

Challenges and Solutions in Equipment Retirement: A Master Data Perspective

April 10, 2024



Asset Management Lifecycle



When Is Equipment Retired?

- **End of Useful Life:** Over time, equipment wears out and reaches the end of its serviceable life. Continuing to use such equipment can be unsafe and inefficient
- **Maintenance Costs:** If the cost of maintaining a piece of equipment becomes too high relative to its value or the cost of replacement, it may be more economical to retire it
- **Regulatory Compliance:** Changes in environmental or safety regulations may render existing equipment non-compliant. Upgrading to new equipment that meets current standards may be necessary
- **Safety Concerns:** If equipment poses a safety risk due to age or condition, retiring it becomes a priority to protect workers and the facility



When Is Equipment Retired?

- **Capacity Adjustment:** If a plant needs to adjust its processing capacity, either upscaling or downscaling, it may retire equipment to align with the new capacity requirements
- **Process Optimization:** Plants may retire equipment to streamline operations or implement new processes that improve product quality or yield
- **Market Conditions:** Changes in market demand for certain products may lead to the retirement of equipment associated with those products



Many Decisions To Be Made?

- Will equipment still be maintained?
- Are we selling or scrapping the equipment?
- Do we need to keep measurement history?



Equipment Needs To Be Maintained? Yes

- Will equipment to be mothballed to be re-used again?
- Do you need to do the same type of maintenance?
- Consider leveraging counter-based maintenance plans
- Counter-based plans only generate work orders from equipment usage (measurement documents)



Will We Use It Again?

- If the equipment is going to be used again, it should be marked as inactive
 - New work orders cannot be written against an inactive equipment
 - Maintenance plans cannot generate work orders
 - Cannot Fix calls for maintenance plan
- If you need history of maintenance against asset, it should be marked as inactive
- Deletion flags should typically only be used when equipment was created in error



Option 1: Adjust Scheduling Parameters

- IPO2 Edit Scheduling Parameters
- Adjust the start date to a future date or modify the cycle to delay the next planned maintenance activity. This won't pause the plan but will postpone its next execution

Schedule Maintenance Plan: Single cycle plan 000000001000

Start Start in cycle New Start Manual call Schedule overview list

Maintenance plan 1000 Functional Location Maintenance Plan

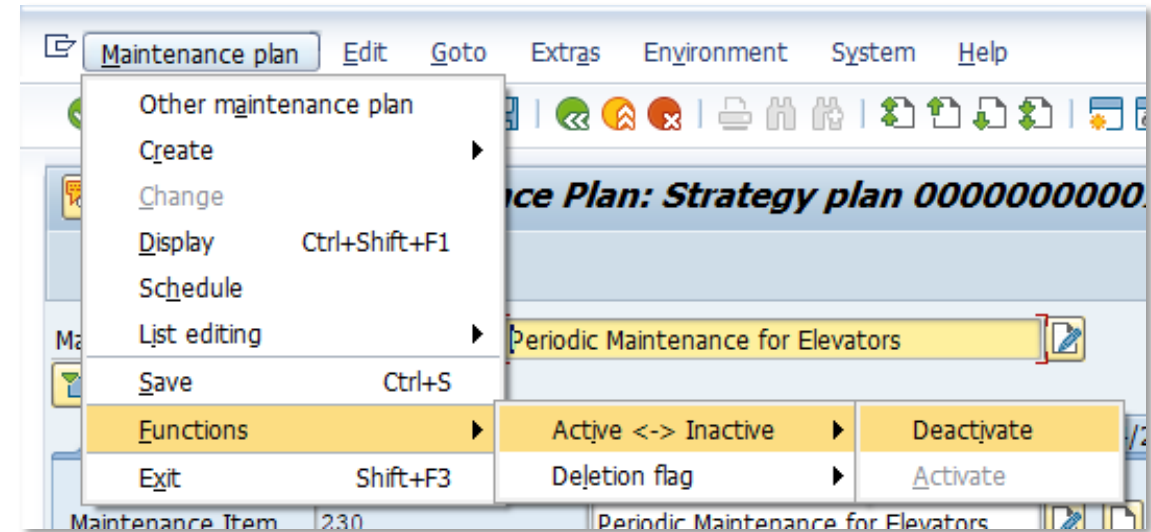
Scheduled calls Manual calls Maintenance plan scheduling parameters Maintenance plan additional data

C...	PlanDate	Call date	Completi...	Scheduling Type / Status	Act...	Unit
7	05/03/2023			Scheduled Skipped		
8	06/02/2023			Scheduled Skipped		
9	07/02/2023			Scheduled Skipped		
10	08/01/2023			Scheduled Skipped		
11	08/31/2023			Scheduled Skipped		
12	04/18/2024	04/03/2024		New start Hold		
13	05/18/2024	05/03/2024		Scheduled Hold		
14	06/17/2024	06/02/2024		Scheduled Hold		
15	07/17/2024	07/02/2024		Scheduled Hold		



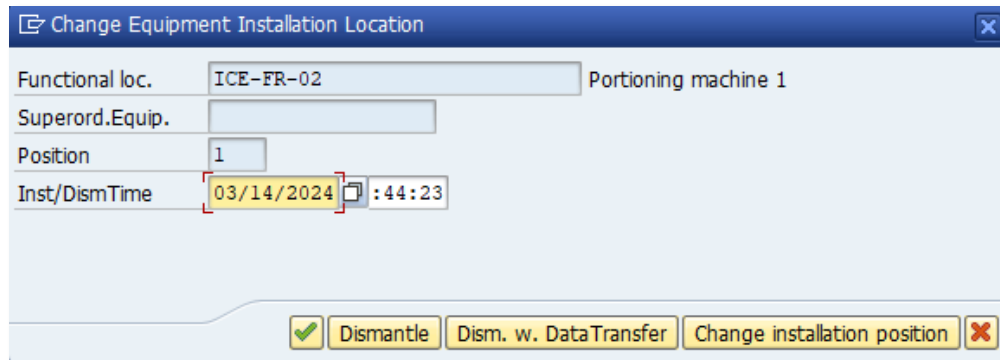
Option 2: Deactivating the Maintenance Plan

- IP02 Change the status to 'Inactive'
- This status change will prevent the plan from generating any new maintenance orders until it is reactivated



Moving the Equipment Master

- Some organizations have a “graveyard” functional location
- Equipment is moved in IE02 from current FLOC
 - Dismantle with or without data transfer



Change Equipment Installation Location

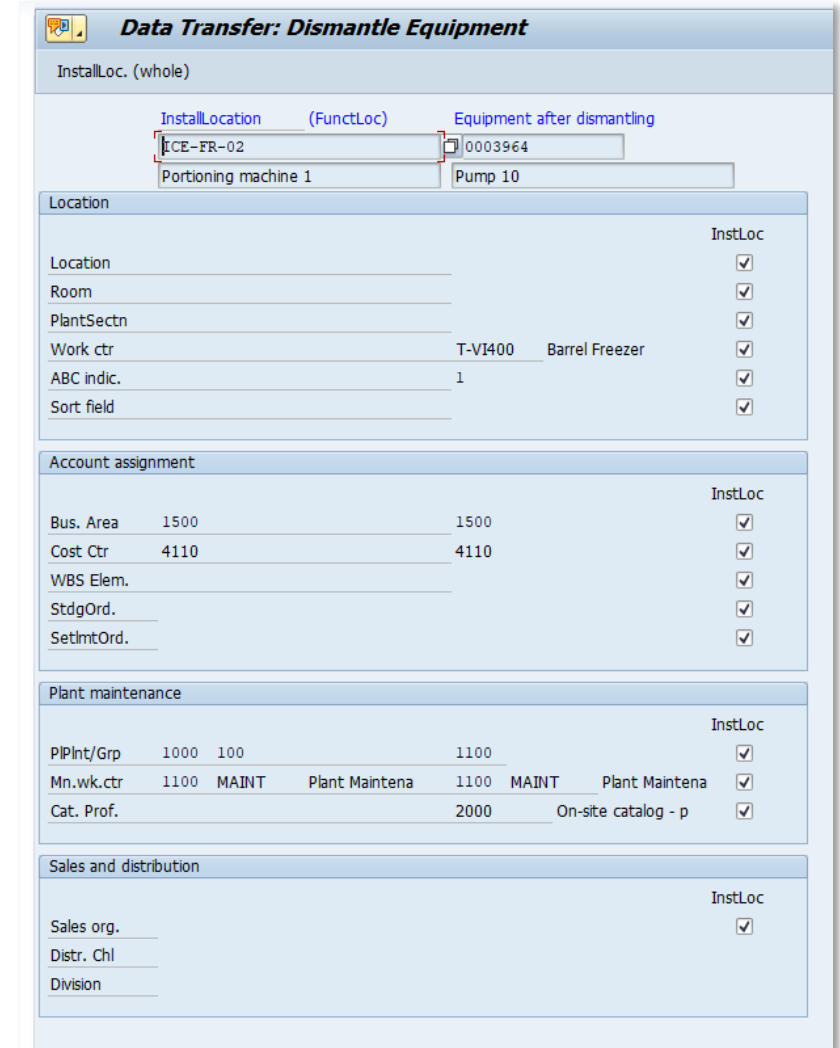
Functional loc. ICE-FR-02 Portioning machine 1

Superord.Equip.

Position 1

Inst/DismTime 03/14/2024 :44:23

Dismantle Dism. w. DataTransfer Change installation position



Data Transfer: Dismantle Equipment

InstallLoc. (whole)

InstallLocation (FuncLoc) Equipment after dismantling

ICE-FR-02 0003964

Portioning machine 1 Pump 10

Location

Location	InstLoc
Location	<input checked="" type="checkbox"/>
Room	<input checked="" type="checkbox"/>
PlantSectn	<input checked="" type="checkbox"/>
Work ctr	T-VI400 Barrel Freezer <input checked="" type="checkbox"/>
ABC indic.	1 <input checked="" type="checkbox"/>
Sort field	<input checked="" type="checkbox"/>

Account assignment

Account assignment	InstLoc
Bus. Area 1500	1500 <input checked="" type="checkbox"/>
Cost Ctr 4110	4110 <input checked="" type="checkbox"/>
WBS Elem.	<input checked="" type="checkbox"/>
StdgOrd.	<input checked="" type="checkbox"/>
SetmntOrd.	<input checked="" type="checkbox"/>

Plant maintenance

Plant maintenance	InstLoc
PIPInt/Grp 1000 100	1100 <input checked="" type="checkbox"/>
Mn.wk.ctr 1100 MAINT Plant Maintena 1100 MAINT Plant Maintena	<input checked="" type="checkbox"/>
Cat. Prof. 2000	On-site catalog - p <input checked="" type="checkbox"/>

Sales and distribution

Sales and distribution	InstLoc
Sales org.	<input checked="" type="checkbox"/>
Distr. Chl	
Division	



Checking the BOM

- Check the Equipment BOM to see if the materials are used elsewhere in your plant
 - CS15 Where used
- If not, you may want to consider scrapping, selling, or transferring the materials to another plant that can use them
 - Warehouse spacing
 - Inventory Costs/Taxes

Material Where-Used List

Material 100-100
Description Casings
Key date 03/14/2024

Lv	Us	Plant	Ob...	Component number	Alt	Item	RC	Required quantity	Un	ReL...	Object description
1	4	1000		K1-BR2-11 1000		0010		1.000	PC	1	Booster pump plant - pump 1
1	4	1000		PG-HZA-D1/P 1000		0030		1.000	PC	1	Condensate Pump
1	4	1000		PG-KGV-11 1000		0030		1.000	PC	1	Electricity generation - 1
1	4	1000		K1-BR2-22 1000		0010		1.000	PC	1	Intermediate plant - flushing pump 2
1	4	1000		1032-ADMI-001 1200		0040		1.000	PC	1	Environmental Institute - Purchasing
1	4	1000		1177-ADMI-0001 1200		0010		1.000	PC	1	CCC Administration Management
1	4	1000		PG-B02-1B 1000		0010		1.000	PC	1	Valve 2
1	4	1000		PG-SLB-21 1000		0020		1.000	PC	1	Sludge digestion - Container 1
1	4	1000		PG 1000		0020		1.000	PC	1	Prometheus Group
1	4	1000		PG-B01-1A 1000		0130		1.000	PC	1	Valve 1
1	4	1000		PG-2-A01 1000		0010		1.000	PC	1	PG Floc 2 A01
1	4	1000		PG-10-LAC-AP01 1000		0030		1.000	PC	1	Feedwater Pump 1
1	4	1000		RE-02-01-00/02 1000		0030		1.000	PC	1	Elevator Goods Entrance 2, Building 1
1	4	1000		PG-10-LAC-AA10-H01 1000		0010		1.000	PC	1	Positioner for Control Valve



Materials

- For materials that no longer need to be used, there are a few options
- Delete or Change Cross Plant Status?

The screenshot shows the SAP 'Change Material' interface for material 100-100 (Semi-finished product) at plant 1000. The 'Plant-sp.matl status' field is circled in green. A pop-up window titled 'Plant-Specific Material Status (1) 9 Entries found' is open, displaying a list of material status codes and their descriptions:

MS	Description
01	Blocked for Procmnt/Whse
02	Blocked for task list/BOM
BP	Blocked for Purchasing
ED	Eng. detailed design
KA	Blocked for Costing
OB	Obsolete Materials
PI	Free for Pilot Phase
Z1	Blocked for Procmnt/Inven
ZS	

The screenshot shows the 'Flag Material for Deletion: Initial Screen' with the following fields:

- Material: 100-100 (highlighted)
- Plant: 1000
- Stor. Location: []
- Valuation Type: []
- Sales Org.: []
- Distr. Channel: []
- Warehouse No.: []
- Storage Type: []
- Change Number: []



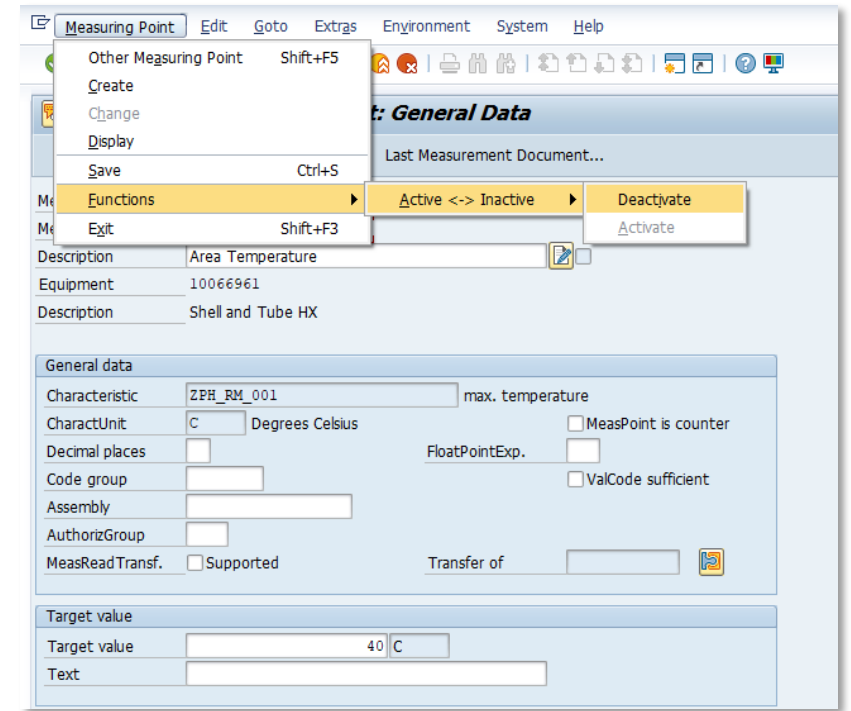
Delete or Change Cross Plant Status?

- Flagging for deletion is a step towards removing the material from the system
- Cross-plant status is about controlling the material's usage across the organization without removing it



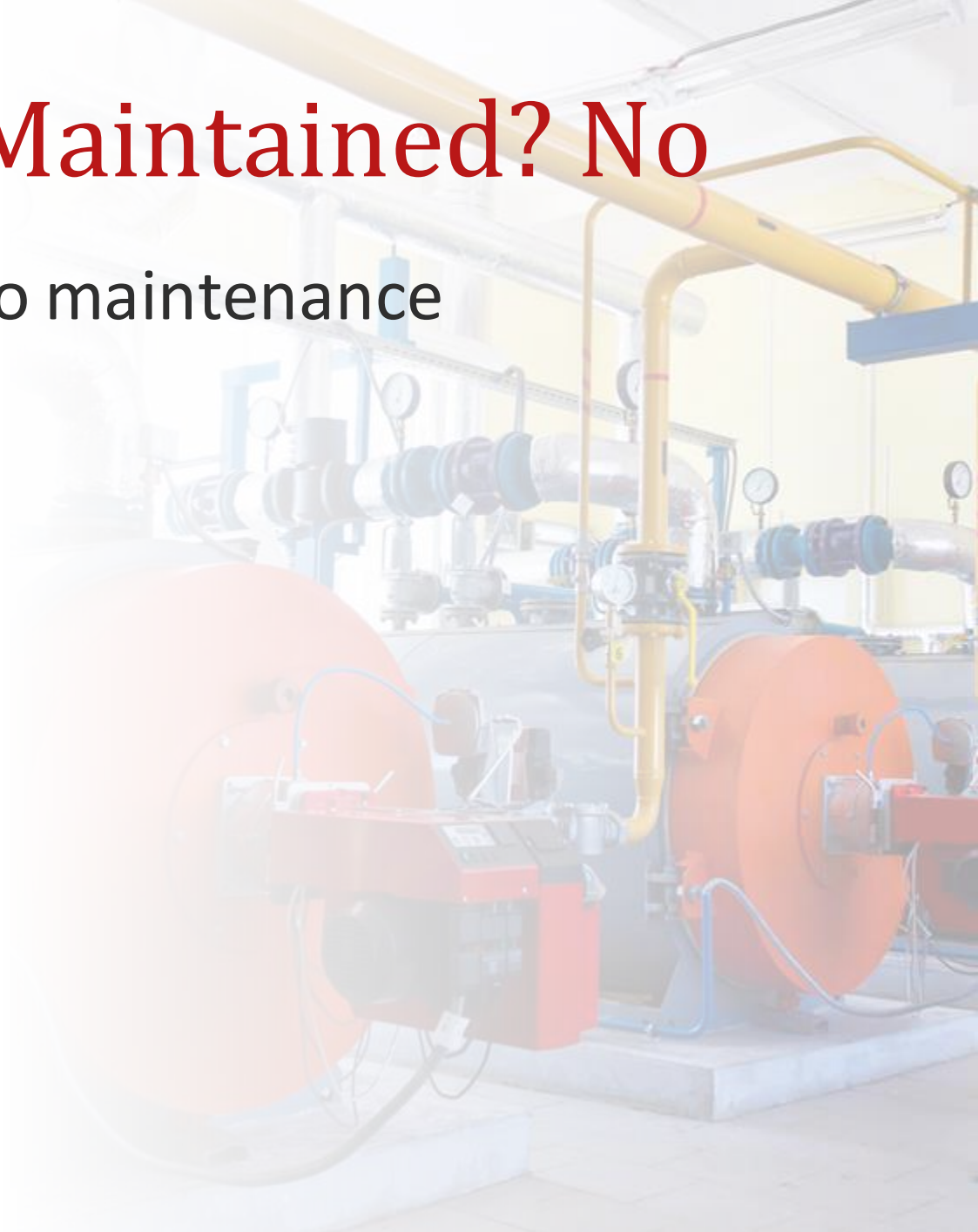
Measurement Points

- If equipment have measurement points, consider deactivation of MPs
 - Especially MPs that drive counter based maintenance!
 - Incorrect measurement entry could generate unwanted work orders
- This will prevent new measurement documents from being created
- Some measurements may still be appropriate to leave active even if equipment is not running



Equipment Needs To Be Maintained? No

- Equipment can remain in place, but no maintenance needs to be done
- Can be turned on at any point
- Consider keeping the BOM intact



Reactivating Equipment

- There may be some scenarios where equipment may need to be re-activated
- Be careful when reactivating!
 - Restarting Maintenance Plans
 - Negative impacts on Maintenance KPIs



In Conclusion

- There are many different considerations and approaches to take
- Deletion is permanent, and only intended for mistakes
- Deactivation allows for a path to re-activation
- Correct handling of the retirement process is a competitive advantage!



Thank You!

Questions?

