

Tutorial: Terminate Defect Action

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Tutorial: Terminate Defect Action

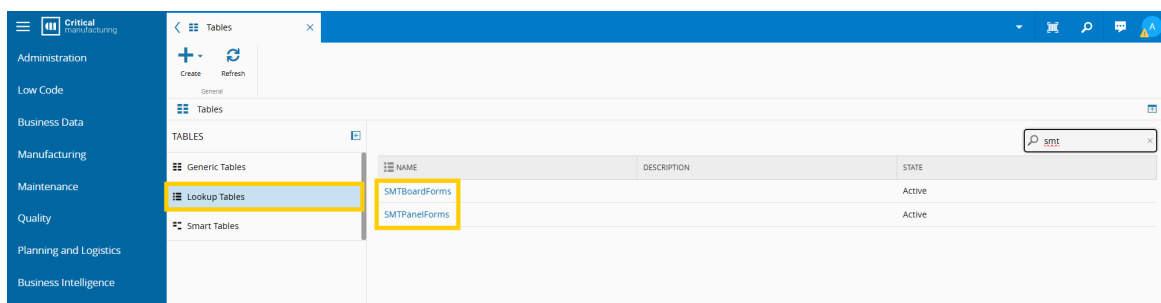
Estimated time to read: 4 minutes

Objective

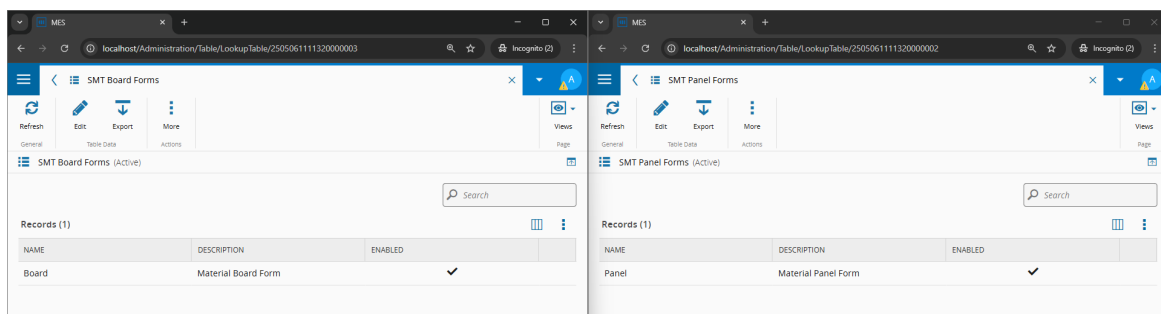
Learn how to configure and execute the **Terminate Defect Action** to automatically terminate defective boards and correctly track X-out scenarios in panels.

Step 1: Configure Lookup Tables

- Navigate to **Administration > Tables** and open the **Lookup Tables**
- Configure the following:
 - **SMTBoardForms** – material forms representing boards
 - **SMTPanelForms** – material forms representing panels



- Add the appropriate material forms



Ensure values are mutually exclusive between both tables

Step 2: Configure Defect Action Context

- Open the **SMTDefectActionContext** Smart Table

SMT Defect Action Context (Active)

PRODUCT: SMT_Product x PRODUCT GROUP: Product Group MATERIAL TYPE: ALL

SMT Defect Action Context (1)

PRODUCT	PRODUCT GROUP	MATERIAL TYPE	FLOW	STEP	PART NUMBER	REFERENCE DESIGNATOR	MATERIAL DEFECT SYSTEM ST	DEFECT REASON	DEFECT ACTION
SMT_Product			SMT_LineFlow	SMT_AOI				SMT_Defect	Terminate Material

- Create a new entry defining:
 - Product / Product Group
 - Flow / Step (e.g., SMT_AOI)
 - Defect Reason
 - Defect Action = **Terminate Material**

Step 3: Configure Board Identification Logic (Required for Non-Serialized Materials)

3.1 Configure SMTConventionContext

- Open the Smart Table and define the convention used to identify boards per resource and step

SMT Convention Context

Refresh Add Export More

General Table Data Actions

SMT Convention Context (Active)

RESOURCE: Resource MODEL: ALL VENDOR: ALL Advanced

SMT Convention Context (1)

RESOURCE	MODEL	VENDOR	STEP	CONVENTION
SMT_AOI_1			SMT_AOI	Default Convention

3.2 Configure SMTMapBoardIDContext

- Open the Smart Table and define how MESPositionID maps to board identifiers

SMT Map Board ID Context

Refresh Add Export More

General Table Data Actions

SMT Map Board ID Context (Active)

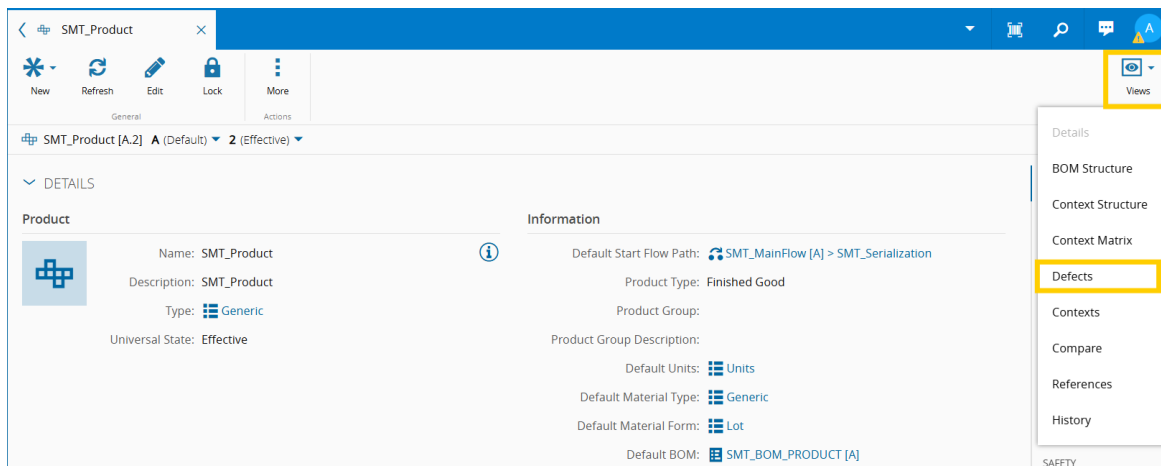
PRODUCT: Product PRODUCT GROUP: Product Group PANELIZATION PRODUCT: Product Advanced

SMT Map Board ID Context (4)

PRODUCT	PRODUCT GROUP	PANELIZATION PRODUCT	MAP DEFINITION	CONVENTION	EQUIPMENT BOARD ID	MES POSITION ID
SMT_Product				Default Convention	Top/LP1	1
SMT_Product				Default Convention	Top/LP2	2
SMT_Product				Default Convention	Top/LP3	3
SMT_Product				Default Convention	Top/LP4	4

Step 4: Configure Product Defect Action

- Navigate to the **Product** and open the **Defects** view



SMT_Product

General Actions

Details

BOM Structure

Context Structure

Context Matrix

Defects

Contexts

Compare

References

History

SAFETY

Product

Name: SMT_Product

Description: SMT_Product

Type: Generic

Universal State: Effective

Information

Default Start Flow Path: SMT_MainFlow [A] > SMT_Serialization

Product Type: Finished Good

Product Group:

Product Group Description:

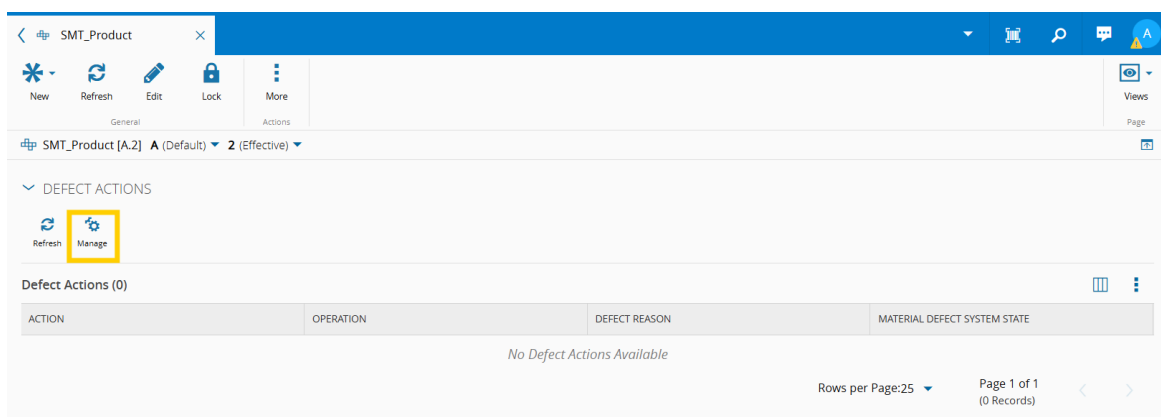
Default Units: Units

Default Material Type: Generic

Default Material Form: Lot

Default BOM: SMT_BOM_PRODUCT [A]

- Click **Manage Defects**



SMT_Product [A.2] (Default) 2 (Effective)

DETECT ACTIONS

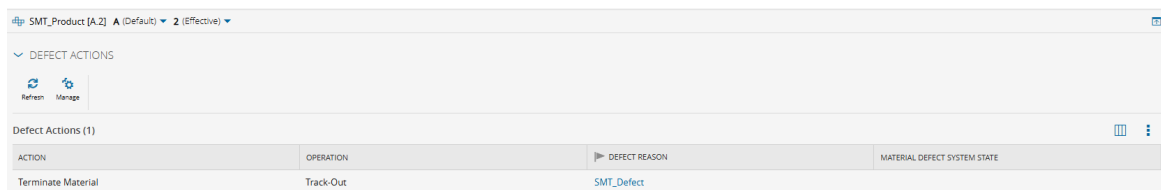
Refresh Manage

Defect Actions (0)

ACTION	OPERATION	DEFECT REASON	MATERIAL DEFECT SYSTEM STATE
No Defect Actions Available			

Rows per Page: 25 Page 1 of 1 (0 Records)

- Configure:
 - Operation** = TrackOut
 - Action** = Terminate Material



SMT_Product [A.2] (Default) 2 (Effective)

DETECT ACTIONS

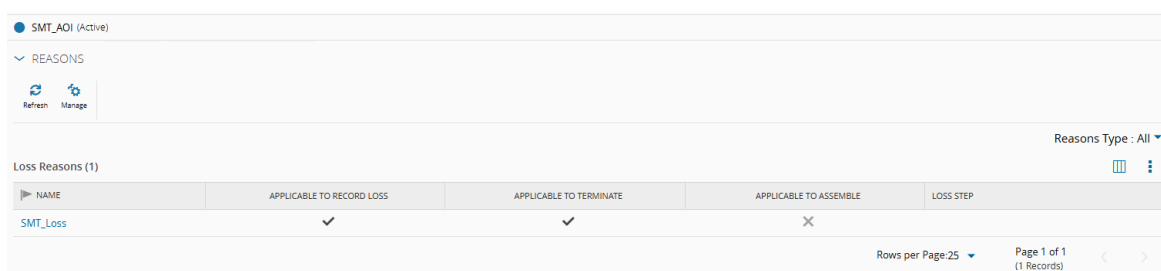
Refresh Manage

Defect Actions (1)

ACTION	OPERATION	DEFECT REASON	MATERIAL DEFECT SYSTEM STATE
Terminate Material	Track-Out	SMT_Defect	

Step 5: Configure Loss Reason

- Identify the step where defects are recorded (e.g., SMT_AOI) and configure the **loss reason**



SMT_AOI (Active)

REASONS

Refresh Manage

Loss Reasons (1)

Reasons Type: All

NAME	APPLICABLE TO RECORD LOSS	APPLICABLE TO TERMINATE	APPLICABLE TO ASSEMBLE	LOSS STEP
SMT_Loss	✓	✓	✗	

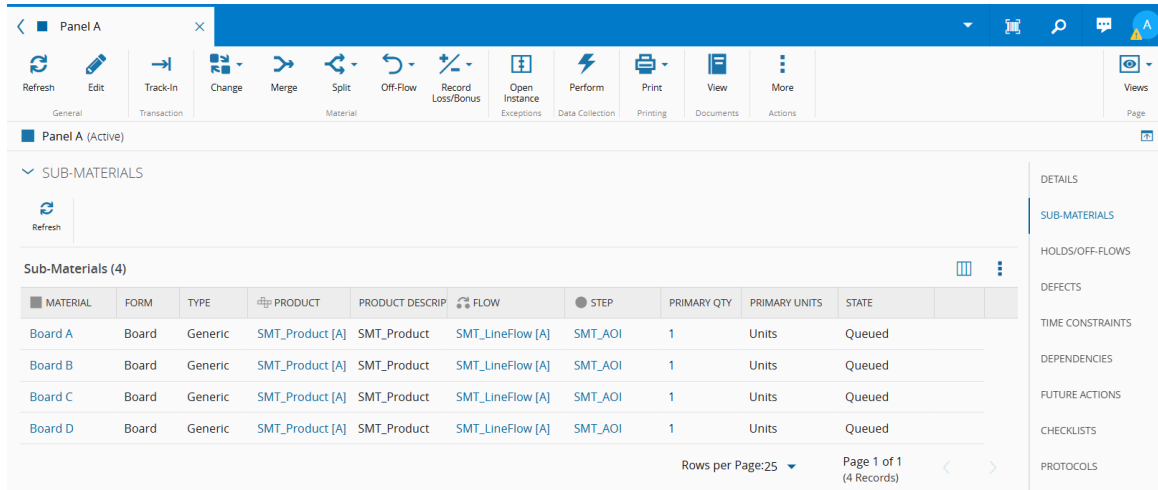
Rows per Page: 25 Page 1 of 1 (1 Records)

There is a special case, which is in Line Flows, that requires that the loss reason needs to be configured in the step after, because the Defect Action runs after track-out.

Step 6: Execute – Serialized Materials Scenario

Initial State

- Panel with multiple serialized boards
- Each board has a `MESPositionID`



Panel A (Active)

SUB-MATERIALS

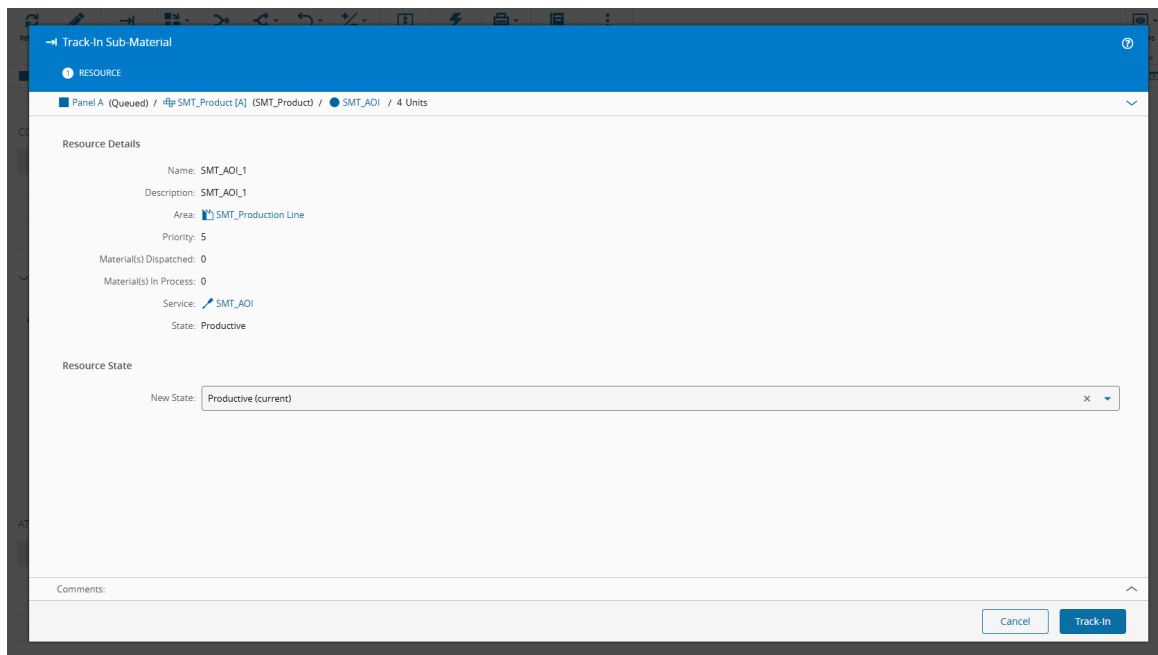
Sub-Materials (4)

MATERIAL	FORM	TYPE	PRODUCT	PRODUCT DESCRIP	FLOW	STEP	PRIMARY QTY	PRIMARY UNITS	STATE
Board A	Board	Generic	SMT_Product [A]	SMT_Product	SMT_LineFlow [A]	SMT_AOI	1	Units	Queued
Board B	Board	Generic	SMT_Product [A]	SMT_Product	SMT_LineFlow [A]	SMT_AOI	1	Units	Queued
Board C	Board	Generic	SMT_Product [A]	SMT_Product	SMT_LineFlow [A]	SMT_AOI	1	Units	Queued
Board D	Board	Generic	SMT_Product [A]	SMT_Product	SMT_LineFlow [A]	SMT_AOI	1	Units	Queued

Rows per Page: 25 Page 1 of 1 (4 Records)

Track-In

- Track in the panel to the inspection step (e.g., SMT_AOI)



Track-In Sub-Material

RESOURCE

Panel A (Queued) / SMT_Product [A] (SMT_Product) / SMT_AOI / 4 Units

Resource Details

Name: SMT_AOI_1

Description: SMT_AOI_1

Area: SMT_Production Line

Priority: 5

Material(s) Dispatched: 0

Material(s) In Process: 0

Service: SMT_AOI

State: Productive

Resource State

New State: Productive (current)

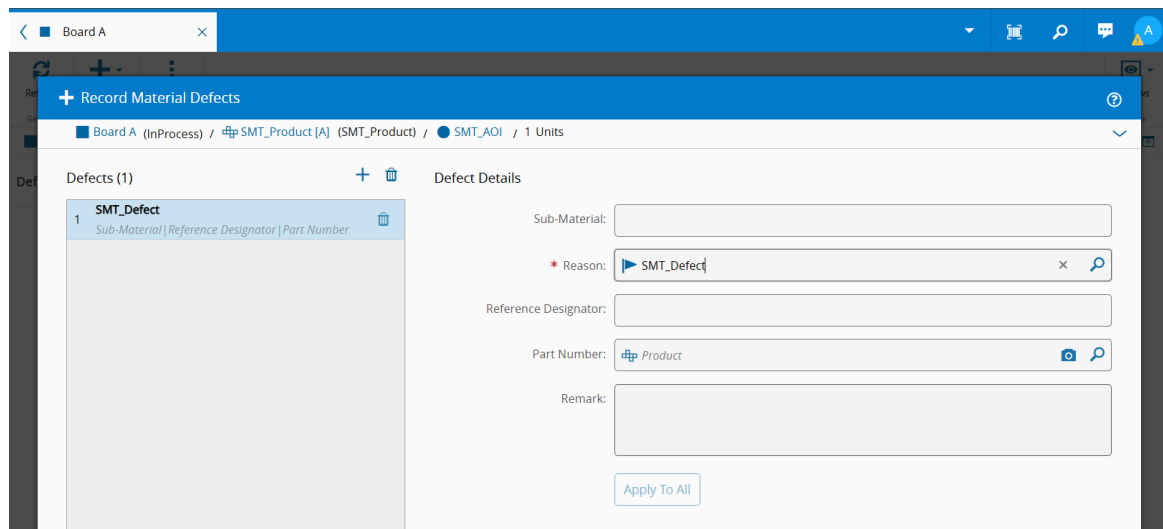
Comments:

Cancel Track-In

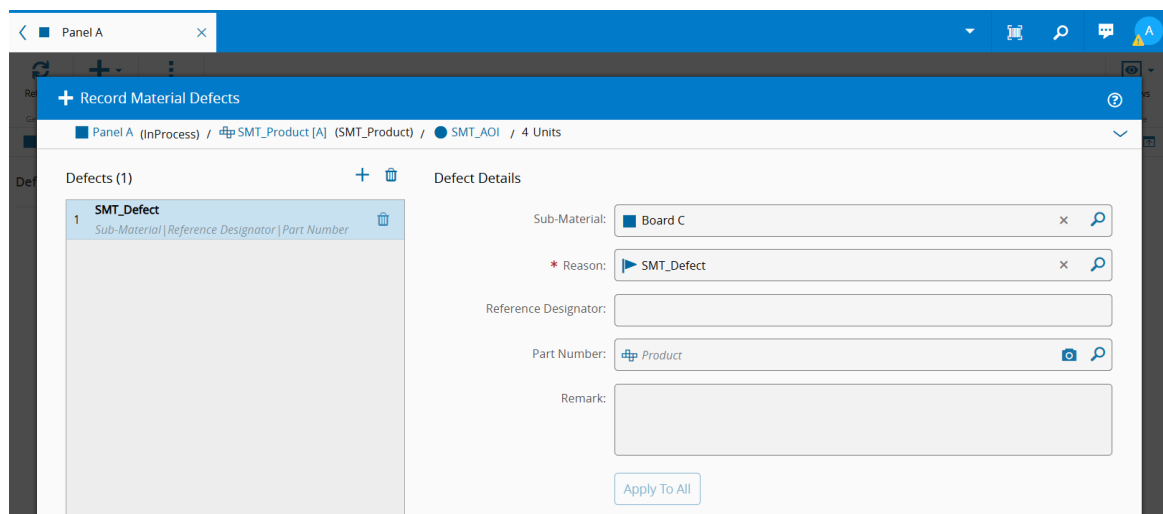
Register Defects

You can register defects in two ways:

Option 1: Directly on the board



Option 2: On the panel specifying sub-material



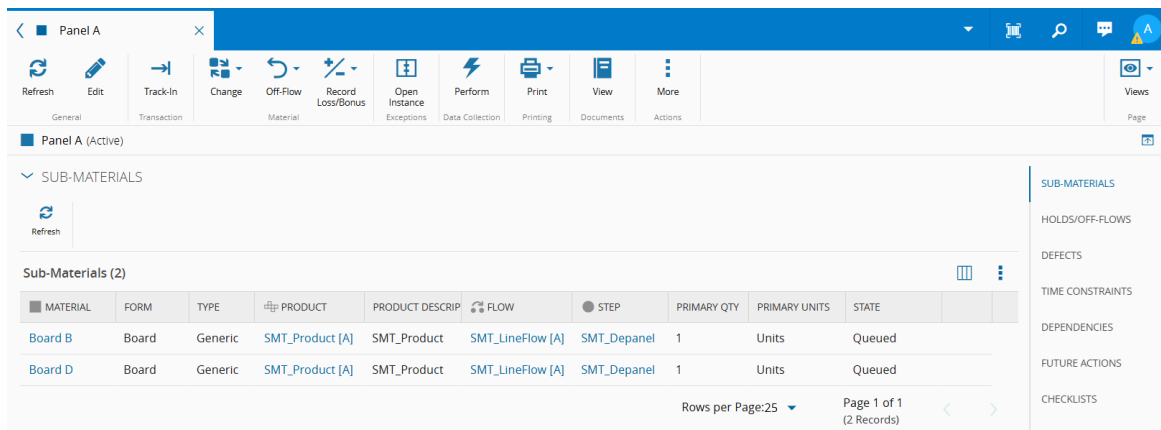
When registering defects on a panel, you must specify the sub-material

Track-Out

- Track out the panel

Expected results:

- Defective boards are terminated



Panel A (Active)

SUB-MATERIALS

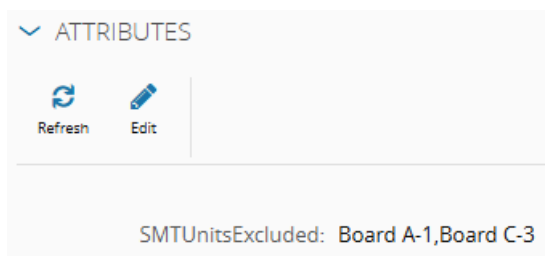
Refresh

Sub-Materials (2)

MATERIAL	FORM	TYPE	PRODUCT	PRODUCT DESCRIP	FLOW	STEP	PRIMARY QTY	PRIMARY UNITS	STATE
Board B	Board	Generic	SMT_Product [A]	SMT_Product	SMT_LineFlow [A]	SMT_Depanel	1	Units	Queued
Board D	Board	Generic	SMT_Product [A]	SMT_Product	SMT_LineFlow [A]	SMT_Depanel	1	Units	Queued

Rows per Page: 25 Page 1 of 1 (2 Records)

- Panel attribute `SMTUnitsExcluded` is updated



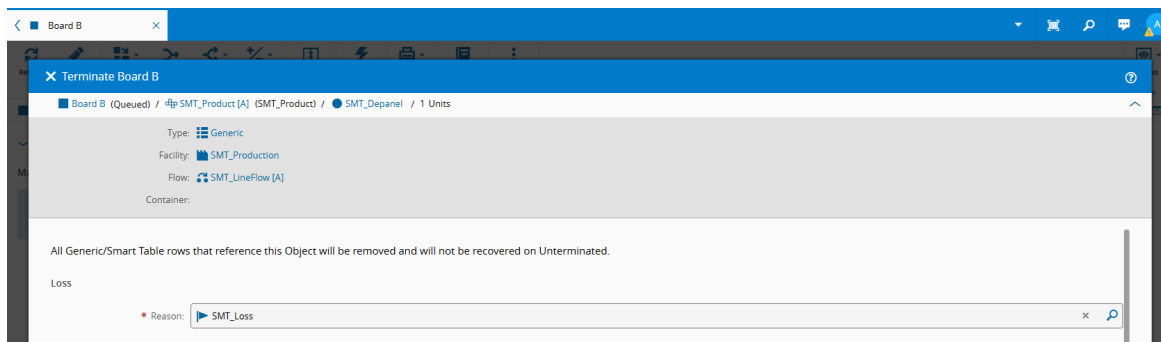
ATTRIBUTES

Refresh Edit

SMTUnitsExcluded: Board A-1, Board C-3

Additional Behavior

- Manually terminating a board also updates `SMTUnitsExcluded`



Board B (Queued) / SMT_Product [A] (SMT_Product) / SMT_Depanel / 1 Units

Type: Generic

Facility: SMT_Production

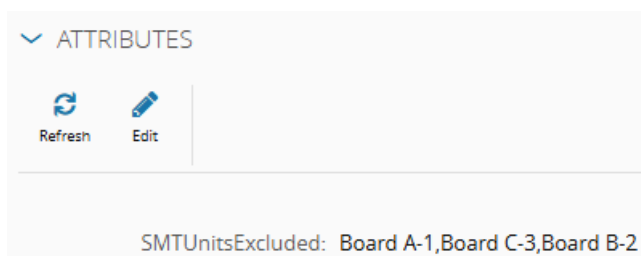
Flow: SMT_LineFlow [A]

Container:

All Generic/Smart Table rows that reference this Object will be removed and will not be recovered on Unterminated.

Loss

* Reason: SMT_Loss



ATTRIBUTES

Refresh Edit

SMTUnitsExcluded: Board A-1, Board C-3, Board B-2

Step 7: Execute – Non-Serialized Materials Scenario

Initial State

- Panel with non-serialized boards

Panel B

Refresh Edit Track-In Change Merge Split Off-Flow Record Loss/Bonus Open Instance Perform Print View More

General Transaction Material

Panel B (Active)

DETAILS

Material

Name: Panel B

Description:

Type: Generic

Universal State: Active

System State: Queued

Basic Information

Form: Panel

Facility: SMT_Production

Product: SMT_Product [A]

Product Description: SMT_Product

Product Group:

Product Group Description:

Parent: Test Lot

Approved: Yes

Capacity Class:

Current Send-Ahead Run:

Flow and Step

Flow: SMT_LineFlow [A]

Step: SMT_Printing

Flow Path: SMT_LineFlow [A] > SMT_Printing

In a Line Step: Yes

Line Flow:

Line Validation Mode:

Line Assembly Mode:

Quantities

Primary Quantity: 4 Units

Secondary Quantity:

Target Quantity:

Sub-Materials

Sub-Materials: 0

Sub-Material Primary Quantity: 0 Units

Sub-Material Secondary Quantity:

Resource and Container

Resource:

Resource Bin/Position:

Resource Area:

Container:

Container Position:

DETAILS

HOLDS/OFF-FLOWS

DEFECTS

TIME CONSTRAINTS

DEPENDENCIES

FUTURE ACTIONS

CHECKLISTS

PROTOCOLS

EXPERIMENTS

TRANSFER REQUIREMENTS

COSTING

NOTIFICATIONS

SCHEDULING

MAPS

COLLECTED DATA

ATTRIBUTES

ATTACHMENTS

Track-In and Register Defects

- Track in the panel
- Register defects using `MESPositionID`

Panel B

Refresh Record More

General Defect Actions

Panel B (Active)

Defects (2) SUB-MATERIAL: ALL STATE: ALL

SMT_Defect 1	Open
SMT_Defect 2	Open

Track-Out

- Track out the panel

Expected results:

- Panel quantity decreases

Panel B

×

Refresh

Edit

Track-In

Change

Off-Flow

Record Loss/Bonus

Open Instance

Perform

Print

View

More

General

Transaction

Material

Exceptions

Data Collection

Printing

Documents

Actions

Panel B (Active)

Quantities	Sub-Materials
Primary Quantity: 2 Units	Sub-Materials: 0
Secondary Quantity:	Sub-Material Primary Quantity: 0 Units
Target Quantity:	Sub-Material Secondary Quantity:

- `SMTUnitsExcluded` is updated with defective positions only

ATTRIBUTES

Refresh

Edit

SMTUnitsExcluded: 1,2

Expected Result

- Defective boards are automatically terminated
- Panels track excluded units via `SMTUnitsExcluded`
- Panel is terminated when all boards are defective

Frequent Configuration Questions

Why is the Defect Action not being triggered?

Verify that both the Product configuration and the corresponding Smart Table configuration are correctly defined.

Why is the panel not being updated correctly?

Check that the Lookup Tables and mapping tables are properly configured and contain the expected values.

Why do I get an error during Track-Out?

Ensure that a sub-material is defined when registering defects at the panel level.

Why is the loss reason not available?

Confirm that the loss reason is configured in the step immediately following the defect detection step.



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