

PLANT MAINTENANCE MODULE (PM)

Refurbishment Process of Equipment

In O&M, whenever any major substation equipment such as Power Transformers etc. is defective, the same is replaced with healthy equipment. If the defects identified could not be rectified at the substation location, the defective equipment is got repaired by sending the same to the workshop of the original equipment manufacturer or any other external repairing agency. After rectification of the equipment, the same is received back in working condition and installed elsewhere as per the requirement.

In SAP, the above process is denoted as **refurbishment** process. The refurbishment process involves the following steps:

- Creation of Break Down/Corrective maintenance order.
- Dismantling of the installed defective/faulty equipment and receiving the same into **storage location of SS**, as inventory stock with valuation type **“Damaged”**.
- Creation of **Refurbishment Maintenance Order**.
- Creation of **PR (Purchase Requisition)** through refurbishment order for procuring external services to get the equipment repaired/reconditioned.
- Creation of service **P.O. (Purchase Order)** for carrying out necessary repair/ reconditioning by the external agency, against the created **PR**.
- Sending the equipment to the works of external agency with valuation type **“Damaged”**, for carrying out repair/refurbishment.
- Receiving back the repaired/refurbished equipment from the works of external agency as stock into the storage location of SS, with valuation type **“Refurbished”**.
- Creation of **‘Service Entry Sheet’** against the service Purchase Order for carrying out repair.
- Confirmation and Technical completion of Refurbishment order and settlement of the Refurbishment Order.

The refurbished equipment can be reinstalled in the same Substation or in any other substation in the same plant or different plant. It may also be sent to Central Stores. In case it is to be sent to other storage locations within the same plant the same can be done through **Transfer posting**. In case it is to be sent to either central stores or to any other substation in a different plant, the same should be done through **Stock Transfer Order**.

After reinstallation in the equipment structure, it would resume its equipment status only with the original equipment ID and its earlier service history would also be available.

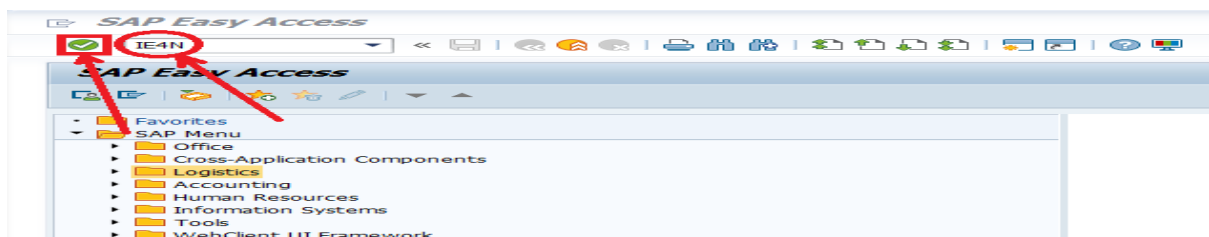
In this document, the entire refurbishment process is illustrated with relevant SAP screen shots.

Dismantling of equipment:

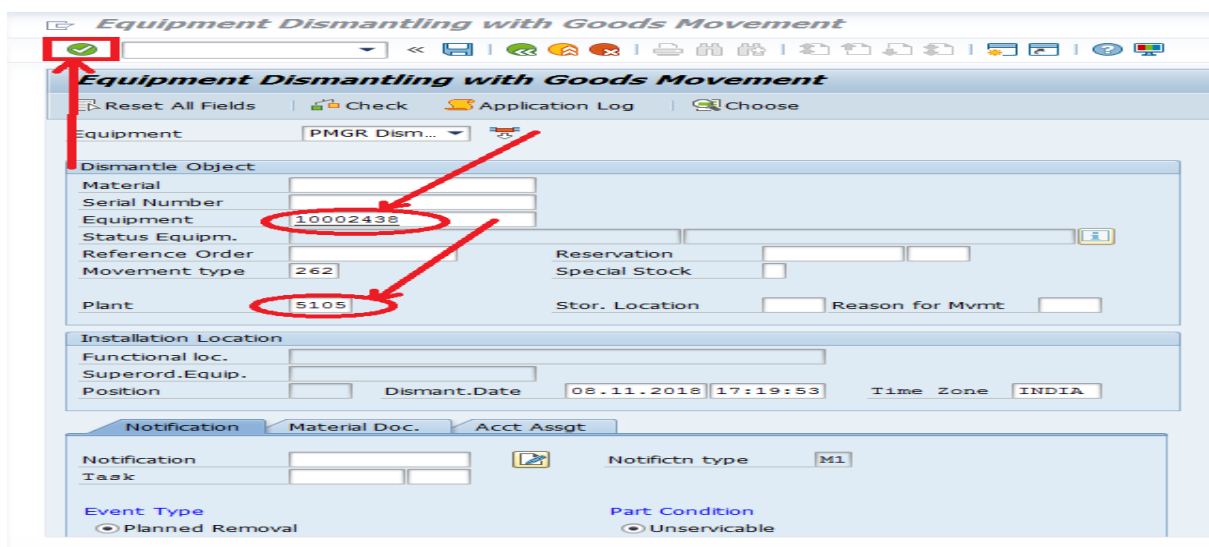
Note:i) For carrying out dismantling, the equipment master data should have details of material no and serial no in the **SerDatatab**.

ii) In the process of dismantling of equipment, indicating a **maintenance order** number is mandatory for the purpose of accounting assignment. Since dismantling of equipment normally takes place during execution of maintenance works against a maintenance order, the same maintenance order number can be indicated as reference order. (Ref: **Step-9**)

Step-1: Enter T-code **IE4N** in the command field and click **enter** as indicated below.



Step-2: Enter the **equipment ID**, **Plant** in which equipment is installed, and click **enter** as indicated below.



Step-3:It may be noted that details such as material no of equipment, serialnumber and functional location etc are automatically updated as shownbelow. Click **search**button beside **Stor.Location**field, as indicated below.

Equipment Dismantling with Goods Movement

Reset All Fields | Check | Application Log | Choose

Equipment: PMGR Dism...

Dismantle Object

Material	10000025	31.5 MVA 132/33KV POWER TRANSFORMER
Serial Number	280793	
Equipment	10002438	31.5 MVA 132/33KV PTR-1
Status Equipm.	INST	
Reference Order		Reservation
Movement type	262	Special Stock
Plant	S105	Stor. Location

Installation Location

Top Functional	ZONE-VJWD-APTR	
Functional loc.	TB-132/33KV-CHKL-01	PTR BAY-132/33KV-CHI...
Position	Y-PH	Dismant.Date
		08.11.2018 17:30:16
		Time Zone
		INDIA

Notification | Material Doc. | Acct Assgt

Notification: Task

Event Type: ☒ Planned Removal

Part Condition: ☒ Unservicable

Step-4:From the list displayed in the pop up window, select the **storagelocation** and click **choose**as indicated below.

Equipment Dismantling with Goods Movement

Reset All Fields | Check | Application Log | Choose

Equipment: PMGR Dism...

Dismantle Object

Material	10001253	132KV CT 300-225-150/1-0
Serial Number	26011965	
Equipment	10002436	132KV CTS 300-225-150/1-
Status Equipm.	INST	
Reference Order		Reservation
Movement type	262	Special Stock
Plant	S105	Stor. Location

Installation Location

Top Functional	ZONE-VJWD-APTR	
Functional loc.	TB-132/33KV-CHKL-01	
Position		Dismant.Date
		25.10.2018 15:55:39
		Time Zone
		INDIA

Notification | Material Doc. | Acct Assgt

Notification: Task

Event Type: ☒ Planned Removal

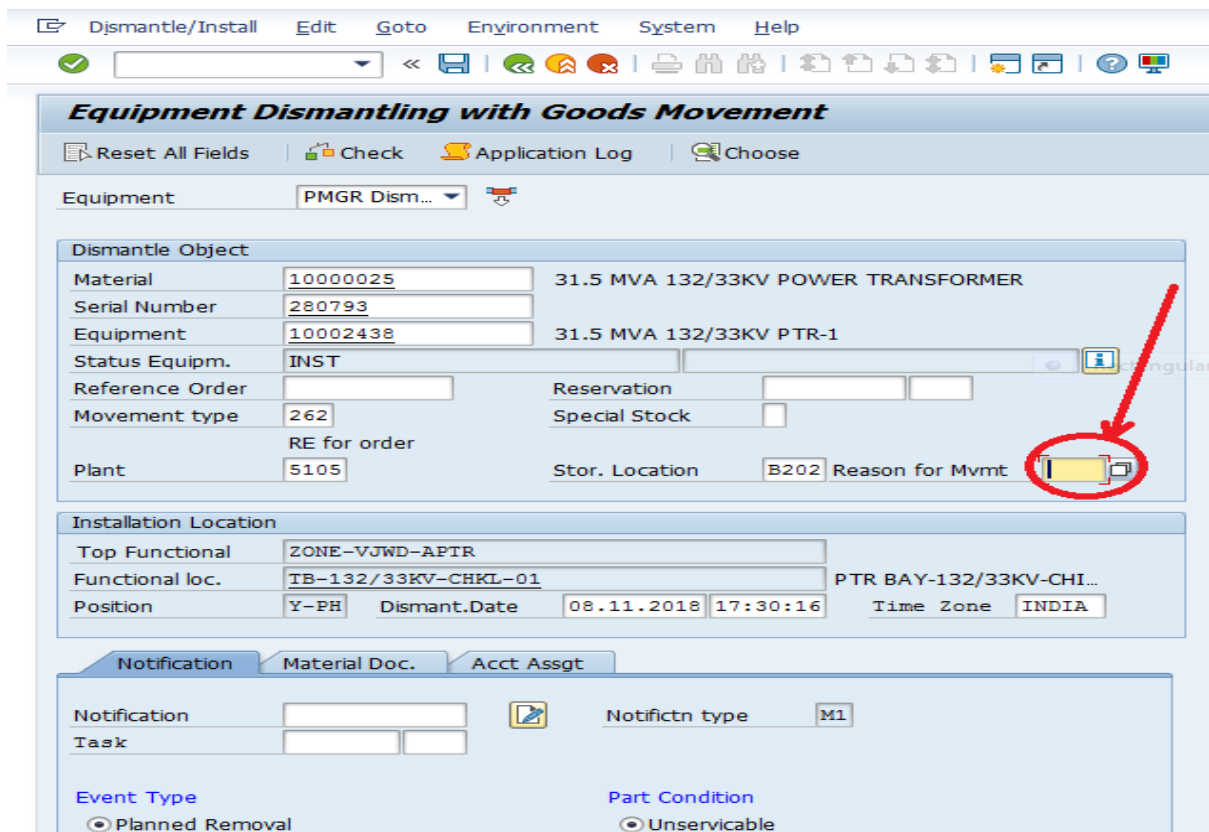
Part Condition: ☒ Unservicable

Possible Entries: Storage locations

Maint.	Plant	SLoc	Descr. of Storage Loc.
X	5105	B008	132KV CH KOTA
X	5105	B009	132KVAvanigadda
X	5105	B010	132KV KANUMOLU
X	5105	B011	132KV NUZIVIDU
X	5105	B012	132KV R GUDEM
X	5105	B059	132 KV MTM
X	5105	B201	220KV Gunadala
X	5105	B202	220KVChillakali
X	5105	B203	220KV Kondapalli
X	5105	B204	220KV Nunna
X	5105	B205	220KV Gudiwada
X	5105	R301	ANF FHTL GDI

Choose | Cancel | Maintenance status

Step-5: Click search button beside **Reason for Mvmt** field, as indicated below.



Equipment Dismantling with Goods Movement

Reset All Fields | Check | Application Log | Choose

Equipment: PMGR Dism...

Dismantle Object

Material	10000025	31.5 MVA 132/33KV POWER TRANSFORMER
Serial Number	280793	
Equipment	10002438	31.5 MVA 132/33KV PTR-1
Status Equipm.	INST	
Reference Order		Reservation
Movement type	262	Special Stock
Plant	RE for order	Stor. Location
	5105	B202 Reason for Mvmt

Installation Location

Top Functional	ZONE-VJWD-APTR	
Functional loc.	TB-132/33KV-CHKL-01	PTR BAY-132/33KV-CHI...
Position	Y-PH	Dismant.Date
		08.11.2018 17:30:16 Time Zone
		INDIA

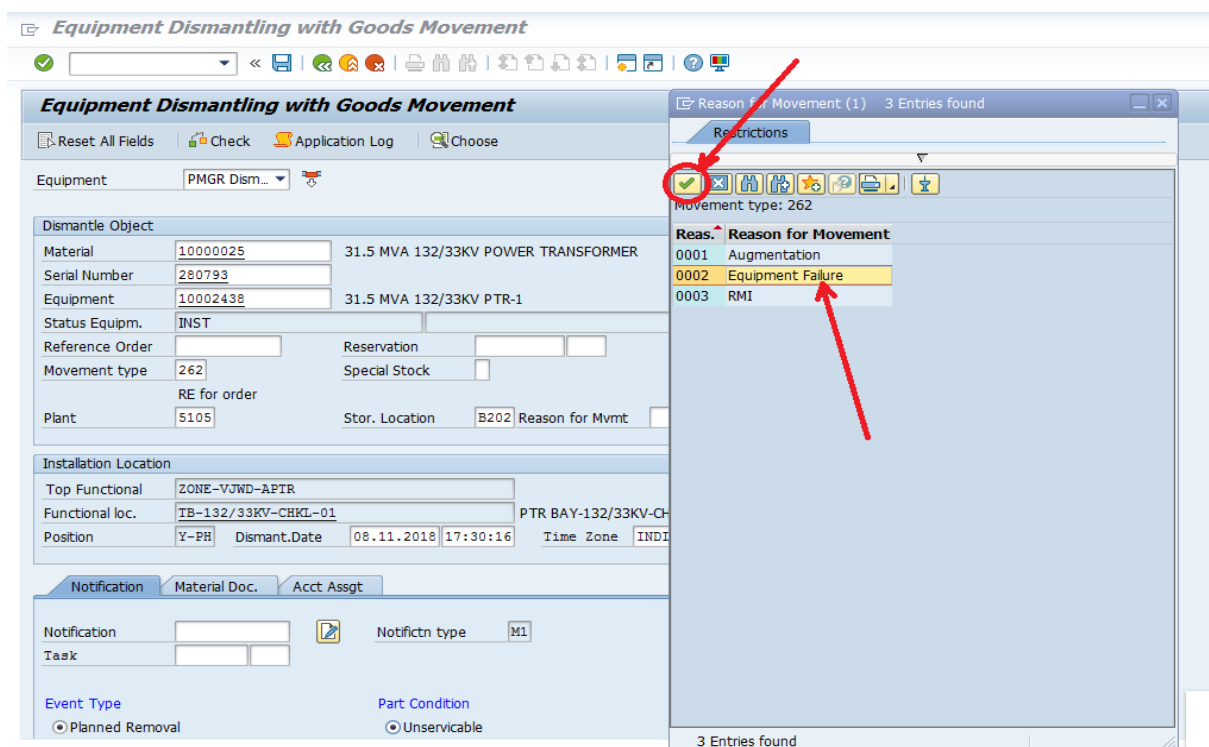
Notification | **Material Doc.** | **Acct Assgt**

Notification: Task: Notifictn type: M1

Event Type | **Part Condition**

☐ Planned Removal | ☐ Unservicable

Step-6: Select appropriate reason for dismantling from the list displayed and click **enter** as shown below.



Equipment Dismantling with Goods Movement

Reset All Fields | Check | Application Log | Choose

Equipment: PMGR Dism...

Dismantle Object

Material	10000025	31.5 MVA 132/33KV POWER TRANSFORMER
Serial Number	280793	
Equipment	10002438	31.5 MVA 132/33KV PTR-1
Status Equipm.	INST	
Reference Order		Reservation
Movement type	262	Special Stock
Plant	RE for order	Stor. Location
	5105	B202 Reason for Mvmt

Installation Location

Top Functional	ZONE-VJWD-APTR	
Functional loc.	TB-132/33KV-CHKL-01	PTR BAY-132/33KV-CHI...
Position	Y-PH	Dismant.Date
		08.11.2018 17:30:16 Time Zone
		INDIA

Notification | **Material Doc.** | **Acct Assgt**

Notification: Task: Notifictn type: M1

Event Type | **Part Condition**

☐ Planned Removal | ☐ Unservicable

Reason for Movement (1) 3 Entries found

Restrictions

Movement type: 262

Reas.	Reason for Movement
0001	Augmentation
0002	Equipment Failure
0003	RMI

3 Entries found

Step-7: Click **Material Doc** tab and click **search** button beside **valuation type** field as indicated below.

Equipment Dismantling with Goods Movement

Reset All Fields | Check | Application Log | Choose

Dismantle Object

Material	10000025	31.5 MVA 132/33KV POWER TRANSFORMER
Serial Number	280793	
Equipment	10002438	31.5 MVA 132/33KV PTR-1
Status Equipm.	INST	
Reference Order		Reservation
Movement type	262	Special Stock
Plant	RE for order S105	Stor. Location
		B202 Reason for Mvmt

Installation Location

Top Functional	ZONE-VJWD-APR	
Functional loc.	TB-132/33KV-CHKL-01	PTR BAY-132/33KV-CHI...
Position	Y-PH	Dismant.Date
		08.11.2018 17:30:16 Time Zone
		INDIA

Notification | **Material Doc.** | Acct Assgt

Document Date 08.11.2018 Posting Date 08.11.2018

Reference Doc.Header Text

Item

Val. type

Step-8: Select valuation type **"Damaged"** and click **enter** as shown below.

Equipment Dismantling with Goods Movement

Reset All Fields | Check | Application Log | Choose

Equipment PMGR Dism...

Dismantle Object

Material	10000025	
Serial Number	280793	
Equipment	10002438	
Status Equipm.	INST	
Reference Order		
Movement type	262	
Plant	RE for order S105	

Installation Location

Top Functional	ZONE-VJWD-A	
Functional loc.	TB-132/33KV	
Position	Y-PH	Disma

Notification | **Material Doc.**

Document Date 08.11.2018

Reference

Item

Val. type

Valuation type (1) 5 Entries found

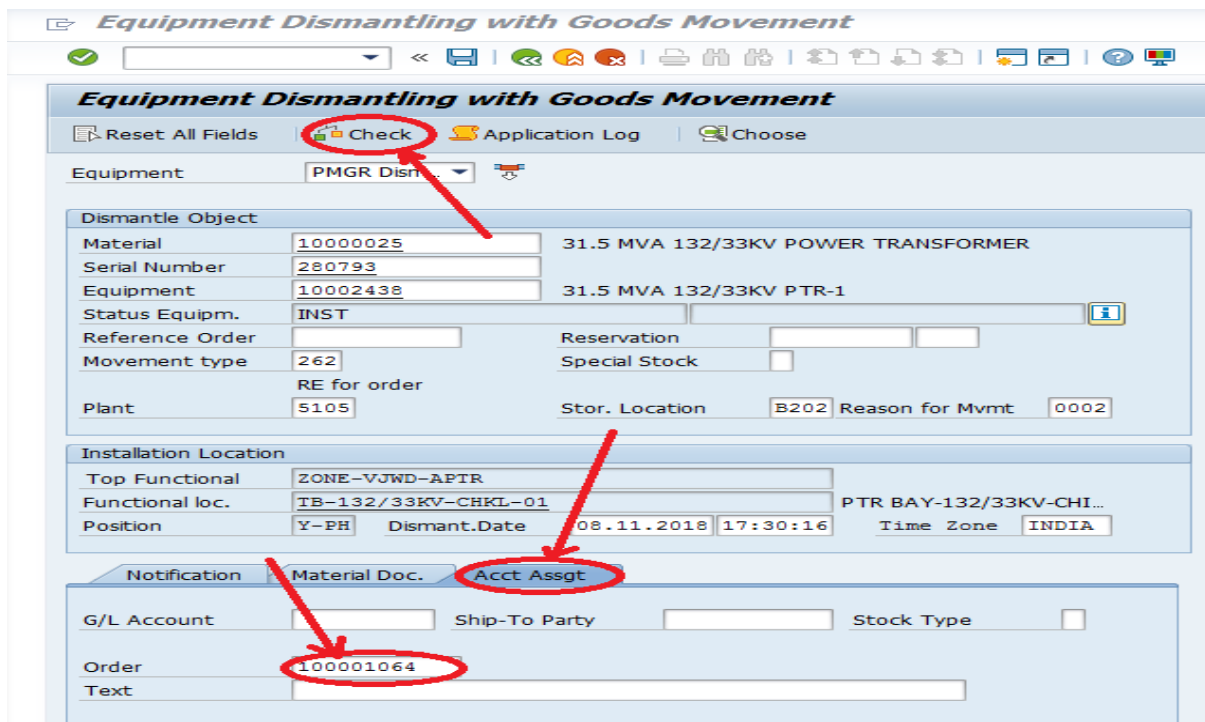
Restrictions

Val. type

DAMAGED
IRREPAIRAB
NEW
REFURBISHE
USED

5 Entries found

Step-9: Click **Acct Assgt** tab and enter maintenance order number in the **order** field and click **Check** icon as shown below. (Ref: **Note** in the beginning of document)



Equipment Dismantling with Goods Movement

Reset All Fields | **Check** | Application Log | Choose

Equipment: PMGR Dism...

Dismantle Object

Material	10000025	31.5 MVA 132/33KV POWER TRANSFORMER
Serial Number	280793	
Equipment	10002438	31.5 MVA 132/33KV PTR-1
Status Equipm.	INST	
Reference Order		Reservation
Movement type	262	Special Stock
Plant	RE for order	
	S105	Stor. Location B202 Reason for Mvmt 0002

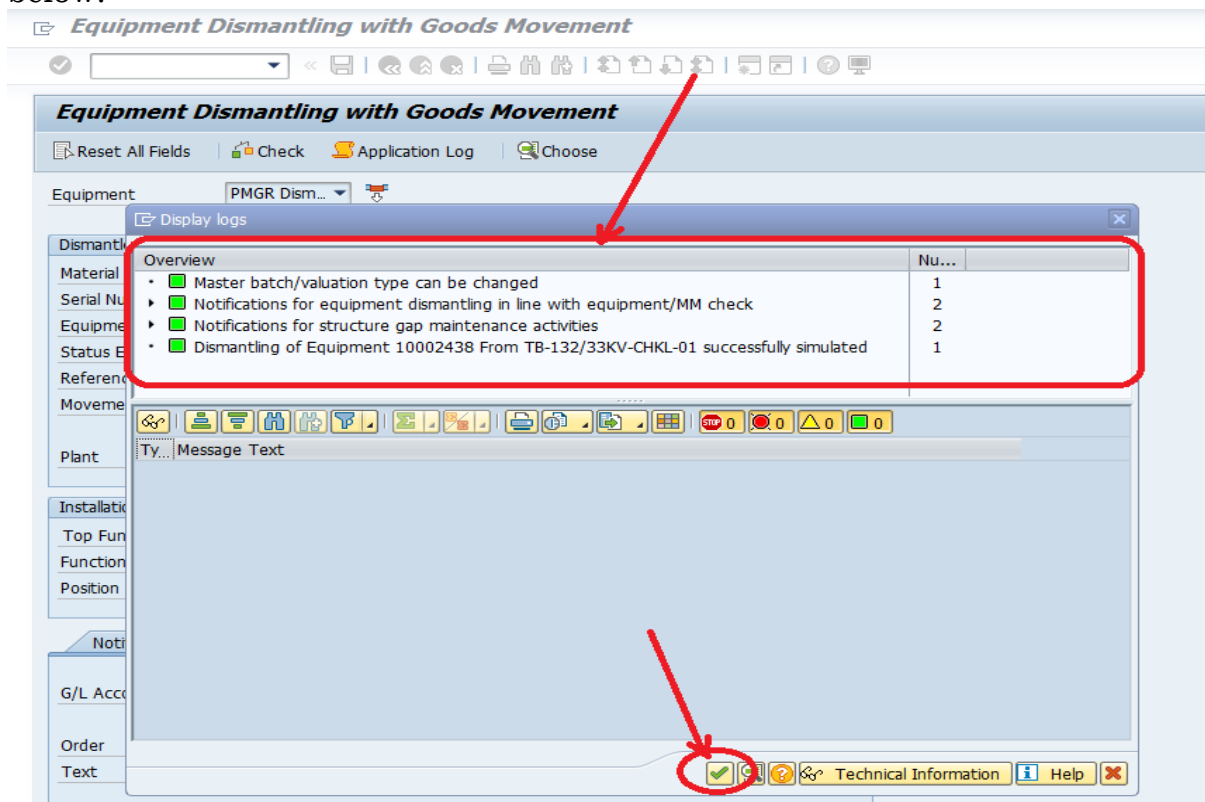
Installation Location

Top Functional	ZONE-VJWD-APTR	
Functional loc.	TB-132/33KV-CHKL-01	PTR BAY-132/33KV-CHI...
Position	Y-PH	Dismant.Date 08.11.2018 17:30:16 Time Zone INDIA

Notification | **Material Doc.** | **Acct Assgt**

G/L Account		Ship-To Party		Stock Type	
Order	100001064				
Text					

Step-10: The display log as indicated below would be displayed, which means that execution of the dismantling process is in order. Click **enter** as shown below.



Equipment Dismantling with Goods Movement

Reset All Fields | Check | Application Log | Choose

Equipment: PMGR Dism...

Display logs

Overview	Nu...
Master batch/valuation type can be changed	1
Notifications for equipment dismantling in line with equipment/MM check	2
Notifications for structure gap maintenance activities	2
Dismantling of Equipment 10002438 From TB-132/33KV-CHKL-01 successfully simulated	1

Plant: TY... Message Text

Installation Location: Top Functional, Functional loc., Position

G/L Account, Order, Text

Technical Information | Help

Step-11: Click **save** button as indicated below.

Equipment Dismantling with Goods Movement

Reset All Fields | Check | Application Log | Choose

Dismantle Object

Material: 10000025 31.5 MVA 132/33KV POWER TRANSFORMER
 Serial Number: 280793
 Equipment: 10002438 31.5 MVA 132/33KV PTR-1
 Status Equipm.: INST
 Reference Order:
 Movement type: 262
 Plant: 5105
 Reservation:
 Special Stock:
 Stor. Location: B202 Reason for Mvmt: 2

Installation Location

Top Functional: ZONE-VJWD-APTR
 Functional loc.: TB-132/33KV-CHKL-01 PTR BAY-132/33KV-CHI...
 Position: Y-PH Dismant.Date: 09.10.2018 12:57:14 Time Zone: INDIA

Notification | Material Doc. | Acct Assgt

G/L Account:
 Ship-To Party:
 Stock Type:
 Order: 100001064 Replacement of 31.5MVA,132/33KV PTR
 Text:

Step-12: A message indicating that 'Dismantling process completed' is displayed in the status bar as shown below.

Equipment Dismantling with Goods Movement

Reset All Fields | Check | Application Log | Choose

Equipment: PMGR Dism...

Dismantle Object

Material:
 Serial Number:
 Equipment:
 Status Equipm.:
 Reference Order:
 Movement type: 262
 Plant: 5105
 Reservation:
 Special Stock:
 Stor. Location: Reason for Mvmt:

Installation Location

Functional loc.:
 Superord.Equip.:
 Position: Dismant.Date: 09.11.2018 13:09:17 Time Zone: INDIA

Notification | Material Doc. | Acct Assgt

Notification:
 Task:
 Notifictn type: M1

Event Type:
 Part Condition:
 Planned Removal:
 Unserviceable:

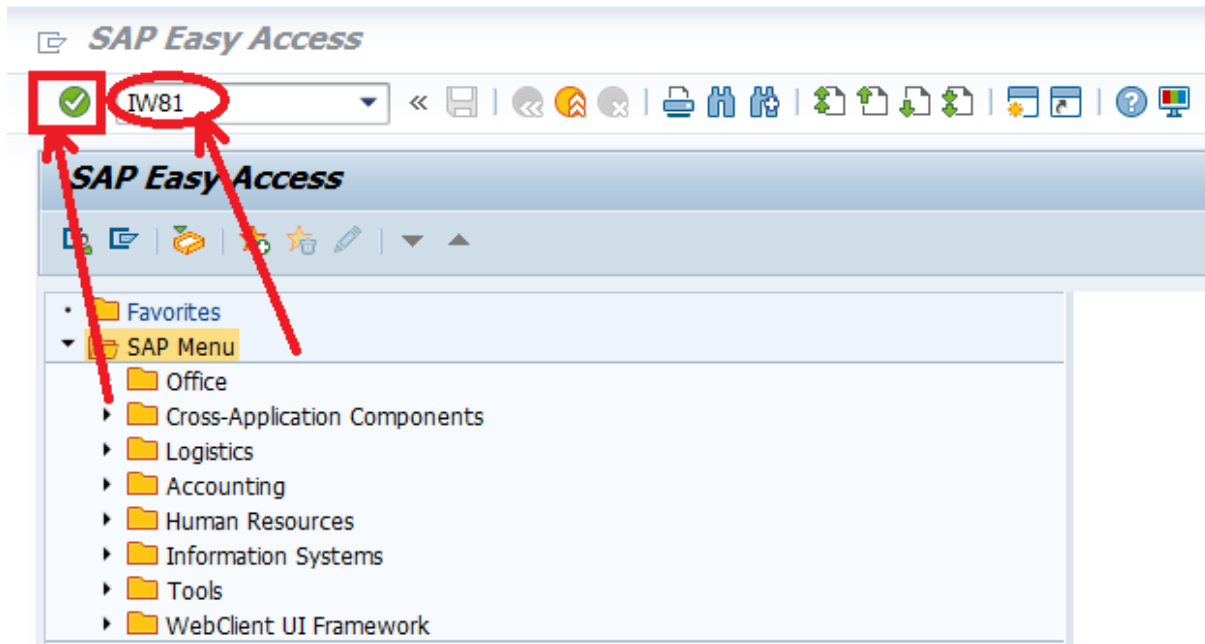
✓ Dismantling process completed. For detailed information check application log.

With the above step, the equipment would be dismantled from its functional allocation and would appear as stock in the Substation storage location

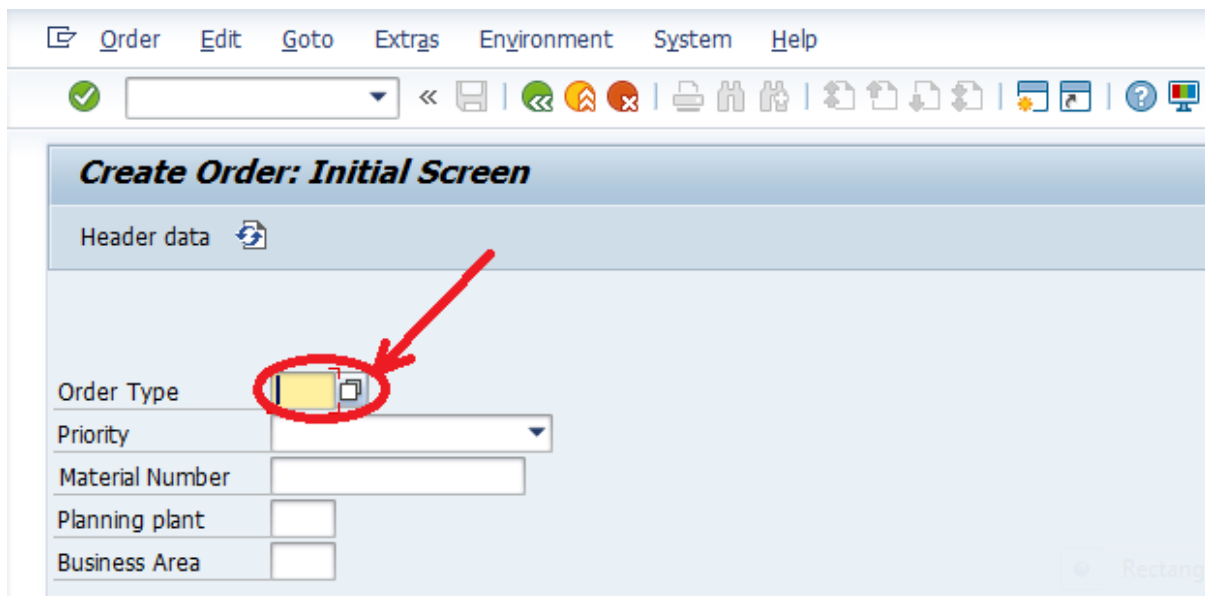
Creation of Refurbishment Order:

Now a refurbishment order should be created for repair/refurbishment of removed equipment which is available as stock in the Substation storage location.

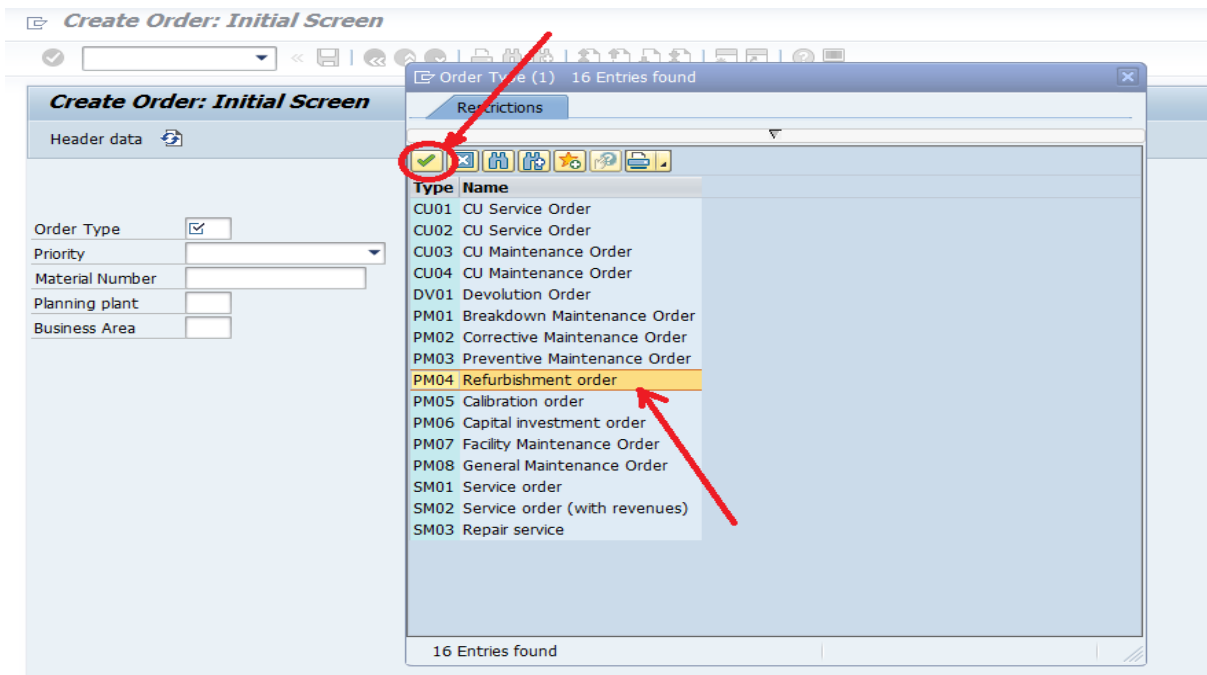
Step-13: Enter T-code **IW81** in the command field and click enter as indicated below.



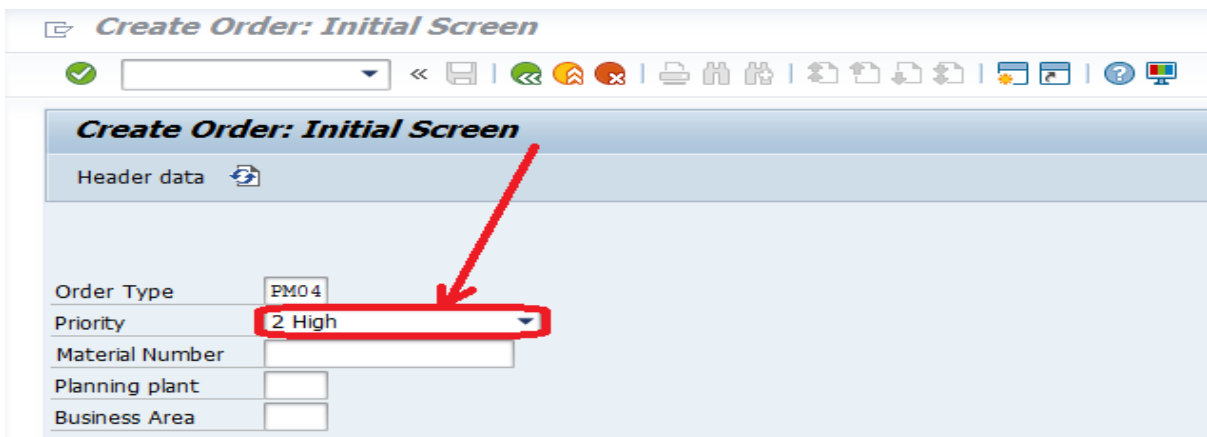
Step-14: Click **search** button beside order type field as indicated below.



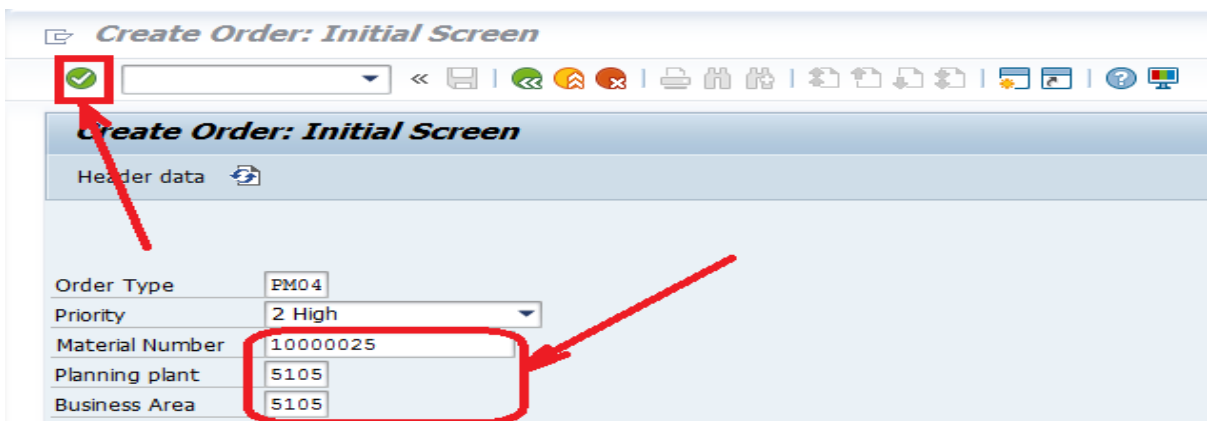
Step-15: In the order types displayed, select **PM04 Refurbishment Order** and click **enter** as shown below.



Step-16: Enter **priority** by selecting from down arrow, as shown below.



Step-17: Enter **material number** of the dismantled equipment, **planning plant** and **Business Area** and click **enter** as indicated below.



Step-18: Enter short description of the work within 40 characters and click **enter** as shown below.

Create Refurbishment order : Central Header

Order: PM04 \$000000000001 Refurbishment of 31.5MVA,132KV/33KV PTR

Sys.Status: CRTD MANC NTUP

HeaderData Operations Components Costs Additional Data Location Planning Control Other Details

Person responsible
PlannerGrp: / 5105
Mn.wk.ctr: [x] /

Costs: INR
PMActType: REF Refurbishment

Material: 10000025 31.5 MVA 132/33KV POWER TRANSFORMER

Quantities
Target qty: 1 NO Objects Del. qty: 0

Refurbishment
From Plant: Stor. Loc.: Val. type:
To Plant: [x] Stor. Loc.: Val. type:

Dates
Bsc start: 13.11.2018 Priority: 2 High
Basic fin.: 13.11.2018 Revision:

First operation

Step-19: Click search button beside **plannerGrp** field as indicated below.

Create Refurbishment order : Central Header

Order: PM04 \$000000000001 Refurbishment of 31.5MVA,132KV/33KV PTR

Sys.Status: CRTD MANC NTUP

HeaderData Operations Components Costs Additional Data Location Planning Control Other Details

Person responsible
PlannerGrp: [x] 5105
Mn.wk.ctr: [x] / 5105

Costs: INR
PMActType: REF Refurbishment

Material: 10000025 31.5 MVA 132/33KV POWER TRANSFORMER

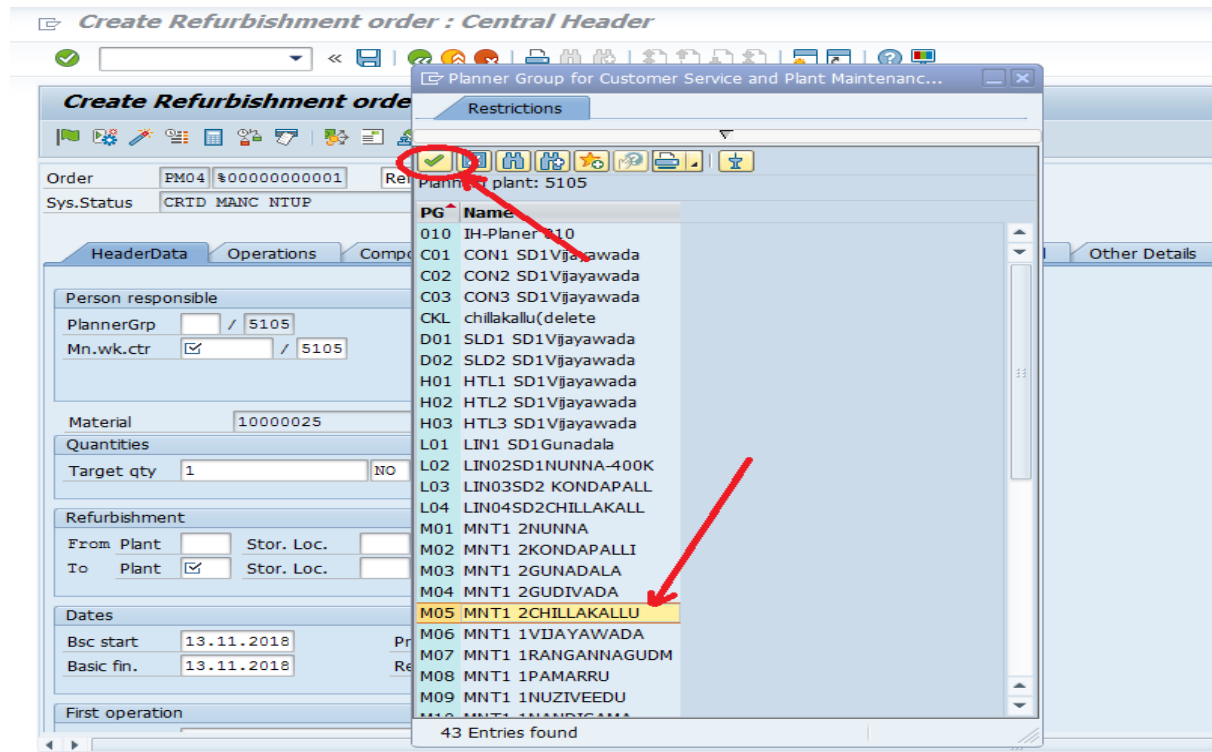
Quantities
Target qty: 1 NO Objects Del. qty: 0

Refurbishment
From Plant: Stor. Loc.: Val. type:
To Plant: [x] Stor. Loc.: Val. type:

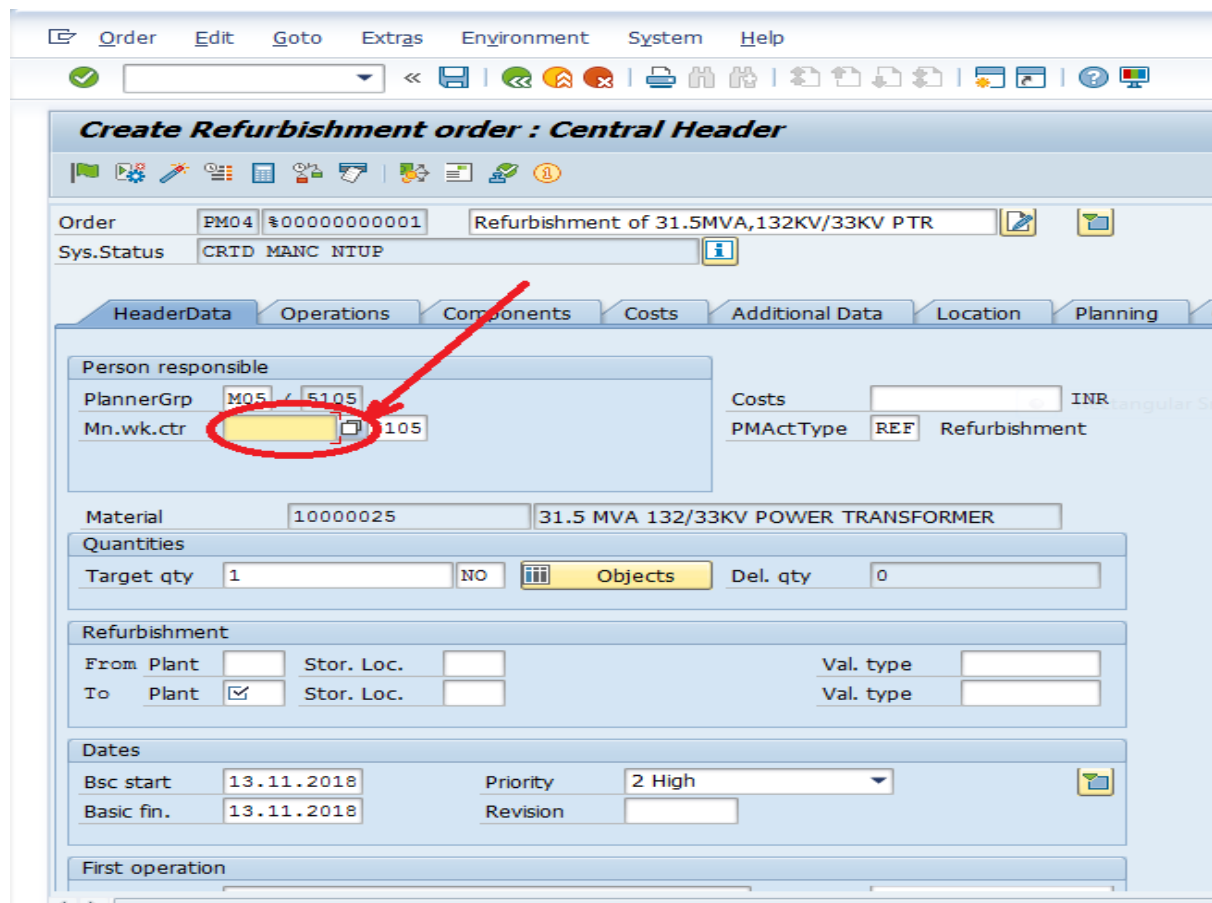
Dates
Bsc start: 13.11.2018 Priority: 2 High
Basic fin.: 13.11.2018 Revision:

First operation

Step-20: All the planner groups defined in **5105** plant would be displayed in a pop up window. Select the relevant planner group and click **enter** as shown below.



Step-21: Click search button beside **Mn. Wk. ctr** field as indicated below.



Step-22: In the pop up window displayed, enter **plant number** and click **enter** as shown below.

Create Refurbishment order : Central Header

Order: PM04 \$000000000001 Refurbishment of 31.5MVA,132KV/33KV PTR

Sys.Status: CRID MANC NTUP

Main work center for maintenance tasks (1)

K: Find by class N: Name of work center T: Technical data

Plant: 5105

Work center:

Description:

Language Key: EN

Maximum No. of Hits: 500

Priority: 2 High

Revision:

Person responsible:

PlannerGrp: M05 / 5105

Mn.wk.ctr: [x] / 5105

Material: 10000025

Quantities:

Target qty: 1

Refurbishment:

From Plant: Stor. Loc.

To Plant: [x] Stor. Loc.

Dates:

Bsc start: 13.11.2018

Basic fin.: 13.11.2018

First operation:

Step-23: In the list of maintenance work centres displayed, **select** the relevant work centre and click **enter** as shown below.

Create Refurbishment

Order: PM04 \$000000000001

Sys.Status: CRID MANC NTUP

Main work center for maintenance tasks (1) 12 Entries found

K: Find by class N: Name of work center T: Technical data

Plant: 5105

Work ctr	Short description	Language
ALDC	ALDC	EN
CIVIL	CIVIL	EN
CONST	CONSTRUCTION	EN
EBC	EBC	EN
HOTLINES	HOTLINES	EN
LINES	LINES	EN
MNT	MAINTENANCE	EN
MRT	MRT	EN
SLDC	SLDC	EN
TECH	TECHNICAL	EN
TELECOM	TELECOM	EN
TRE	TRE	EN

Person responsible:

PlannerGrp: M05 / 5105

Mn.wk.ctr: [x] / 5105

Material: 10000025

Quantities:

Target qty: 1

Refurbishment:

From Plant: Stor. Loc.

To Plant: [x] Stor. Loc.

Dates:

Bsc start: 13.11.2018

Basic fin.: 13.11.2018

First operation:

PAGE 12 OF 12 837 WORDS L18 ENG 12 Entries found

Step-24: Enter the **plant no, storage location valuation types** as indicated below.

It may be noted that **'From'** and **'To'** respectively indicate from where the equipment is sent to the external agency and to where the refurbished equipment is received after refurbishment.

Similarly, while sending the equipment for repair, its valuation type would be **'Damaged'** and after repair, the valuation type would have to be changed to **'Refurbished'**.

The screenshot shows the SAP 'Create Refurbishment order : Central Header' interface. The 'Refurbishment' section is highlighted with a red box, showing the following data:

Field	Value
From Plant	S105
Stor. Loc.	B202
To Plant	S105
Stor. Loc.	B202
Val. type	DAMAGED
Val. type	REFURBISHE

Other visible fields include: Order (PM04), Sys.Status (CRTD MANC), Material (10000025), 31.5 MVA 132/33KV POWER TRANSFORMER, Target qty (1), Del. qty (0), Bsc start (13.11.2018), Basic fin. (13.11.2018), Priority (2 High), and Revision.

Step-25: Click **Objects** button as shown below.

The screenshot shows the same SAP 'Create Refurbishment order : Central Header' interface. The 'Objects' button in the 'Quantities' section is highlighted with a red circle and an arrow pointing to it. The 'Refurbishment' section is also visible, showing the same data as in the previous screenshot.

Step-26: Enter **serial number** of the equipment. It may be noted that serial number is known to the user at the time of dismantling of equipment as explained in the beginning of this document.

Create Refurbishment order : Central Header

Order: PM04
Sys. Status: CRTD

Maintain Serial Numbers

Order: 000000000001 Item No.: 1
Material: 10000025
No. serial no: 0 / 1

Serial Number: 280793

☒ Create serial number automatically

Material: 10000025 31.5 MVA 132/33KV POWER TRANSFORMER

Quantities: Target qty: 1 NO Objects Del. qty: 0

Refurbishment: From Plant: 5105 Stor. Loc.: B202 Val. type: DAMAGED
To Plant: 5105 Stor. Loc.: B202 Val. type: REFURBISHE

Dates: Bsc start: 13.11.2018 Priority: Basic fin.: 13.11.2018 Revision:

First operation:

Step-27: Click **enter** button in the warning message window as shown below.

Create Refurbishment order : Central Header

Document lines: Display messages

Type	Message text	LText
System status ESTO is active (EQU 10002438)		
Check the status of serial number 280793		

Technical Information

Target qty: 1 NO Objects Del. qty: 0

Refurbishment: From Plant: 5105 Stor. Loc.: B202 Val. type: DAMAGED
To Plant: 5105 Stor. Loc.: B202 Val. type: REFURBISHE

Dates: Bsc start: 13.11.2018 Priority: Basic fin.: 13.11.2018 Revision:

First operation:

Step-28: Again click **enter** button as indicated below.

Create Refurbishment order : Central Header

Order: 000000000001 Item No.: 1
Material: 10000025
No. serial no: 1 / 1

Maintain Serial Numbers

Serial Number: 280793
E..: ☒ ☒

☒ **Create serial number automatically**

Material: 10000025 31.5 MVA 132/33KV POWER TRANSFORMER

Quantities
Target qty: 1 NO Objects Del. qty: 0

Refurbishment
From Plant: S105 Stor. Loc.: B202 Val. type: DAMAGED
To Plant: S105 Stor. Loc.: B202 Val. type: REFURBISHE

Dates
Bsc start: 13.11.2018 Priority:
Basic fin.: 13.11.2018 Revision:
First operation:

Step-29: Click **save** button as shown below.

Create Refurbishment order : Central Header

Order: PM04 000000000001 Refurbishment of 31.5MVA,132KV/33KV PTR
Sys.Status: CRTD MACM

HeaderData Operations Components Costs Additional Data Location Planning Control Other Details

Person responsible
PlannerGrp: M05 / S105 MNT1 2CHILLAKALLU
Mn.wk.ctr: MNT / S105 MAINTENANCE

Costs:
PMActType: REF Refurbishment

Material: 10000025 31.5 MVA 132/33KV POWER TRANSFORMER

Quantities
Target qty: 1 NO Objects Del. qty: 0

Refurbishment
From Plant: S105 Stor. Loc.: B202 Val. type: DAMAGED
To Plant: S105 Stor. Loc.: B202 Val. type: REFURBISHE

Dates
Bsc start: 13.11.2018 Priority:
Basic fin.: 13.11.2018 Revision:
First operation:

Step-30: Click **Yes** in the pop up message as shown below.

Create Refurbishment order : Central Header

Order: PM04 \$000000000001 Refurbishment of 31.5MVA,132KV/33KV PTR
Sys.Status: CRTD CSER MACM PRC

HeaderData | Operations | Components | Costs | Additional Data | Location | Planning | Control

Person responsible: PlannerGrp M05 / 5105, Mn.wk.ctr MNT /
Material: 100000
Quantities: Target qty 1

Cost Calculation
Error calculating costs see log
Log will be deleted when you save. Do you still want to save?
Yes No Cancel

Refurbishment: From Plant 5105 Stor. Loc. B202 Val. type DAMAGED
To Plant 5105 Stor. Loc. B202 Val. type REFURBISHE

Dates: Bsc start 13.11.2018, Basic fin. 13.11.2018, Priority, Revision

First operation

Step-31: Click **enter** button as indicated below, in the pop up message.

Create Refurbishment order : Central Header

Order: PM04 \$000000000001 Refurbishment of 31.5MVA,132KV/33KV PTR
Sys.Status: CRTD CSER MACM PRC

HeaderData | Operations | Components | Costs | Additional Data | Location | Planning | Control | Other Details

Person responsible: PlannerGrp M05 / 5105 MNT1 2CHILLAKALLU, Mn.wk.ctr MNT / 5105 MAINTENANCE
Costs: INR, PMActType REF Refurbishment

Material: 10000025 31.5 MVA 132/33KV POWER TRANSFORMER
Quantities: Target qty 1, Del. qty 0

Information
Object list editing not possible for order type
[Green Checkmark] [Question Mark]

Refurbishment: From Plant, To Plant
Dates: Bsc start 13.11.2018, Basic fin. 13.11.2018, Priority, Revision

First operation

Step-32: It may be noted that the refurbishment order is saved and order no is displayed in the status bar as shown below.

The screenshot shows the 'Create Order: Initial Screen' in SAP. The header data section contains the following fields:

Order Type	PM04
Priority	
Material Number	
Planning plant	5105
Business Area	5105

A red arrow points to the status bar at the bottom, which displays: **Order saved with number 100001080**.

Step-33: Enter T-code **IW32** in the command field and click **enter** button as shown below.

The screenshot shows the 'Create Order: Initial Screen' in SAP. The command field at the top left contains the text **/NIW32**. A red box highlights the green checkmark icon in the command field, and a red arrow points to it. Another red arrow points to the command field itself. The header data section contains the following fields:

Order Type	PM04
Priority	
Material Number	
Planning plant	5105
Business Area	5105

The status bar at the bottom displays: **Order saved with number 100001080**.

Step-34: Click **enter** button as shown below.

The screenshot shows the SAP 'Change Order: Initial Screen'. At the top, there is a green checkmark icon in a red box, with a red arrow pointing to it. Below this is a toolbar with various icons. The main area has tabs for 'Header data', 'Operations', 'Components', 'Costs', 'Additional data', 'Planning', and 'Control'. The 'Order' field is populated with '100001080'.

Step-35: It may be noted that refurbishment maintenance order is now in **CRTD** status i.e created status, as indicated below. Click **Components** tab as shown below.

The screenshot shows the SAP 'Change Refurbishment order 100001080: Central Header'. The 'Order' field is 'PM04 100001080' and the 'Refurbishment of 31.5MVA,132KV/33KV PTR' is displayed. The 'Sys.Status' field is 'CRTD', which is circled in red. The 'Components' tab is highlighted with a red circle and a red arrow pointing to it. The 'Person responsible' section shows 'PlannerGrp M05 / 5105 MNT1 2CHILLAKALLU' and 'Mn.wk.ctr MNT / 5105 MAINTENANCE'. The 'Material' field is '10000025 31.5 MVA 132/33KV POWER TRANSFORMER'. The 'Quantities' section shows 'Target qty 1' and 'Del. qty 0'. The 'Refurbishment' section shows 'From Plant 5105 Stor. Loc. B202 Val. type DAMAGED' and 'To Plant 5105 Stor. Loc. B202 Val. type REFURBISHE'. The 'Dates' section shows 'Bsc start 13.11.2018' and 'Basic fin. 13.11.2018'.

Step-36: Click **back** button as shown below.

MM STPO Stock Reoprt

MM STPO Stock Reoprt

Material	Material Desc	Plant	Plant Name	WBS ID	Qty in Hand	UOM	Qty Reserved	Reserved in	Desc	Net Qty	UOM
10000025		3203	SE/OMC/Tirupathi	AG-14-08-02-1-01	1.000	NO				1.000	NO
10000025	31.5 MVA 132/33KV POWER TRANSFORMER	5105	SE/OMC/Vjayawada		2.000	NO				2.000	NO
		5105	SE/OMC/Vjayawada	AG-16-03-03-1-01-01	1.000	NO				1.000	NO
										3.000	
		5114	SE/OMC/Srikakulam	AG-17-04-03-3-02-01	1.000	NO				1.000	NO
										1.000	
		5116	SE/OMC/Eluru	SI-11-06-01-4-01-02	1.000	NO				1.000	NO
										1.000	
		5117	SE/OMC/Guntur	AG-16-03-04-1-01-01	1.000	NO				1.000	NO
		5117	SE/OMC/Guntur	AG-17-03-04-1-01	1.000	NO				1.000	NO
		5117	SE/OMC/Guntur	AG-17-03-05-1-01	1.000	NO				1.000	NO
										3.000	
		5119	SE/OMC/Anantapuram	SI-16-16-01-4-01-02	1.000	NO				1.000	NO
										1.000	

Step-37: It may be noted that the equipment to be refurbished is automatically updated in the components tab with **item no: 0000**. Click **Operations** tab as shown below.

Change Refurbishment order 100001080: Component Overview

Change Refurbishment order 100001080: Component Overview

Order: PM04 100001080 Refurbishment of 31.5MVA,132KV/33KV PTR

Sys.Status: CRID CSER MACM PR

HeaderData **Operations** Components Costs Additional Data Location Planning Control Other Details

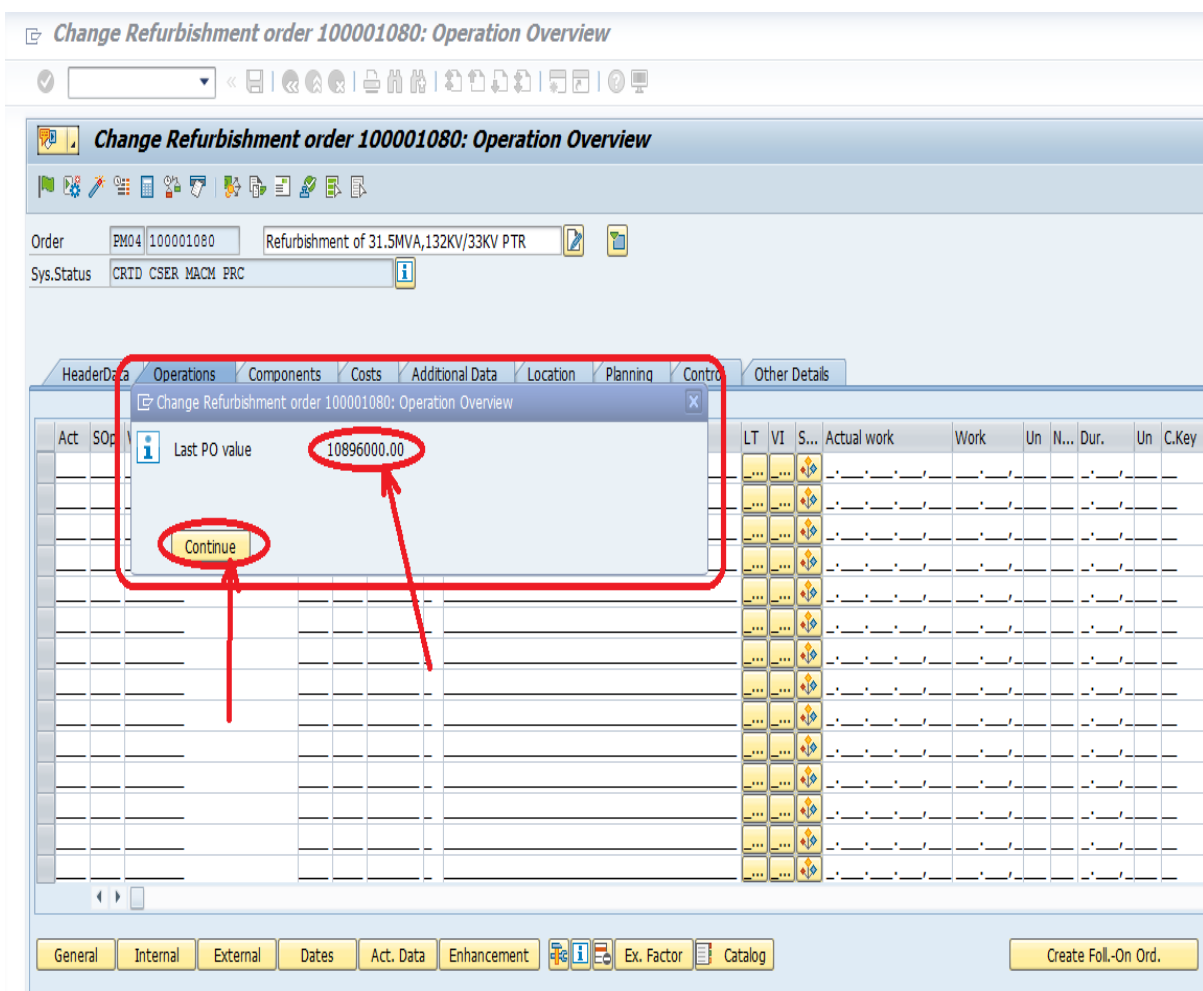
Ite...	Component	Description	LT	Reqmt Qty	UM	IC	S..	SLoc	Plnt	Act	Batch	Proc. Category
0000	10000025	31.5 MVA 132/33KV POWER TRANSFOR...			1	NO	I	B202	5105	0010	DAMAGED	Reservation for Order
0010									5105			
0020									5105			
0030									5105			
0040									5105			
0050									5105			
0060									5105			
0070									5105			
0080									5105			
0090									5105			
0100									5105			
0110									5105			
0120									5105			
0130									5105			

Gen. Data Purch. List Graph... Assy Material Where-Used Repl. Catalog

Step-38: The latest price at which the equipment has been purchased would be displayed in a pop up message as shown below. It may be noted that the system is indicating that the latest purchase price of new 31.5 MVA PTR is Rs1,08,96,000.

This information is useful to decide the **viability** of getting the PTR repaired. The estimated cost of repair is compared to the cost of purchase of a new PTR and it can be decided whether to get the PTR repaired or alternatively to go in for procurement of a new PTR instead of getting the old one repaired.

Click **continue** as indicated below.



Step-39: Click the **search** button beside the **control key** field as shown below.

Order: PM04 100001080 Refurbishment of 31.5MVA,132KV/33KV PTR
 Sys.Status: CRID CSER MACM PRC

HeaderData Operations Components Costs Additional Data Location Planning Control Other Details

Act	SOp	Work ctr	Plant	Control key	SubTextK	S..	Operation short text	LT	VI	S...
0010		MNT	5105	PM01			Refurbishment of 31.5MVA,132KV/33KV PTR			
0020		MNT	5105	PM01						
0030		MNT	5105	PM01						
0040		MNT	5105	PM01						
0050		MNT	5105	PM01						
0060		MNT	5105	PM01						
0070		MNT	5105	PM01						
0080		MNT	5105	PM01						
0090		MNT	5105	PM01						
0100		MNT	5105	PM01						
0110		MNT	5105	PM01						
0120		MNT	5105	PM01						
0130		MNT	5105	PM01						
0140		MNT	5105	PM01						

General Internal External Dates Act. Data Enhancement Catalog

Step-40: Select **PM03** from the pop up window and click **enter** as shown below.

Order: PM04 100001080 Refurbishment of 31.5MVA,132KV/33KV PTR
 Sys.Status: CRID CSER MACM PRC

HeaderData Operations Components Costs Additional Data Location Planning Control Other Details

Act	SOp	Work ctr	Plant	Control key	SubTextK	S..	Operation short text	LT	VI	S...
0010		MNT	5105	PM01			Refurbishment of 31.5MVA,132KV/33KV PTR			
0020		MNT	5105	PM01						
0030		MNT	5105	PM01						
0040		MNT	5105	PM01						
0050		MNT	5105	PM01						
0060		MNT	5105	PM01						
0070		MNT	5105	PM01						
0080		MNT	5105	PM01						
0090		MNT	5105	PM01						
0100		MNT	5105	PM01						
0110		MNT	5105	PM01						
0120		MNT	5105	PM01						
0130		MNT	5105	PM01						
0140		MNT	5105	PM01						

General Internal External Dates Act. Data Enhancement Catalog

Control Key Selection

Control Key Overview

S..	Contr...	Text for Control Key	External Processing	C
<input type="radio"/>	PM01	Plant maintenance - internal	Internally ... 2	
<input type="radio"/>	PM02	Plant maintenance - external	+ Externally ...	
<input checked="" type="radio"/>	PM03	Plant maintenance-External(services)	+ Externally ...	
<input type="radio"/>	PM05	Plant maintenance - external (service)	Internally ... 2	
<input type="radio"/>	PM07	Compatible units - no costs	Internally ... 3	
<input type="radio"/>	PP01	Routing/Ref. op. set - internal proc.	Internally ... 1	
<input type="radio"/>	PP02	Routing/Ref. op. set - external proc.	+ Externally ... 1	

Control Key: PM03 Plant maintenance-External(services)

Indicator

<input type="checkbox"/> Schedule	<input type="checkbox"/> Print Time Tickets
<input type="checkbox"/> Determine Capacity Reqmts	<input checked="" type="checkbox"/> Print
<input checked="" type="checkbox"/> Cost	<input type="checkbox"/> Print Confirmation
<input type="checkbox"/> Automatic Goods Receipt	<input type="checkbox"/> Scheduling External Op.
<input type="checkbox"/> Insp. Characteristics	+ Externally processed operation
<input type="checkbox"/> Rework	Confirmation possible but not necessary
<input checked="" type="checkbox"/> Service	

✓

Step-41: Select the line and click **External** tab at the bottom of the screen as shown below.

Change Refurbishment order 100001080: Operation Overview

Order: PM04 100001080 Refurbishment of 31.5MVA,132KV/33KV PTR

Sys.Status: CRID CSER MACM PRC

Act	SOp	Work ctr	Plant	Co...	StTextK	S...	Operation short text	LT	VI	S...	Actual work
0010	MNT		5105	PM03			Refurbishment of 31.5MVA,132KV/33KV PTR				
0020	MNT		5105	PM01							
0030	MNT		5105	PM01							
0040	MNT		5105	PM01							
0050	MNT		5105	PM01							
0060	MNT		5105	PM01							
0070	MNT		5105	PM01							
0080	MNT		5105	PM01							
0090	MNT		5105	PM01							
0100	MNT		5105	PM01							
0110	MNT		5105	PM01							
0120	MNT		5105	PM01							
0130	MNT		5105	PM01							
0140	MNT		5105	PM01							

General Internal **External** Dates Act. Data Enhancement Catalog

Step-42: Click **enter** in the pop up window as shown below.

Change Refurbishment order 100001080: External Processing Operation

Opr. short text: Refurbishment of 31.5MVA,132KV/33KV PTR

Operation qty: 1 AU Sort Term

Price: 0.00 INR per 1

Material Group: Cost Element

Purch. Group: Vendor

Agreement: Info record

Recipient: Unloading Point

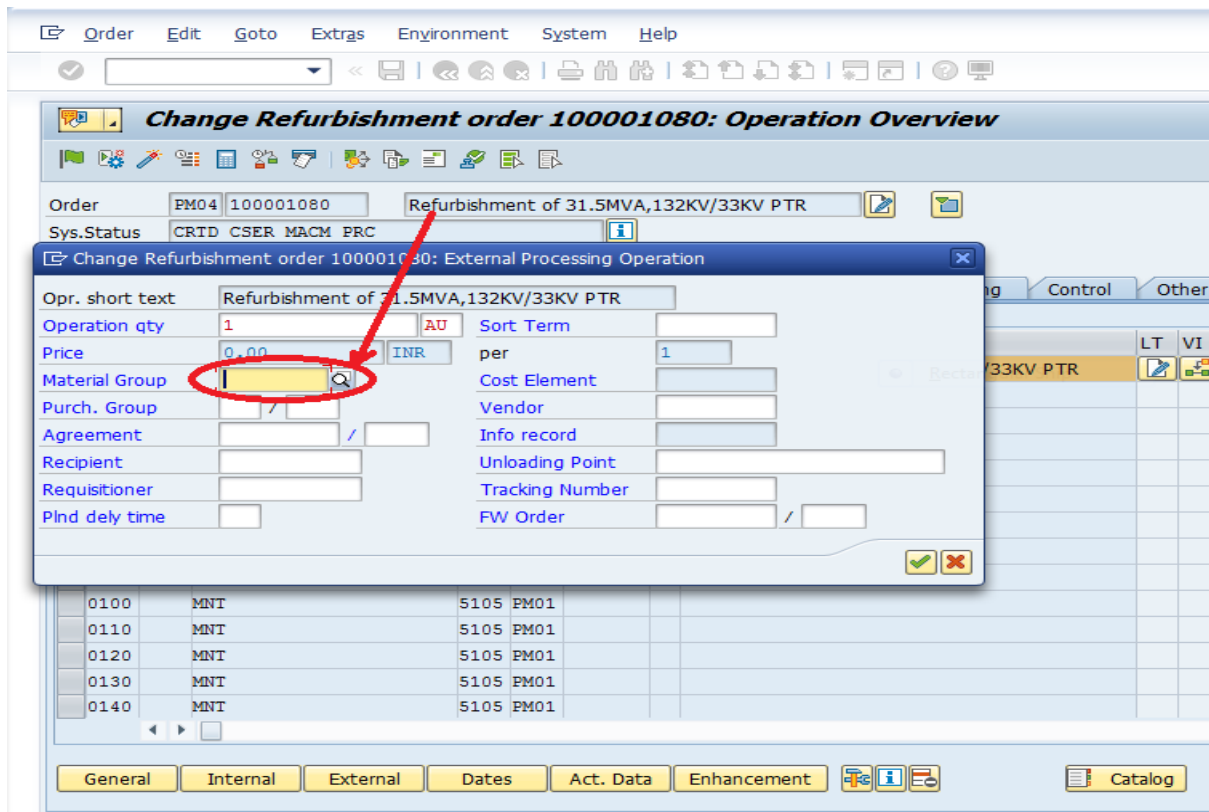
Requisitioner: Tracking Number

Plnd delay time: FW Order

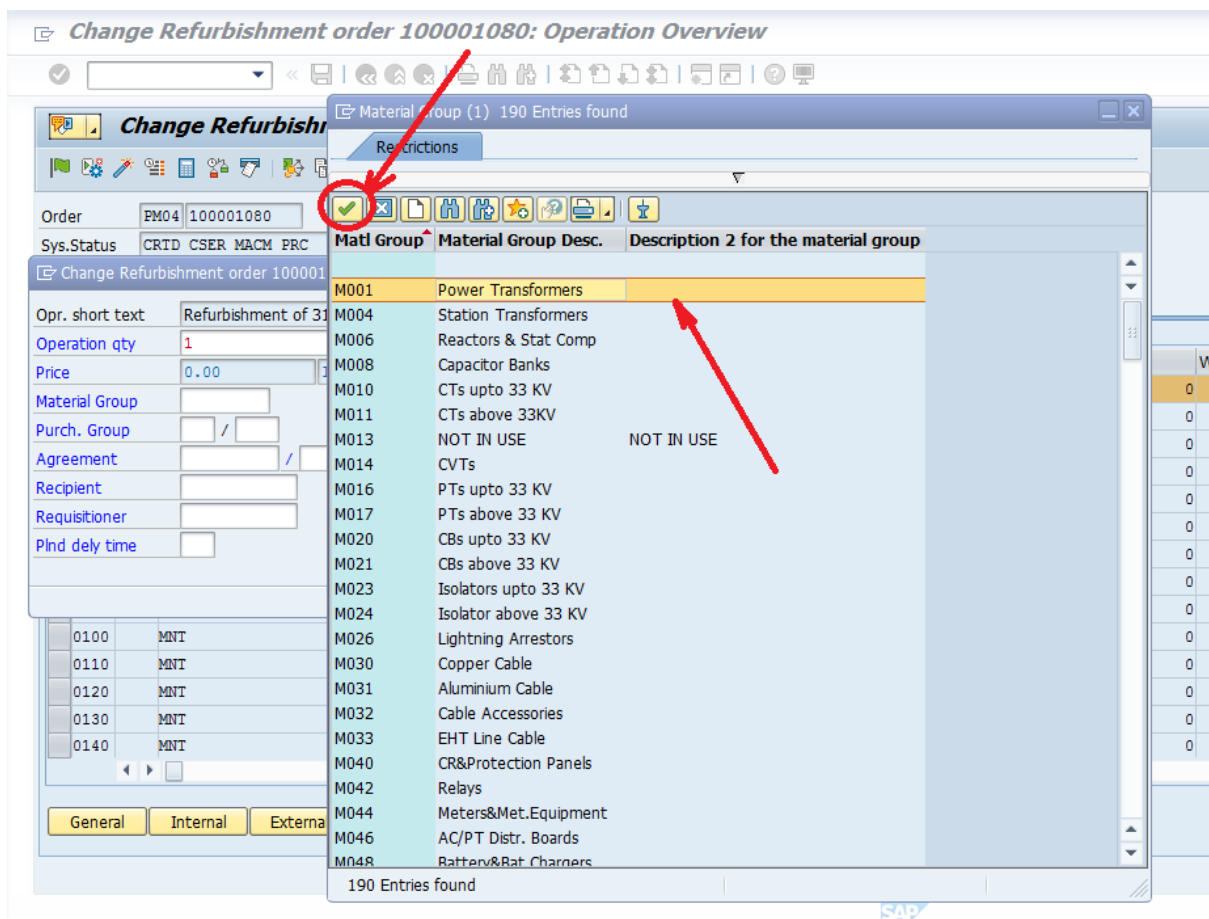
Error: External operation --> please enter material group

General Internal External Dates Act. Data Enhancement Catalog

Step-43: Click **search** button beside **Material Group** field as shown below.



Step-44: Select the relevant purchase group from the pop up window and click **enter** button as indicated below.



Step-45: Click **search** button beside **Purch. Group** field as shown below and select the relevant purchase group from search window by querying through **purchase group description** as indicated in below four screen shots.

Order: PM04 100001080 Refurbishment of 31.5MVA,132KV/33KV PTR

Sys.Status: CRTD CSER MACM PRC

Change Refurbishment order 100001080: External Processing Operation

Opr. short text: Refurbishment of 31.5MVA,132KV/33KV PTR

Operation qty: 1 AU Sort Term: per 1

Price: 0.00 INR Cost Element: Vendor: Info record: Unloading Point: Tracking Number: FW Order: /

Material Group: M001

Purch. Group:

Agreement: / Recipient: Requisitioner: Plnd dely time: /

0100	MNT	5105	PM01
0110	MNT	5105	PM01
0120	MNT	5105	PM01
0130	MNT	5105	PM01
0140	MNT	5105	PM01

General Internal External Dates Act. Data Enhancement Catalog

Change Refurbishment order 100001080: Operation Overview

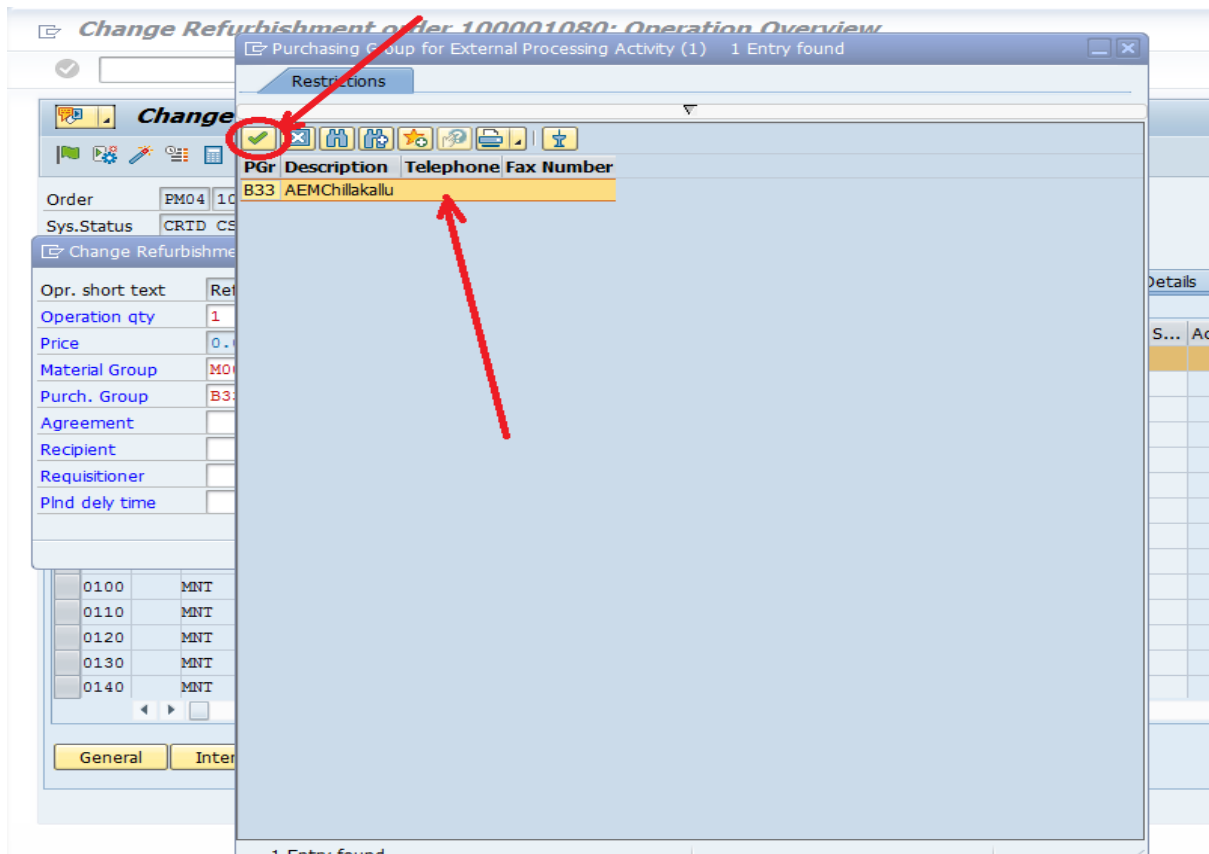
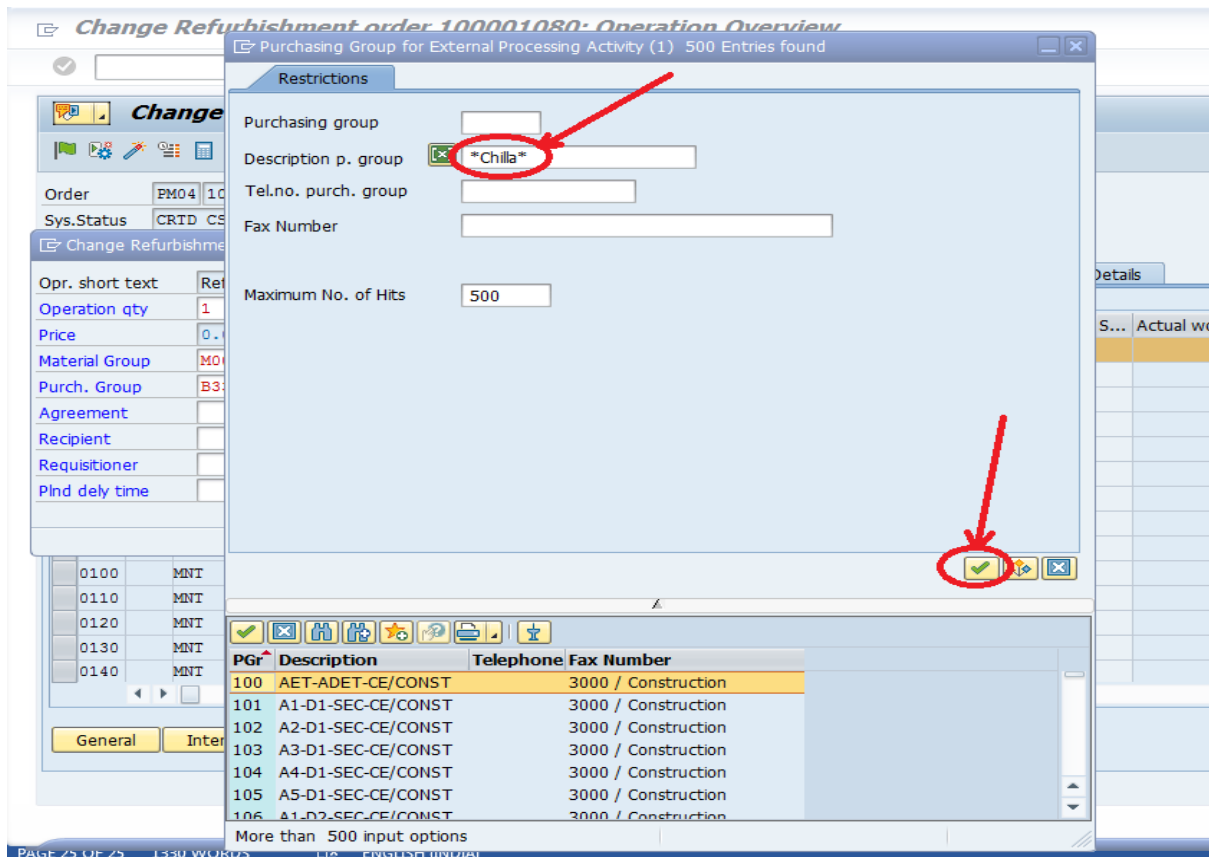
Purching Group for External Processing Activity (1) 500 Entries found

Restrictions

PGr	Description	Telephone	Fax Number
100	AET-ADET-CE/CONST	3000	Construction
101	A1-D1-SEC-CE/CONST	3000	Construction
102	A2-D1-SEC-CE/CONST	3000	Construction
103	A3-D1-SEC-CE/CONST	3000	Construction
104	A4-D1-SEC-CE/CONST	3000	Construction
105	A5-D1-SEC-CE/CONST	3000	Construction
106	A1-D2-SEC-CE/CONST	3000	Construction
107	A2-D2-SEC-CE/CONST	3000	Construction
108	A3-D2-SEC-CE/CONST	3000	Construction
109	A1-D3-SEC-CE/CONST	3000	Construction
110	A2-D3-SEC-CE/CONST	3000	Construction
111	A3-D3-SEC-CE/CONST	3000	Construction
112	A1-D1-SEP-CE/CONST	3000	P&MM / Construction
113	A2-D1-SEP-CE/CONST	3000	P&MM / Construction
114	A1-D2-SEP-CE/CONST	3000	P&MM / Construction
115	A2-D2-SEP-CE/CONST	3000	P&MM / Construction
116	A1-D3-SEP-CE/CONST	3000	P&MM / Construction
117	A2-D3-SEP-CE/CONST	3000	P&MM / Construction
120	ADET-CE/LI	3000	Lift Irrigation
121	A1-D1-SE-CE/LI	3000	Lift Irrigation
122	A2-D1-SE-CE/LI	3000	Lift Irrigation
123	A1-D2-SE-CE/LI	3000	Lift Irrigation
124	A2-D2-SE-CE/LI	3000	Lift Irrigation
130	ADET-CE/TEL&IT	3000	Telecom & IT
131	Ae-DT1-CE/TEL&IT	3000	Telecom & IT
132	A1-D1-SE-CE/TEL&IT	3000	Telecom & IT
133	A2-D1-SE-CE/TEL&IT	3000	Telecom & IT
134	A3-D1-SE-CE/TEL&IT	3000	Telecom & IT
135	A4-D1-SE-CE/TEL&IT	3000	Telecom & IT

More than 500 input options

General Internal



Step-46: The selected purchase group code would be updated as shown below. Click **enter** as indicated below.

Change Refurbishment order 100001080: Operation Overview

Order: PM04 100001080 Refurbishment of 31.5MVA,132KV/33KV PTR

Sys.Status: CRTD CSER MACM PRC

Change Refurbishment order 100001080: External Processing Operation

Opr. short text: Refurbishment of 31.5MVA,132KV/33KV PTR

Operation qty: 1 AU Sort Term:

Price: 0.00 INR per: 1

Material Group: M001

Purch. Group: **B33** /

Cost Element:

Vendor:

Info record:

Unloading Point:

Tracking Number:

FW Order: /

Recipient:

Requisitioner:

Plnd delay time:

Line	MNT	5105	PM01
0100	MNT	5105	PM01
0110	MNT	5105	PM01
0120	MNT	5105	PM01
0130	MNT	5105	PM01
0140	MNT	5105	PM01

General Internal External Dates Act. Data Enhancement Catalog

Step-47: Click **search** button beside **service no** field, in the services tab as indicated below.

Change Refurbishment order 100001080: External Processing Operation

Order: 100001080 Activity: 0010 / Ctrl key: PM03

StdTextKey/ShrtText: Refurbishment of 31.5MVA,132KV/33KV PTR

General Internal External Dates Act. Data Enhancement

Operation qty: 1 AU Sort Term:

Price: 0.00 INR per: 1

Material Group: M001

Purch. Group: B33 /

Cost Element:

Vendor:

Info record:

Unloading Point:

Tracking Number:

FW Order: /

Recipient:

Requisitioner:

Plnd delay time:

Services Components Relationships

Line	D.	Service No.	Short Text	Quantity	Un	Gross Price	Crcy
1							INR
2							INR
3							INR
4							INR

Service Sel. Catalog Line 1

Step-48:In the search window select the relevant service items through service short text field and click **enter** as shown below.

The screenshot shows the 'Change Refurbishment order 100001080: External Processing Operation' window. The 'Service Short Text' field is populated with '*REPAIR*PTR*'. The 'Maximum No. of Hits' is set to 500. The 'enter' button is highlighted with a red circle and an arrow.

Step-49: Select the service and click **enter** button as shown below.

The screenshot shows the 'Change Refurbishment order 100001080: External Processing Operation' window. The 'Service Short Text' field is populated with '*REPAIR*PTR*'. The 'Maximum No. of Hits' is set to 500. The 'enter' button is highlighted with a red circle and an arrow.

Service Short Text	Activity	Language
LABOUR CHARGES FOR REPAIR OF PTR<=100	RC-PTROH100-A1	EN
LABOUR CHARGES FOR REPAIR OF PTR<=160	RC-PTROH160-A1	EN
LABOUR CHARGES FOR REPAIR OF PTR<=31.5	RC-PTROH31.5-A1	EN
LABOUR CHARGES FOR REPAIR OF PTR<=50	RC-PTROH50-A1	EN
LABOUR CHARGES FOR REPAIR OF PTR<=80	RC-PTROH80-A1	EN

Step-50:Click **enter** button as shown below.

Change Refurbishment order 100001080: External Processing Operation

Order: 100001080 Activity: 0010 / Ctrl key: PM03
 StdTextKey/ShrtText: Refurbishment of 31.5MVA,132KV/33KV PTR

General Internal External Dates Act. Data Enhancement

Operation qty: 1 AU Sort Term: per: 1
 Price: 0.00 INR Cost Element: Vendor: Info record: Unloading Point: Tracking Number: FW Order: /
 Material Group: M001 Purch. Group: B33 / Agreement: Recipient: Requisitioner: Plnd dely time:

Services Components Relationships

Line	D..	Service No.	Short Text	Quantity	Un	Gross Price
1		RC-PTROH31...				
2						
3						
4						

Service Sel. Catalog Line 1

Step-51: It may be noted that **short text** and **unit of measurement** fields are updated now. If the price is available in the **service master**, it would also be updated. Otherwise the same should be manually entered.

Enter **quantity** and **estimated price** and click **enter** as indicated below.

Change Refurbishment order 100001080: External Processing Operation

Order: 100001080 Activity: 0010 / Ctrl key: PM03
 StdTextKey/ShrtText: Refurbishment of 31.5MVA,132KV/33KV PTR

General Internal External Dates Act. Data Enhancement

Operation qty: 1 AU Sort Term: per: 1
 Price: 8,000,000.00 INR Cost Element: Vendor: Info record: Unloading Point: Tracking Number: FW Order: /
 Material Group: M001 Purch. Group: B33 / Agreement: Recipient: Requisitioner: Plnd dely time:

Services Components Relationships

Line	D..	Service No.	Short Text	Quantity	Un	Gross Price	Crcy
1		RC-PTROH31...	LABOUR CHARGES FOR REPAIR OF P	1	LS	8,000,000.00	INR
2							INR
3							INR
4							INR

Service Sel. Catalog Line 1

Step-52: Click **Header data** as shown below, for releasing the maintenance order.

Change Refurbishment order 100001080: External Processing Operation

Order: 100001080 Activity: 0010 / Ctrl key: PM03
 StdTextKey/ShrtText: Refurbishment of 31.5MVA,132KV/33KV PTR

General Internal External Dates Act. Data Enhancement

Operation qty: 1 AU Sort Term: per 1
 Price: 8,000,000.00 INR Cost Element:
 Material Group: M001 Vendor:
 Purch. Group: B33 / Info record:
 Agreement: / Unloading Point:
 Recipient: Tracking Number:
 Requisitioner: FVW Order: /
 Plnd dely time:

Services Components Relationships

Line	D.	Service No.	Short Text	Quantity	Un	Gross Price	CrCY	Overf. Tol.	U Cost Elem...	S...
1		RC-PTROH31...	LABOUR CHARGES FOR REPAIR OF P.	1	LS	8,000,000.00	INR		7410100001	
2							INR			
3							INR			
4							INR			

Service Sel. Catalog Line 1

Release of Refurbishment Maintenance Order:

Step-53: The **release** of maintenance order can be done only by the concerned **Executive Engineer** through his/her user ID.

Click the green coloured flag as indicated below, for release of maintenance order.

Change Refurbishment order 100001080: Central Header

Order: PM04 100001080 Refurbishment of 31.5MVA,132KV/33KV PTR
 Sys.Status: CRTD CSER MANC PRC

HeaderData Operations Components Costs Additional Data Location Planning Control Other Details

Person responsible
 PlannerGrp: M05 / 5105 MNT1 2CHILLAKALLU
 Mn.wk.ctr: MNT / 5105 MAINTENANCE
 Costs: INR
 PMActType: REF Refurbishment

Material: 10000025 31.5 MVA 132/33KV POWER TRANSFORMER

Quantities
 Target qty: 1 NO Objects Del. qty: 0

Refurbishment
 From Plant: 5105 Stor. Loc.: B202 Val. type: DAMAGED
 To Plant: 5105 Stor. Loc.: B202 Val. type: REFURBISHE

Dates
 Bsc start: 13.11.2018 Priority:
 Basic fin.: 13.11.2018 Revision:

First operation

Step-54: It may be noted that the system has displayed a warning message in the status bar as shown below, stating that **release is rejected** since **repair cost is > 30% of material cost**.

In this connection it may be noted that as explained in **step-38** above, system compares the estimated repair cost with the latest purchase price of the equipment. If the cost of repair is **>30%** of latest purchase price, system throws the warning message. If the repair cost is **<30%** of purchase price, the warning message would not be displayed.

In the present example, the latest purchase price is Rs1, 08, 96,000 and the estimated repair cost is Rs 80, 00,000 which is more than 30% of purchase price. Hence the warning message is displayed.

However, if it is still decided to go ahead with repair of equipment, the warning message can be ignored and maintenance order can be released, in order to create **Purchase Requisition**. Click **enter** as shown below, to ignore the warning message.

The screenshot displays the SAP 'Change Refurbishment order 100001080: Central Header' interface. The top toolbar contains various icons, including a green checkmark icon which is highlighted by a red arrow. The main form area shows the following data:

Order		Refurbishment of 31.5MVA,132KV/33KV PTR	
PM04	100001080		
Sys.Status		CRTD CSER MANC PRC	

Below the status bar, the 'HeaderData' tab is active. It contains the following fields:

Person responsible		Costs	
PlannerGrp	M05 / 5105 MNT1 2CHILLAKALLU		INR
Mn.wk.ctr	MNT / 5105 MAINTENANCE	PMActType	REF Refurbishment

The 'Material' field is set to 10000025, and the description is '31.5 MVA 132/33KV POWER TRANSFORMER'. The 'Quantities' section shows 'Target qty' as 1 and 'Del. qty' as 0. The 'Refurbishment' section shows 'From Plant' and 'To Plant' both as 5105, and 'Stor. Loc.' as B202. The 'Val. type' is set to DAMAGED. The 'Dates' section shows 'Bsc start' and 'Basic fin.' both as 13.11.2018. The 'Priority' and 'Revision' fields are empty. The 'First operation' field is also empty.

The status bar at the bottom of the window displays a warning message: **Release Rejected - Refurbishment cost > the 30% of material cost**. The SAP logo is visible in the bottom right corner.

Step-54: It may be noted that now the order is changed to “released” status as indicated below. Now click **save** button as shown below.

Change Refurbishment order 100001080: Central Header

Order: PM04 100001080 Refurbishment of 31.5MVA,132KV/33KV PTR

Sys.Status: REL CSER MACM PRC SETC

HeaderData Operations Components Costs Additional Data Location Planning Control Other Details

Person responsible
PlannerGrp: M05 / 5105 MNT1 2CHILLAKALLU
Mn.wk.ctr: MNT / 5105 MAINTENANCE

Costs: 0.00 INR
PMActType: REF Refurbishment

Material: 10000025 31.5 MVA 132/33KV POWER TRANSFORMER

Quantities
Target qty: 1 NO Objects Del. qty: 0

Refurbishment
From Plant: 5105 Stor. Loc.: B202 Val. type: DAMAGED
To Plant: 5105 Stor. Loc.: B202 Val. type: REFURBISHE

Dates
Bsc start: 13.11.2018 Priority:
Basic fin.: 13.11.2018 Revision:

First operation

Order 100001080 will be released after update.

Step-55: Click **Yes** as indicated below.

Change Refurbishment order 100001080: Central Header

Order: PM04 100001080 Refurbishment of 31.5MVA,132KV/33KV PTR

Sys.Status: REL CSER MACM PRC SETC

HeaderData Operations Components Costs Additional Data Location Planning Control

Person responsible
PlannerGrp: M05 / 5105 MNT1 2CHILLAKALLU
Mn.wk.ctr: MNT / 5105 MAINTENANCE

Material: 10000025 31.5 MVA 132/33KV POWER TRANSFORMER

Quantities
Target qty: 1 NO Objects Del. qty: 0

Refurbishment
From Plant: 5105 Stor. Loc.: B202 Val. type: DAMAGED
To Plant: 5105 Stor. Loc.: B202 Val. type: REFURBISHE

Dates
Bsc start: 13.11.2018 Priority:
Basic fin.: 13.11.2018 Revision:

First operation

Cost Calculation

Error calculating costs for order 000100001080. see log

Log will be deleted when you save. Do you still want to save?

Yes No Cancel

Step-56: Click **enter** as shown below.

Change Refurbishment order 100001080: Central Header

Order: PM04 100001080 Refurbishment of 31.5MVA,132KV/33KV PTR
 Sys.Status: REL CSER MACM PRC SETC

HeaderData Operations Components Costs Additional Data Location Planning Control

Person responsible
 PlannerGrp: M05 / S105 MNT1 2CHILLAKALLU
 Mn.wk.ctr: MNT / S105 MAINTENANCE

Costs: 0.00 INR
 PMActType: REF Refurbishment

Material: 10000025 31.5 MVA 132/33KV POWER TRANSFORMER

Quantities
 Target qty: 1 NO Objects Del. qty: 0

Refurbishr
 From Plan
 To Plan

Dates
 Bsc start: 13.11.2018 Priority
 Basic fin.: 13.11.2018 Revision

First operation

Information: Object list editing not possible for order type

Step-57: Message would be displayed in status bar that order has been saved. Enter T-code/**NIW32** in the command field and click **enter** button as shown below.

Change Order: Initial Screen

Header data Operations Components Costs Additional data Planning Control

Order: 100001080

Command field: /NIW32

Step-58: Click **Operations** tab as indicated below.

Step-59: Select the operation line and click **Act.Data** as indicated below.

Act	SOp	Work ctr	Plant	Co...	StTextK	S.	Operation short text	LT	VI	S...	Actual w
0010	MNT		5105	PM03			Refurbishment of 31.5MVA,132KV/33KV PTR				
0020	MNT		5105	PM01							
0030	MNT		5105	PM01							
0040	MNT		5105	PM01							
0050	MNT		5105	PM01							
0060	MNT		5105	PM01							
0070	MNT		5105	PM01							
0080	MNT		5105	PM01							
0090	MNT		5105	PM01							
0100	MNT		5105	PM01							
0110	MNT		5105	PM01							
0120	MNT		5105	PM01							
0130	MNT		5105	PM01							
0140	MNT		5105	PM01							

Step-60: It may be noted that a **purchase requisition** is created by the system and PR no is displayed as shown below.

Change Refurbishment order 100001080: General Operation Data

Order: 100001080 Activity: 0010 / Ctrl key: PM03
StdTextKey/ShrtText: Refurbishment of 31.5MVA,132KV/33KV PTR

General Internal External Dates Act. Data Enhancement

Completion confirmation
Confirmation: 4144
☐ No Remaining Work
Actual work: 0
Forecast work: 0

Purchasing
Requisition: 5000001246
GR Qty: 0.000
Res./Purc. req.: 3 Immediately
☐ Purch. Order Exists

Services Components Relationships

Line	D..	Service No.	Short Text	Quantity	Un	Gross Price	Crcy
1	<input type="checkbox"/>	RC-PTROH31...	LABOUR CHARGES FOR REPAIR OF P..1		LS	8,000,000.00	INR
2	<input type="checkbox"/>						INR
3	<input type="checkbox"/>						INR
4	<input type="checkbox"/>						INR

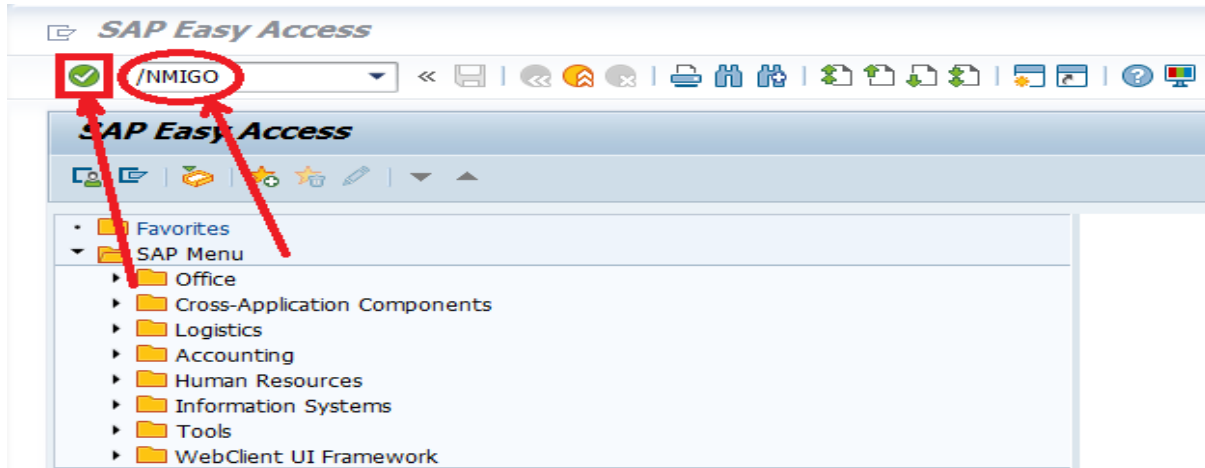
Service Sel. Catalog Line 1

A refurbishment purchase order should be created by adopting the above purchase requisition (PR). The process of creating PO against PR is explained in a separate document.

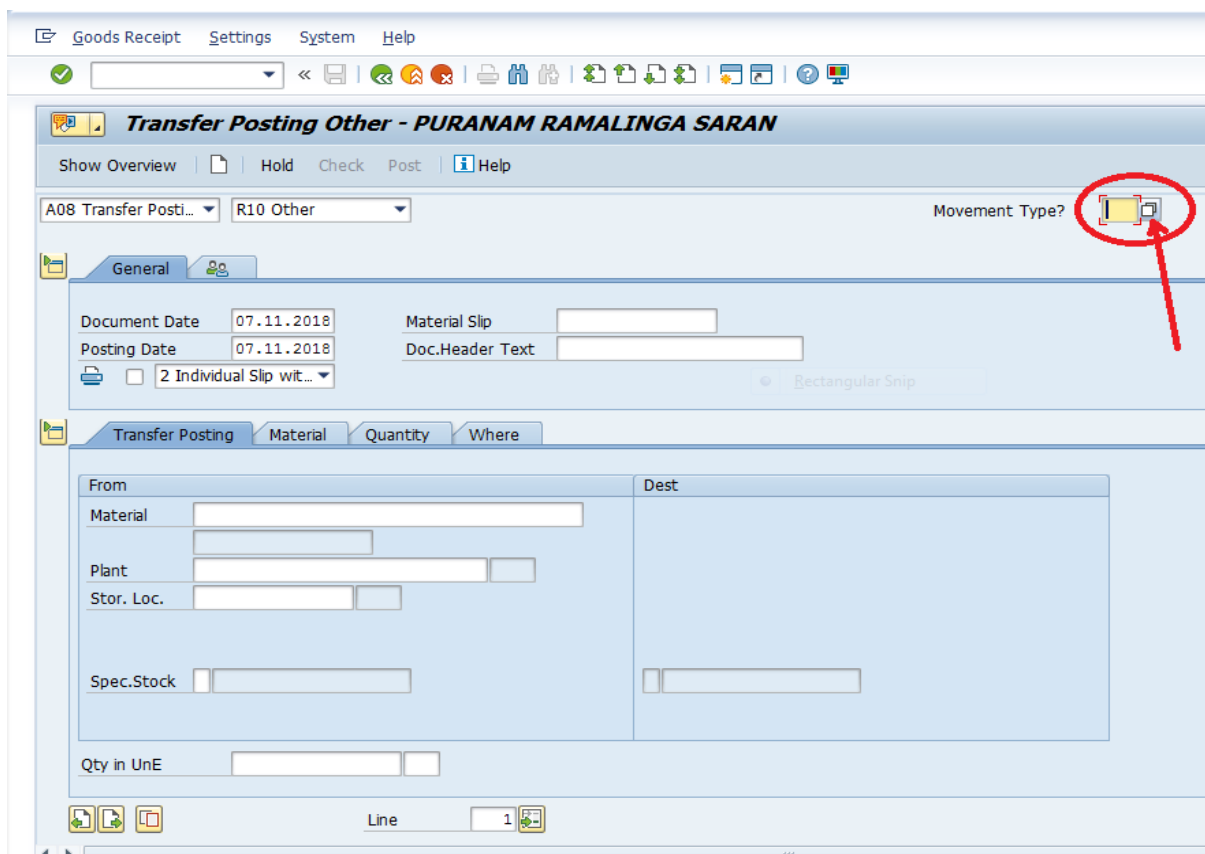
Similarly service entry sheet should be done against the PO after completion of repair/ refurbishment work. The process of service entry sheet is illustrated in a separate document. The cost of refurbishment would be settled against the refurbishment order.

Sending the damaged equipment to the external agency for repair:

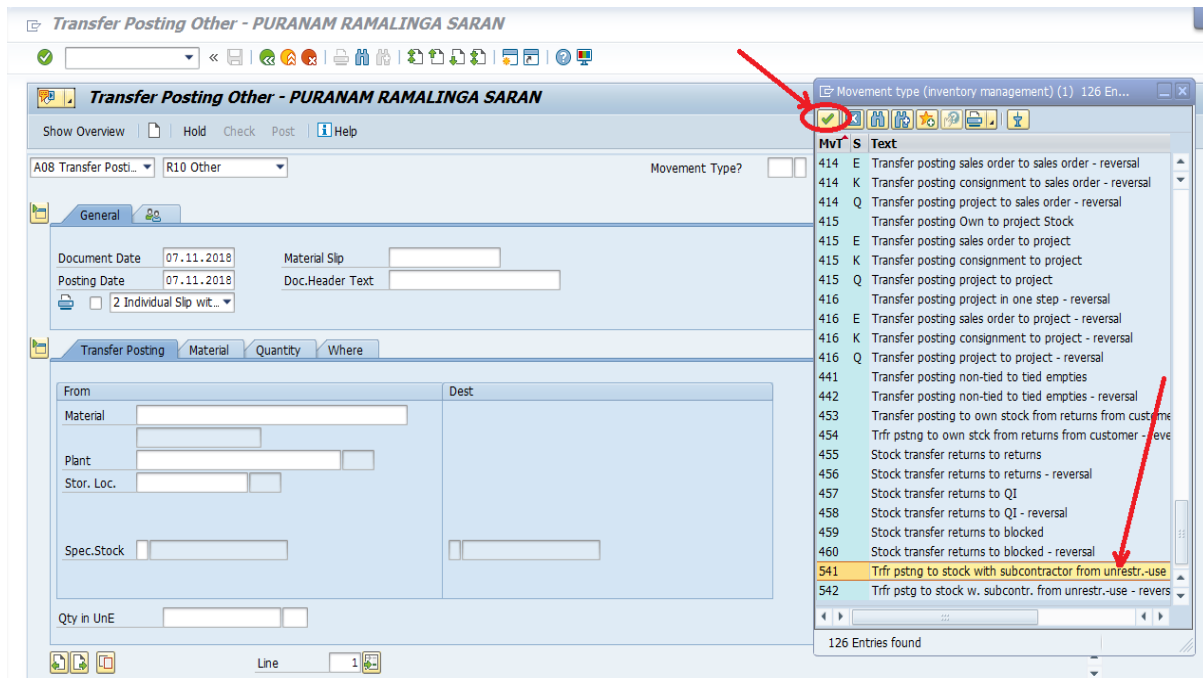
Step-1: Enter T-code **/NMIGO** in the command field and click **enter** as shown below.



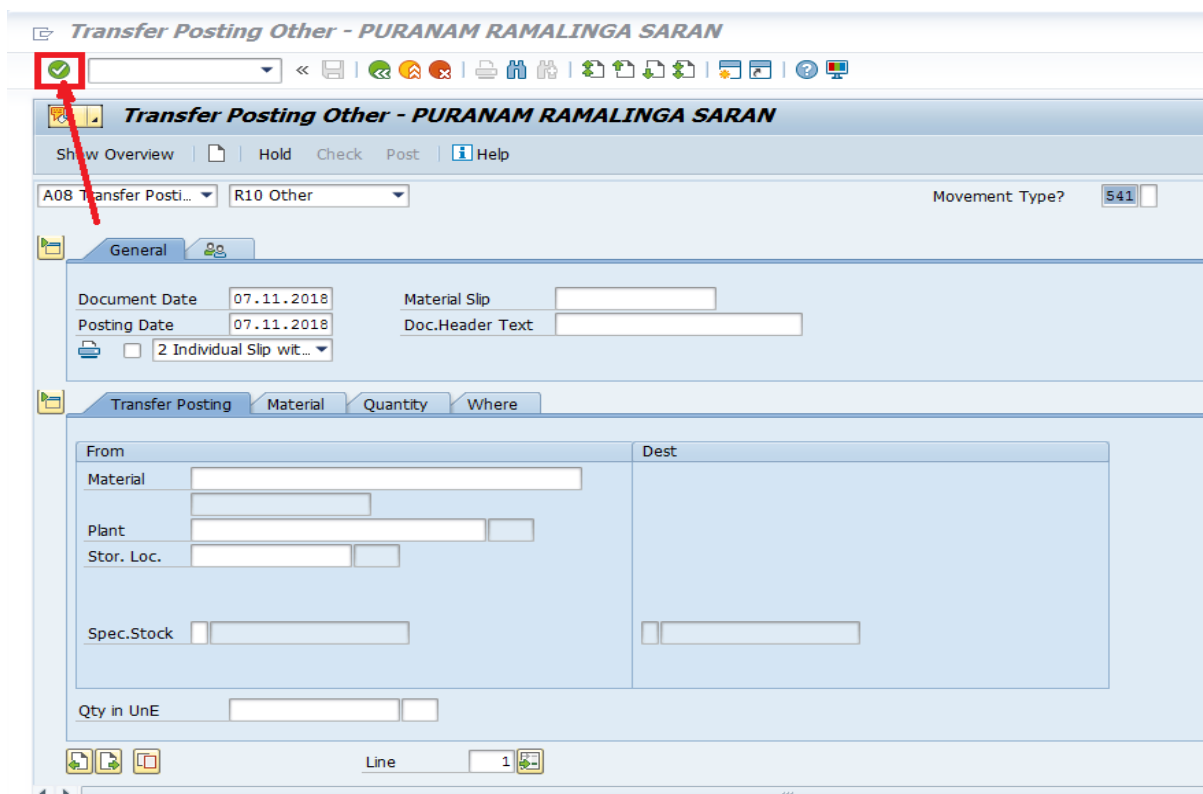
Step-2: Click **search** button beside **Movement Type** field, as indicated below.



Step-3: Select the movement type **541** from the list displayed and click **enter** as indicated below.



Step-4: Now click **enter** button as shown below.



Step-5: Enter the **refurbishment order number** in the **Doc.Header.Text** field as indicated below and click **enter** button **twice**.

Transfer Posting Other - PURANAM RAMALINGA SARAN

Show Overview | Hold | Check | Post | Help

A08 Transfer Posti... | R10 Other | GI whse to subc.stck 541

General

Document Date 07.11.2018 | Material Slip |
 Posting Date 07.11.2018 | Doc.Header Text 100001080

☐ 2 Individual Slip wit...

Transfer Posting | Material | Quantity | Where

From: Material, Plant, Stor. Loc., Spec.Stock
 Dest: Parts prov. vendor

Qty in UnE | Line 1

Step-6: It may be noted that the data pertaining to the **material no, quantity, serial no, Plant, storage location etc** are automatically updated in the various tab pages of **migo** screen as indicated below by copying the data from refurbishment order.

It may be noted that the valuation type is indicated as **'Damaged'** both at the **SS storage location** and the **vendor destination** as the equipment is being sent for repairs.

Now click the **search** button beside the **vendor** screen as shown below, for selecting the vendor i.e the external agency who would carry out repair of damaged equipment.

Transfer Posting Other - PURANAM RAMALINGA SARAN

Show Overview | Hold | Check | Post | Help

A08 Transfer Posti... | R10 Other | GI whse to subc.stck 541

General

Document Date 07.11.2018 | Material Slip |
 Posting Date 07.11.2018 | Doc.Header Text 100001080

☐ 2 Individual Slip wit... Rectangular Slip

Transfer Posting | Material | Quantity | Where | **Serial Numbers**

From: Material 31.5 MVA 132/33KV POWER TRANSFORMER, 10000025
 Plant SE/OMC/Viayawada 5105
 Stor. Loc. 220KVChillakallu B202
 Val. type DAMAGED
 Spec.Stock

Dest: 31.5 MVA 132/33KV POWER TRANSFORMER, 10000025
 SE/OMC/Viayawada 5105
 DAMAGED
 Parts prov. vendor

Qty in UnE 1 NO

☒ Item OK | Line 1

Step-7: In the pop up window, query the vendor through **name** field, by indicating name of the vendor, as shown below and click **enter** button.

The screenshot shows the SAP 'Transfer Posting Other - PURANAM RAMALINGA SARAN' window. The 'Name of Vendor for Special Stock (Transfer Posting) (1)' pop-up is active. The 'Name' field is populated with '*VDAI*' and is circled in red. A red arrow points to the 'Enter' button (a green checkmark icon) at the bottom right of the pop-up.

Step-8: After fetching the required vendor, **select** the vendor and click **enter** button as shown below.

The screenshot shows the SAP 'Transfer Posting Other - PURANAM RAMALINGA SARAN' window. The 'Name of Vendor for Special Stock (Transfer Posting) (1)' pop-up is active. The 'SearchTerm' field contains 'IOVEL00414 IN' and the 'City' field contains 'HYDERABAD'. The 'Name 1' field contains 'VIJAI ELECTRICALS LTD' and the 'Vendor' field contains '102992'. A red arrow points to the 'Enter' button (a green checkmark icon) at the bottom left of the pop-up.

Step-9: The ID of the selected vendor would be updated in the **migo** screen as shown below. Click **enter** button as indicated below.

Transfer Posting Other - PURANAM RAMALINGA SARAN

Document Date: 07.11.2018
Posting Date: 07.11.2018
Material Slip:
Doc.Header Text: 100001080

2 Individual Slip wit...

Transfer Posting | Material | Quantity | Where | Serial Numbers

From	Dest
Material: 31.5 MVA 132/33KV POWER TRANSFORMER	Material: 31.5 MVA 132/33KV POWER TRANSFORMER
10000025	10000025
Plant: SE/OMC/Vijayawada S105	Plant: SE/OMC/Vijayawada S105
Stor. Loc.: 220KVChillakallu B202	Stor. Loc.: 220KVChillakallu B202
Val. type: DAMAGED	Val. type: DAMAGED
Spec.Stock: <input type="checkbox"/>	Spec.Stock: <input type="checkbox"/>
	0 Parts prov. vendor
	102992

Qty in UnE: 1 NO

Item OK Line 1

Step-10: The name of the vendor would be updated in the vendor field as shown below. Click **check** button as shown below to check whether the document can be posted.

Transfer Posting Other - PURANAM RAMALINGA SARAN

Show Overview | Hold | **Check** | Post | Help

A08 Transfer Posti... R10 Other GI whse to subc.stck 541

General

Document Date: 07.11.2018
Posting Date: 07.11.2018
Material Slip:
Doc.Header Text: 100001080

2 Individual Slip wit...

Transfer Posting | Material | Quantity | Where | Serial Numbers

From	Dest
Material: 31.5 MVA 132/33KV POWER TRANSFORMER	Material: 31.5 MVA 132/33KV POWER TRANSFORMER
10000025	10000025
Plant: SE/OMC/Vijayawada S105	Plant: SE/OMC/Vijayawada S105
Stor. Loc.: 220KVChillakallu B202	Stor. Loc.: 220KVChillakallu B202
Val. type: DAMAGED	Val. type: DAMAGED
Spec.Stock: <input type="checkbox"/>	Spec.Stock: <input type="checkbox"/>
	0 Parts prov. vendor
	VIAI ELECTRICALS LTD 102992

Qty in UnE: 1 NO

Item OK Line 1

Step-11: It may be noted that **Document is O.K** message is displayed in the status bar as shown below. Hence the migo document can now be posted. Click **Post** button as indicated below.

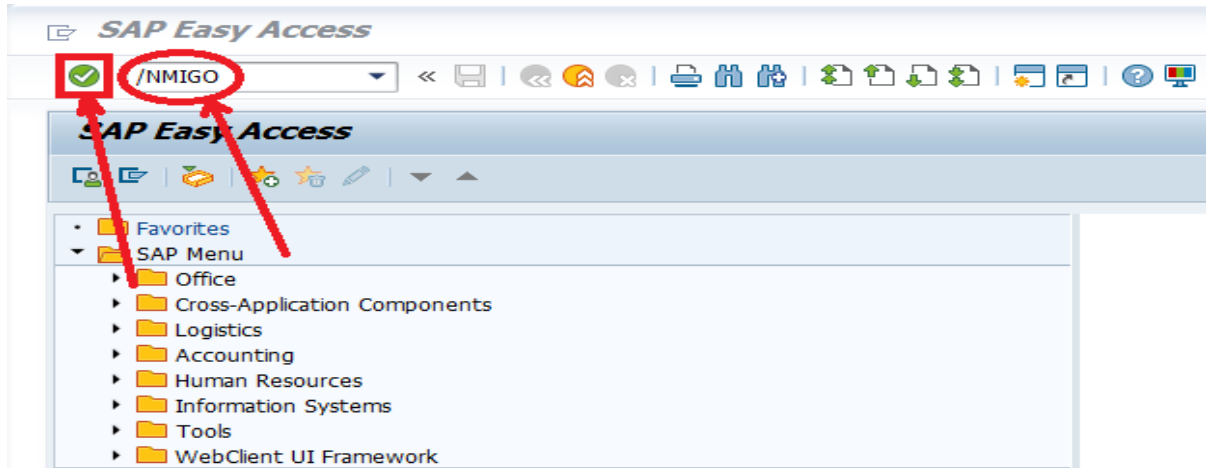
The screenshot shows the SAP 'Transfer Posting Other' transaction. The title bar reads 'Transfer Posting Other - PURANAM RAMALINGA SARAN'. The menu bar includes 'Show Overview', 'Hold', 'Check', 'Post', and 'Help'. The 'Post' button is circled in red. Below the menu bar, there are dropdowns for 'A08 Transfer Posti...' and 'R10 Other', and a field for 'GI whse to subc.stck' with value '541'. The 'General' tab is active, showing 'Document Date' and 'Posting Date' as '07.11.2018', 'Material Slip' as '100001080', and 'Doc.Header Text' as '100001080'. The 'Transfer Posting' tab is also visible, showing 'From' and 'Dest' sections with material details like '31.5 MVA 132/33KV POWER TRANSFORMER' and '10000025'. The status bar at the bottom shows a green checkmark and the message 'Document is O.K.' which is highlighted with a red box.

Step-12: A material document would be created and document no would be displayed in the status bar as shown below.

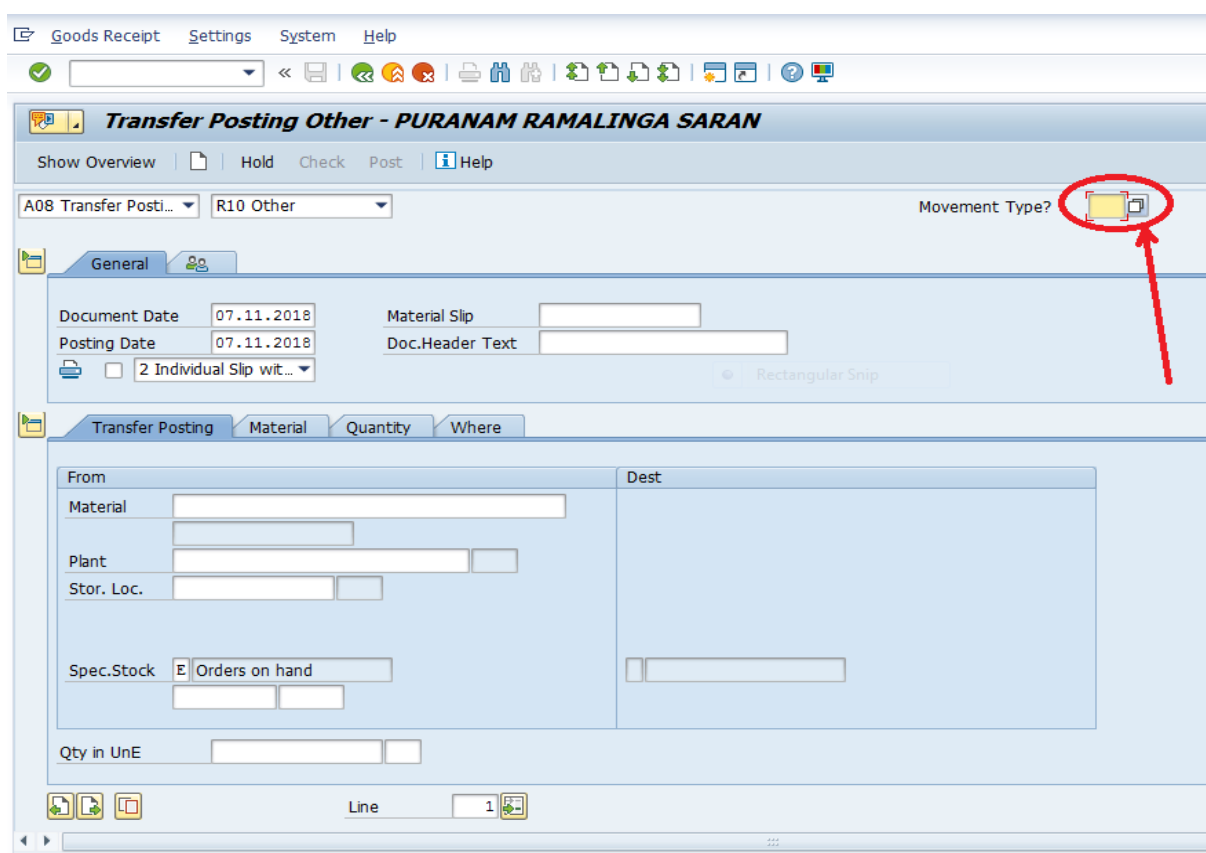
The screenshot shows the same SAP 'Transfer Posting Other' transaction. The title bar and menu bar are identical. The 'Post' button is no longer highlighted. The 'General' tab shows 'Document Date' and 'Posting Date' as '07.12.2018'. The 'Transfer Posting' tab is active, showing 'From' and 'Dest' sections with empty fields for material, plant, and storage location. The status bar at the bottom shows a green checkmark and the message 'Material document 4900012977 posted.' which is highlighted with a red box.

Receiving the refurbished equipment from the external agency after repair:

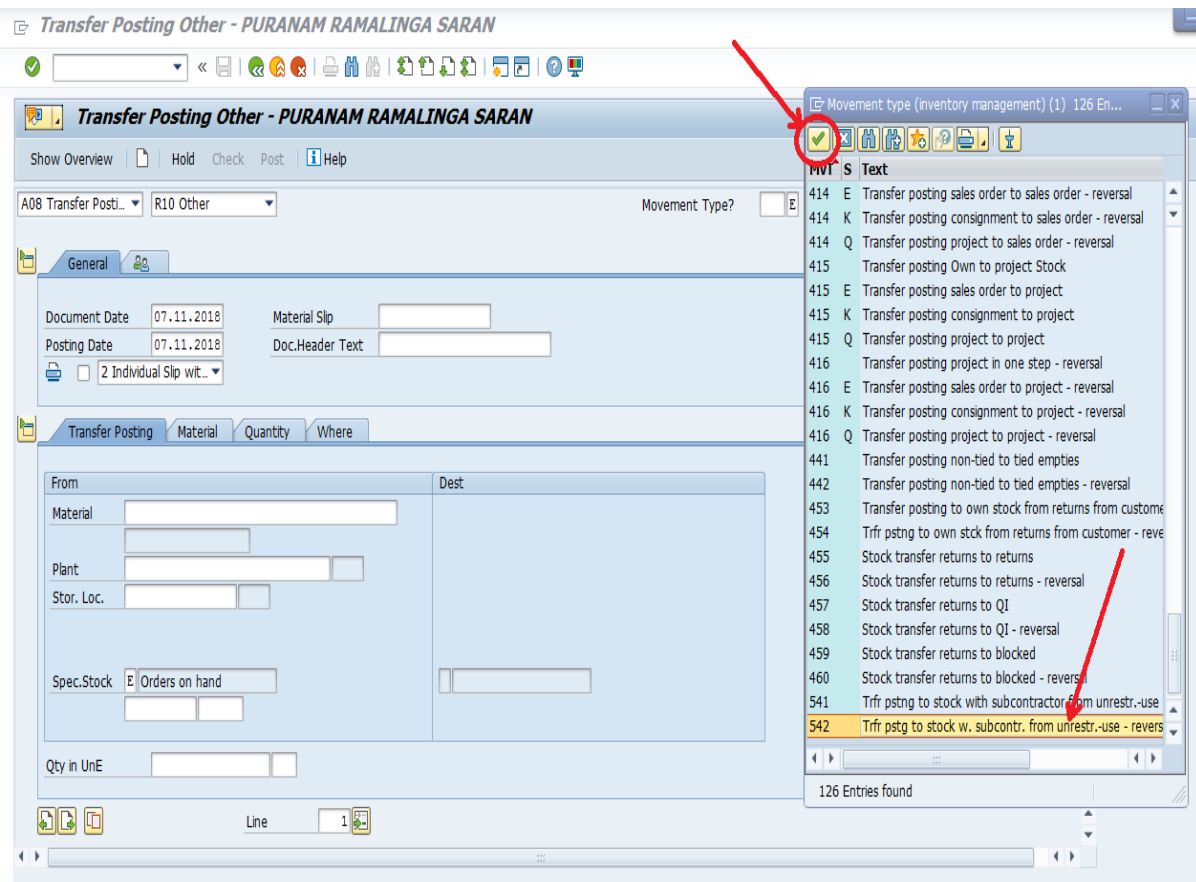
Step-1: Enter T-code **/NMIGO** in the command field and click **enter** as shown below.



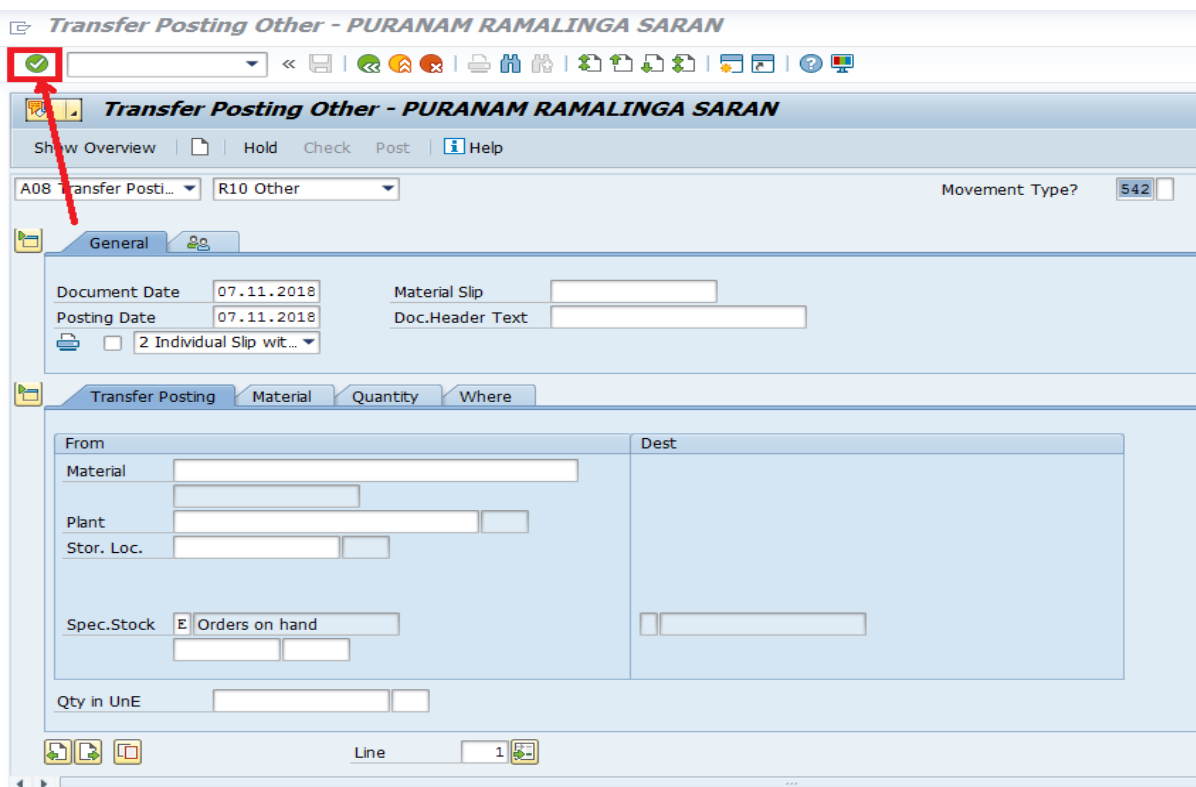
Step-2: Click **search** button beside **Movement Type** field, as indicated below.



Step-3: From the list displayed in the pop up window, select the movement type **542** and click **enter** button as shown below.



Step-4: Click enter button as indicated below.



Step-5: Enter the **refurbishment order no** in the **Doc.Header Text** field and click **enter** button **twice** as indicated below.

Transfer Posting Other - PURANAM RAMALINGA SARAN

Show Overview | Hold | Check | Post | Help

A08 Transfer Posti... | R10 Other | RE subctrStck toWh... 542

General

Document Date 07.11.2018 | Material Slip |
 Posting Date 07.11.2018 | Doc.Header Text 100001080
☐ 2 Individual Slip wit...

Transfer Posting | Material | Quantity | Where

Dest | From

Material | |
 Plant | |
 Stor. Loc. | |
 Spec.Stock | |
☐ Parts prov. vendor

Qty in UnE | |

Line 1

Step-6: It may be noted that data in various tab pages of **MIGO** screen is automatically updated from the **refurbishment order** as indicated below.

It may be noted that the valuation type is indicated as '**Damaged**' at the **vendor destination** and as '**Refurbished**' at the SS storage location, since equipment is being received in refurbished condition after repair.

Now **select and enter** the vendor in the **vendor field** as per the procedure explained above. (i.e in the process of sending the damaged equipment to the external agency) and click enter button as shown below.

Transfer Posting Other - PURANAM RAMALINGA SARAN

Show Overview | Hold | Check | Post | Help

A08 Transfer Posti... | R10 Other | RE subctrStck toWh... 542

General

Document Date 07.11.2018 | Material Slip |
 Posting Date 07.11.2018 | Doc.Header Text 100001080
☐ 2 Individual Slip wit...

Transfer Posting | Material | Quantity | Where | Serial Numbers

Dest | From

Material 31.5 MVA 132/33KV POWER TRANSFORMER | 31.5 MVA 132/33KV POWER TRANSFORMER
 10000025 | 10000025
 Plant SE/OMC/Vijayawada | SE/OMC/Vijayawada | 5105 | 5105
 Stor. Loc. 220KVChillakallu | B202 |
 Val. type REFURBISHE | DAMAGED
☐ Parts prov. vendor
 102992

Qty in UnE 1 | NO

Line 1

Step-7: Click **check** button to check whether the **migo** document can be posted.

Transfer Posting Other - PURANAM RAMALINGA SARAN

Show Overview | Hold | **Check** | Post | Help

Transfer Posting | Material | Quantity | Where | Serial Numbers

Dest

Material: 31.5 MVA 132/33KV POWER TRANSFORMER
 10000025
 Plant: SE/OMC/Vijavawada 5105
 Stor. Loc.: 220KVChillakallu B202
 Val. type: REFURBISHE
 Spec.Stock: ☐

From

Material: 31.5 MVA 132/33KV POWER TRANSFORMER
 10000025
 Plant: SE/OMC/Vijavawada 5105
 Val. type: DAMAGED
 O Parts prov. vendor
 VIJAI ELECTRICALS LTD 102992

Qty in UnE: 1 NO

☒ Item OK Line 1

Line	St...	Mat. Short Text	OK	Qty in UnE	E...	SLoc	Batch	Valuation ...	M...	D Stock Typ
1		31.5 MVA 132/33KV POWER TRANSFORMER	<input checked="" type="checkbox"/>	1	NO	220KVChillakallu		REFURBISHE	542	+

Delete Contents

Step-8: It may be noted that in the status bar it is displayed that **Document is OK**. Hence click **Post** button as shown below, for posting the document.

Transfer Posting Other - PURANAM RAMALINGA SARAN

Show Overview | Hold | Check | **Post** | Help

Transfer Posting | Material | Quantity | Where | Serial Numbers

Dest

Material: 31.5 MVA 132/33KV POWER TRANSFORMER
 10000025
 Plant: SE/OMC/Vijavawada 5105
 Stor. Loc.: 220KVChillakallu B202
 Val. type: REFURBISHE
 Spec.Stock: ☐

From

Material: 31.5 MVA 132/33KV POWER TRANSFORMER
 10000025
 Plant: SE/OMC/Vijavawada 5105
 Val. type: DAMAGED
 O Parts prov. vendor
 VIJAI ELECTRICALS LTD 102992

Qty in UnE: 1 NO

☒ Item OK Line 1

Line	St...	Mat. Short Text	OK	Qty in UnE	E...	SLoc	Batch	Valuation ...	M...	D S
1		31.5 MVA 132/33KV POWER TRANSFORMER	<input checked="" type="checkbox"/>	1	NO	220KVChillakallu		REFURBISHE	542	+

Delete Contents

☒ Document is O.K.

Step-9: A material document is created and the document number is displayed in the status bar as shown below.

The screenshot shows the SAP 'Transfer Posting Other' interface for user PURANAM RAMALINGA SARAN. The 'General' tab is active, displaying fields for Document Date (10.12.2018), Posting Date (10.12.2018), Material Slip, and Doc.Header Text. The 'Transfer Posting' tab is also visible, showing 'Dest' and 'From' sections with various input fields. The status bar at the bottom indicates 'Material document 4900012979 posted' with a green checkmark icon, which is highlighted by a red arrow and a red box.

It may be noted that the details of the two material documents created as explained above i.e. one while sending the equipment to external vendor for repairs and the other while receiving back the equipment from the vendor after repairs, are updated in the **Other Details/Enhancements tab of the Refurbishment Order** as shown below. The documents can be accessed by clicking the execute buttons, as indicated below.

The screenshot shows the SAP 'Change Refurbishment order 100001080: Central Header' interface. The 'Other Details' tab is active, displaying the 'REFURBISHMENT DETAILS' section. Under 'RE for Order', there are two rows: 'Movement of Material to Vendor (541)' and 'Receipt of Material from Vendor (542)'. Both rows have a checked checkbox and an execute button (green square with a circular arrow). A red box highlights these two rows, and red arrows point to the execute buttons.