenance Order type ZPM1.

- ➢ Breakdown Maintenance Order.
  Maintenance equipment or functional location which has come under the breakdown and where the immediate action is required to correct the equipment for the further functioning, for this type of functions Breakdown Maintenance Order ZPM2 is required.

- ➢ AMC Maintenance Order.
  For Annual Maintenance Contract or Comprehensive Annual Maintenance Contracts, this type of maintenance order with order type ZPM3 will be used.

- ➢ Corrective Maintenance Order.
  Regular or some fault finding during inspections which needs maintenance and for which cost is to be captured is generated through Maintenance Order Type ZPM4.

- ➢ E&W Horticulture Maintenance Order.
  The maintenance order where the forest department approval is required by E&W has been taken under the maintenance order type ZPM5 where the requester can also get to know about the status that whether the forest department has approved or rejected the request.

- ➢ Calibration Order
  Any regular inspection and for recording inspection result calibration order is used. Order Type ZPM6 is created for PM-QM Integration.

- ➢ Shutdown Maintenance Order
  Any maintenance activity which requires a long period of time and point to point maintenance of any machine is taken under this kind of maintenance order. Order type ZPM7 is created for this kind of maintenance.

- ➢ Repair and Maintenance Telephone Exchange
  Any kind of maintenance related to Telephone Exchange is taken under this kind of maintenance. Order type defined is PMTE.
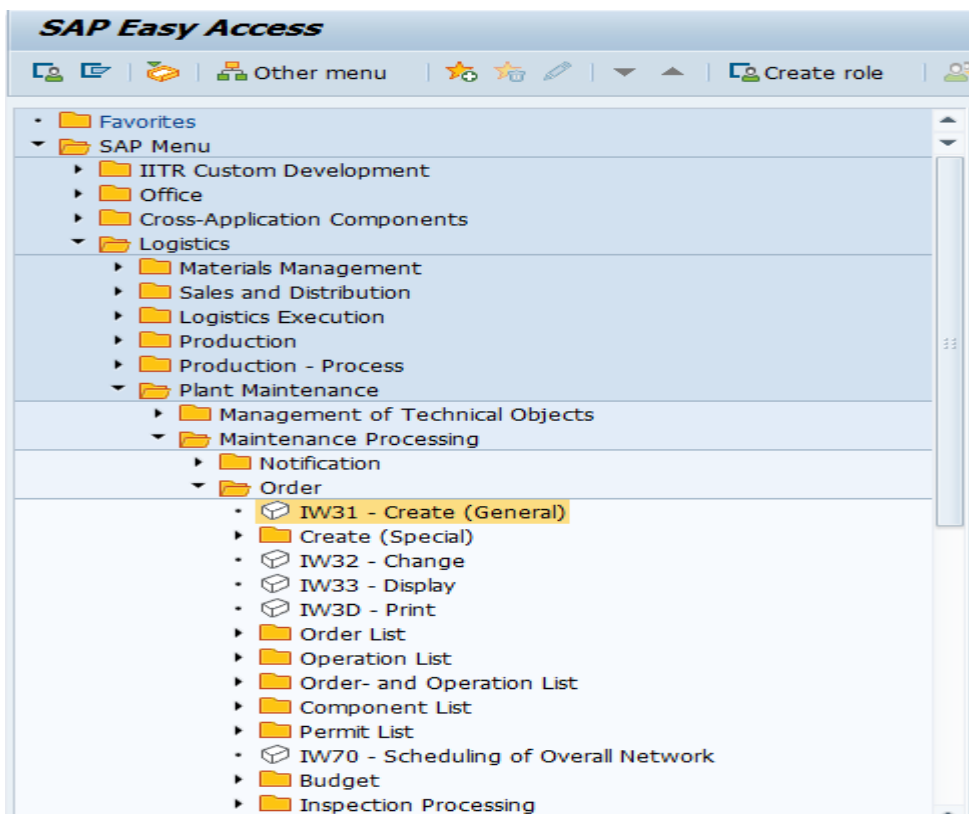
1.1 Order Creation

Creation of Order

Procedural Steps

ID: PM	Title: Processing – Order Creation
Business process:	Maintenance Order
Transaction code: IW31, IW32, IW33, IW38, IW39	Menu path: Logistics →Plant maintenance→ Maintenance Processing → Order → Create (General) (IW31)

Double Click to get the following screen:

Create Order: Initial Screen

Header data

Press F4

Enter the functional location and equipment number directly if you know else use F4 Help

Order Type
Priority
Func. Loc.
Equipment
Assembly
Plng plant
Bus. Area

Reference
Order

Instructions

In the initial screen, enter the values in the following fields:

Field name	Required / Optional	User action and allowed values
Order Type	R	Order Type to be entered using F4 Help.
Func. Loc.	O/R	Functional Location can be entered where you want to do maintenance
Equipment	O/R	Equipment can be entered on which you want to do Maintenance.
Plng Plant	R	Plant which will plan the activities for the maintenance will be entered.

(Note: On the above table, in column "R/O"; "R" = required, "O" = Optional)

Either one of the Functional Location or Equipment is required to process the order.

When you press the F4 on the Order type the following different types of order type will come:

Select the order type as required i.e ZPM3 for AMC Maintenance Orders and enter the functional location or equipment providing the details of the AMC. If you select any equipment by providing the equipment number than its corresponding location will be automatically fetched in the desired place, we don't need to fill that place. Or you can directly select the functional location from the functional location hierarchy structure to maintain where the AMC maintenance will be done.
After entering the details, press enter

On screen "Create Maintenance Order: *Initial Screen"*, enter information in the fields as specified in the below table:

Field name	Required / Optional	User action and allowed values
Short Text	R	The Notification short text will get copied into this field, depending on the origin of the Maintenance Order can be changed. In the direct creation of Maintenance Order the short text will have to be entered.
Long Text	O	The Notification long text will get copied into this field, depending on the Origin of the Maintenance Order and can be changed, In case of direct creation the Long text , if required will have to be entered.
Main work Center	A	The Maintenance Work Center will get copied from the Maintenance Notification, or Master data of the Selected technical object and it can be Changed.
Estimated Cost	O	If cumulative estimate for all the Resources are to be entered use this field, otherwise leave this field blank.
Basic Start Date	A	Basic Start Date proposed by the system based on priority and can be changed.

Order Finish Date	A	Enter proposed finish Date

(Note: On the above table, in column "A/R/O"; "A" = Automatically fetched, "R" = required, "O" = Optional)

When you press enter following screen occurs for creating the order:

On Tab "Operation", some of the fields will be filled in with information from. The Notification Master and in addition to this you have to fill following field.

Field name	Required / Optional	User action and allowed values
Operation Number	A	Operation Number of the Maintenance Order
Work Center	A	Operation of Maintenance Work Center. Work Center will be copied From Notification if order is created through notification.

Control Key	A	Control Key 'PM01' (For Internal Maintenance) or 'PM03' (For External Maintenance or AMC)

(Note: On the above table, in column "A/R/O"; "A" = automatically, "R" = required, "O" = Optional)

Now release the order for processing by clicking on 🏳 button. Once you press the release the button and save the order, the order will get released for processing and the costing.

Planning the Maintenance Order

Planning a maintenance Order means identifying Operation and Planning resource requirement for each operation. Each Maintenance Order must have at least one operation. Thus system creates one operation by copying the short text of maintenance order as operation description at the time of the Maintenance Order. This description can be changed. Ideally there has to be at least one operation for internal Processing (Job done by Internal Employee) and one operation for external processing (job done by contractors) for each of the contractors working on that Maintenance Order.

Operation for External Processing:

Control Key for External Processing is 'PM03'. Select an operation; Change the Control key to 'PM03'.

Once you write PM03 in control key and press enter, a pop up will come for entering external services parameters.

Field name	Required / Optional	User action and allowed values
Material Group	R	Material Service Group For AMC S90401 → R&M AMC
Purchasing Group	R	Purchasing group <**Department Finance Code**>/ (**1000/1001**)

(**Note: On the above table, in column "R/O"; "R" = required, "O" = Optional)**

Enter the details for the Material Group and Purch. Group directly or using F4 Selection help. After entering the details, press enter.

Now select the particular operation line and click on the External Tab at the bottom.

Create General Maintenance Order : Operation Overview

Order: ZPM1 %00000000001   Electric Switch Board Repairing
Sys.Status: CRTD MANC NTUP   CRTD

Tabs: HeaderData | Operations | Components | Costs | Partner | Objects | Additional Data | Location | Planning | Control

Op...	SOp	Work ctr	Plant	Control key	StTextK	S..	Operation short text	LT	Actual work	Work	Un	N...	Dur.	Un	C.Key
0010		HOD_CIVI	0406	PM03			Electric Switch Board Repairing		0	0	H			H	0 Ma
0020		HOD_CIVI	0406	PM01						0		H			H	
0030		HOD_CIVI	0406	PM01						0		H			H	
0040		HOD_CIVI	0406	PM01						0		H			H	
0050		HOD_CIVI	0406	PM01						0		H			H	
0060		HOD_CIVI	0406	PM01						0		H			H	
0070		HOD_CIVI	0406	PM01						0		H			H	
0080		HOD_CIVI	0406	PM01						0		H			H	
0090		HOD_CIVI	0406	PM01						0		H			H	
0100		HOD_CIVI	0406	PM01						0		H			H	
0110		HOD_CIVI	0406	PM01						0		H			H	
0120		HOD_CIVI	0406	PM01						0		H			H	
0130		HOD_CIVI	0406	PM01						0		H			H	
0140		HOD_CIVI	0406	PM01						0		H			H	
0150		HOD_CIVI	0406	PM01						0		H			H	

Buttons: General | Internal | External | Dates | Act. Data | Enhancement | Ex. Factor | Catalog

The following screen will come once you click on External

Create AMC Maintenance order : External Processing Operation

Header data | Operations | Components | Costs | Partners

Order: %00000000001   Oper./Act. 0010 /   Ctrl key PM03
StdTextKey/ShrtText: Electric Board Switch Repairing

Tabs: General | Internal | External | Dates | Act. Data | Enhancement

Operation qty	1 AU	Sort Term	
Price	0.00 INR	per	1
Material Group	S90401	Cost Element	
Purch. group	125 / 1000	Vendor	
Agreement	/	Info Record	
Recipient		Unloading Point	
Requisitioner		Tracking Number	
Pl. Deliv. Time		FW Order	/
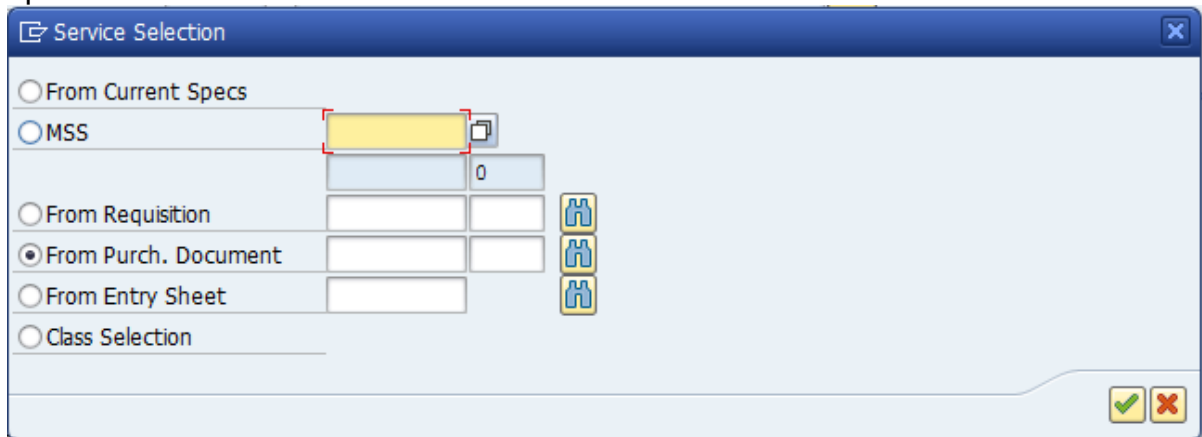
Tabs: Services | Components | Relationships

Line	D..	Service No.	Short Text	Quantity	Un	Gross Price
10						
20						
30						
40						
50						

When a contract (outline Agreement) exits for the contractor and the services to be selected

Press the 'Service Select ![Service Sel.] Button. The following screen will pop up.
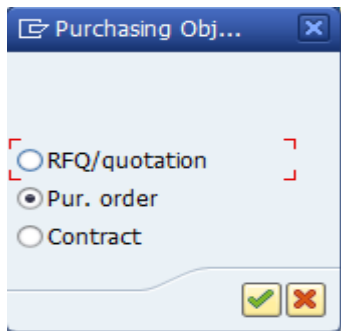
If you know the Purchase order number, then provide that number in the From Purch. Document field.

If not, then from the pop select From Purch. Document and click on ![button] button. Once you click on the button the following selection screen will come:

In this select the Pur. Order and enter. You will get the following screen:

Here you can select the Purchase Order by giving the selections. You will get the list of Purchase Orders from where you can select the required purchase order.

Purch.Doc.	POrg	PGr	Vendor	Item	Plant	Doc. Date	Matl Group	Short Text
4530000002	1001	703	500005	10	0101	08.05.2016	S800008	SAP Implem
4530000003	1001	101	500005	10	0101	08.05.2016	S800009	test service
4530000036	1001	101	500005	10	0101	09.06.2016	10001	Test for wo
4530000038	1001	101	500005	10	0101	10.06.2016	S800009	External Ser
4530000042	1001	101	500005	10	0101	18.06.2016	20006	Test Compla
4530000050	1001	101	500005	10	0101	24.06.2016	S800007	Labor
4530000052	1001	101	500005	10	0101	29.06.2016	10003	Test for fun
4530000060	1001	101	500005	10	0101	04.07.2016	10001	Test Fund E
4530000061	1001	101	500005	10	0101	05.07.2016	10001	Test Fund E
4530000065	1001	101	500005	10	0101	14.07.2016	10001	Labor

Once you select the purchase order, you will see the selected purchase order into the screen:

Press Enter, you will get the details of the Purchase Order:

Click on the Services Button [Services] .

Once you click on the Services Button, the services will automatically come into the order.

Create AMC Maintenance order : External Processing Operation

| Header data | Operations | Components | Costs | Partners |

Order: %00000000001 Oper./Act.: 0010 / Ctrl key: PM03
StdTextKey/ShrtText: Electric Board Switch Repairing

| General | Internal | External | Dates | Act. Data | Enhancement |

Operation qty	1	AU	Sort Term	
Price	0.00	INR	per	1
Material Group	S90401		Cost Element	
Purch. group	125 / 1000		Vendor	
Agreement	/		Info Record	
Recipient			Unloading Point	
Requisitioner			Tracking Number	
Pl. Deliv. Time			FW Order	/

| Services | Components | Relationships |

Line	D..	Service No.	Short Text	Quantity	Un	Gross Price	Crcy	Overf. Tol.	U	Cost Elem...
10	☐		Labor	100	DAY	1,000.00	INR		☐	40120016
20	☐						INR		☐	
30	☐						INR		☐	
40	☐						INR		☐	
50	☐						INR		☐	

Here the quantity needs to be changed as mentioned in the AMC bills pertaining to the actual quantity of the services used. The system always fetches the remaining quantity from the Purchase order which we change as per the actual usage of the services

Now, save the order. You will get the following message:

☑ Order saved with number 10000063
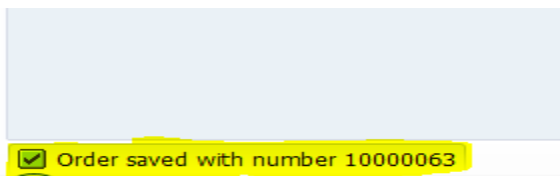
Now go to the main screen and enter the T-Code IW32 → Change Order.

Now enter the order number and press Enter

Change Order: Initial Screen

Header data   Operations   Components   Costs   Additional data   Planning   Control

Order   10000063

Once you press enter, the Change order will come as shown:

Now press the Cost button and the Planned cost will get calculated against the order. You can see the planned cost in the cost tab as shown:

Now against the order, we will create the Service Entry sheet so as to book the actual services captured and to book the actual cost against the order.

1.2 Acceptance of External Services

Service entry sheet has to be filled for clearing the invoice

Trigger:

Requirement for recording services performed by service provider

BUSINESS PROCESS PROCEDURE OVERVIEW
This document describes the procedure for creating a service entry sheet. Within purchasing, this service entry sheet document is designed for the recording of the services that have been performed by the service provider. The service entry sheet is a list of all planned services that have actually been performed. It can also be used to lust and specify unplanned services that have been performed and whose precise scope and nature were unknown at time of planning phase.

Output – Results	Comments
Service Entry Sheet	

Tips and Tricks

All service procured through Service Purchase order will be copied into the' Service Entry Sheet'.

Procedural Steps

ID: MM	Title: Service Entry Sheet
Business process:	Service Entry Sheet
Transaction code: ML81N	Menu path: Logistics →Material Management → Service Entry Sheet → Maintain (ML81N)

Double click to get the following screen:

Click on Other Purchase Order Button.

The following pop-up will come:

On screen "Display Entry Sheet Screen", enter information in the fields as specified in the table below:

Field name	Required / Optional	User action and allowed values
Purchase Order	R	Purchase Order and Operation

(Note: On the above table, in column "R/O"; "R" = required, "O" = Optional)

Here in the Purchase Order field enter the Purchase Order number directly if you know it otherwise you can take the F4 help to enter the Purchase Order Number.

Once you enter the purchase order number, press enter, you will get the following screen and here then click on the Create Button to create the service entry sheet against the Purchase Order.

Fill up the following data in Accept Data Tab and press Enter:
1. Short Text
2. Doc. Date
3. Posting date

Select Serv. Selection [Service Sel.] The following screen will come.

Press Enter, the following screen will come.

Adopt service after selection by clicking on [Services]. Once you select the services, the services against the purchase will come into the Service Entry Sheet.

Here the quantity needs to be changed as mentioned in the AMC bills pertaining to the actual quantity of the services used. The system always fetches the remaining quantity from the Purchase order which we change as per the actual usage of the services and at later stage it automatically gets added to the actuals in the Purchase Order. Now remove the cost center value that will be present and press enter. You will get a Pop up message as shown:

Here give the Maintenance Order Number created in the last step where you want to

utilize the services and capture the cost of the order. This order number will be maintenance order number which has been created for the AMC services and not purchase order number.

Now release the service entry sheet by clicking on button. Once you press the release button and save the sheet, the service entry sheet will get released and the actual cost is booked against the order and the service entry sheet will be locked and un-editable further and will get accepted.

After saving the Service Entry Sheet, go the main screen and go to the T-Code IW32 to check the actual cost against the order in the Costs Tab.

Here we can see that the Actual cost of the work done against the order (through the external vendor) is captured and will be settled into the cost center of the order. Save the order.

Check the System Status during the various stages of Order Creation and Order Processing

Status	Description
CRTD	Created
MANC	Material Availability not checked
NTUP	Dates Not Updated
NMAT	No Material Components
PRC	Pre-costed
SETC	Settlement Rule Created
REL	Released
TECO	Technically Completed
PCNF	Partial Confirmation
CNF	Complete Confirmation