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# Synergi Plant Training

## Inspection reporting

# Inspection Management Flow Chart

## Inspection Management Flow Chart

### ➤ Create Inspection Plan

Time based Inspection

Condition based Inspection / RBI Inspection

### ➤ Generate Inspection

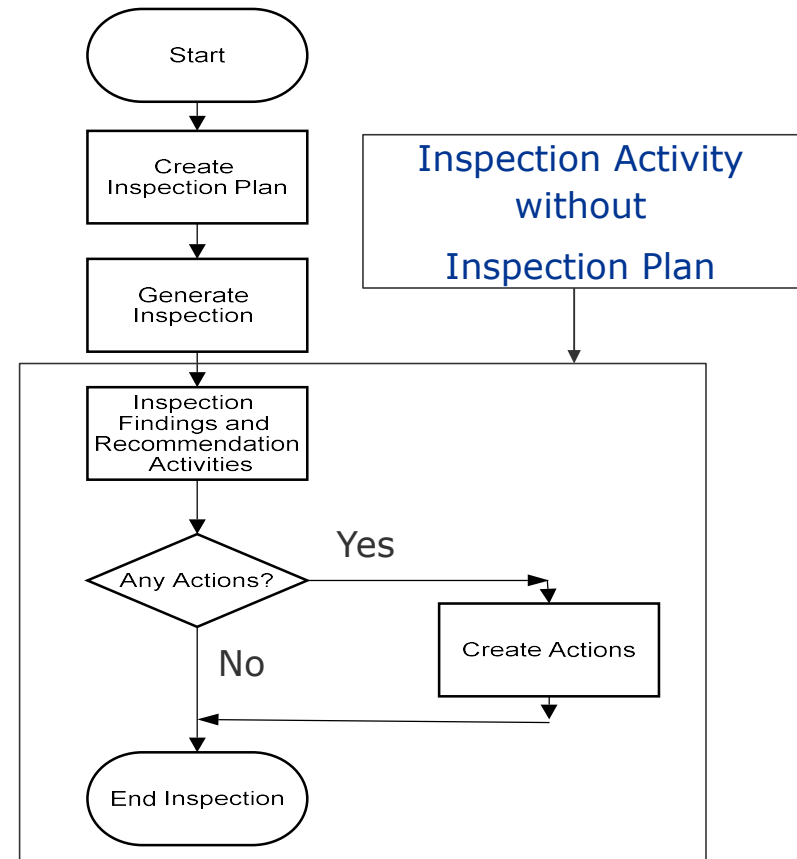
Creates Inspection Activities based on Inspection Plan both Time based and Condition based, Rbi Inspection.

### ➤ Inspection Activity

Enter Inspection Findings and Recommendation details

Any Actions? required or not check.

### ➤ Create Action and enter details



## Inspection Reporting with Inspection Activities and Actions

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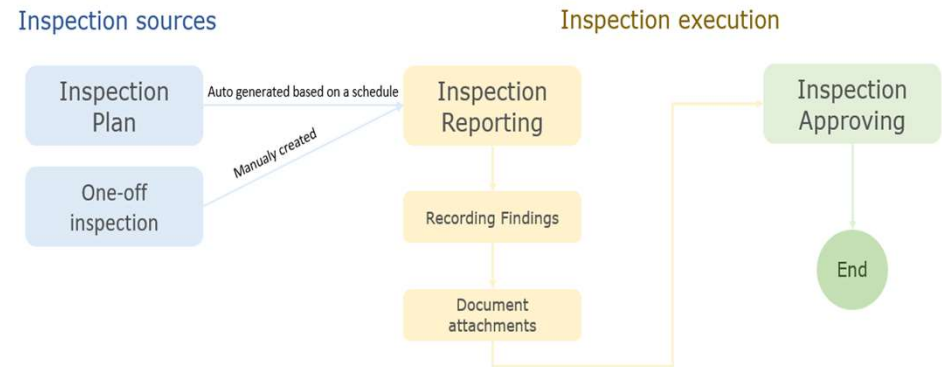
- Activities as two sections, **Inspections, Actions**
- Activities is used to **create Inspections record** and as well **Required Actions**
- **Completed Activities** can be opened using **Reopen** button
  
- **Inspections** as two processes, **Inspection Reporting** and **Inspection Approving**
- Inspections process tasks can be Completed by self and as well go through Approval procedure
- Inspections, Summary, Task list, Schedule, Inspection and Revised Due Date are recorded
- Inspections, Findings, RBI Tasks, Inspection Methods, Observations are recorded
- Photograph, Inspection documents, Drawing documents are attached
  
- **Actions** as one process, **Action Performing**
- Actions can be completed by self and as well can assign to another Inspection Engineer
- Actions, Summary details, Tasks and attaching Documents are recorded

# Inspections

## Inspections Workflow

- Workflow Diagram explains how to work and control Inspections Activities, Inspections Reporting and Inspection Approving with workflow steps like,
  - **Inspection Plan**
    - - Generated Inspections method
    - - Manual method
    - - Auto DB schedule method
  - **Record Findings**
  - **Attach Documents**

## Workflow chart

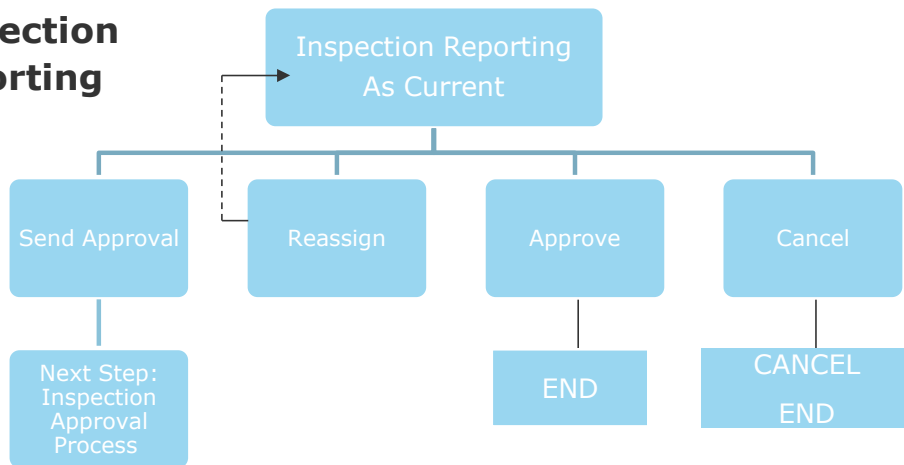


# Inspection Workflow Send To steps

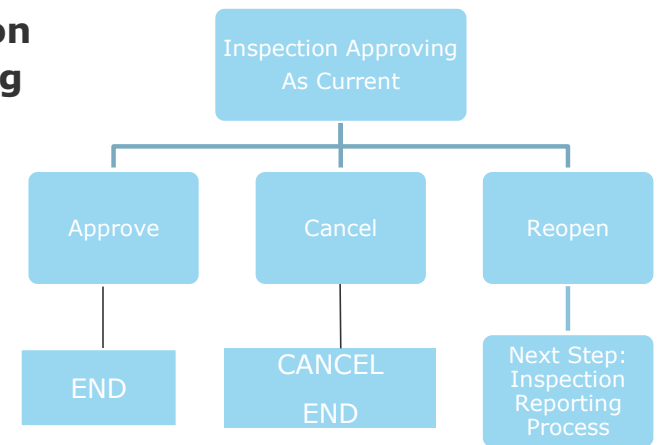
Workflow Choice	Next Step	Process Role	Assigned to	Process Plan Start
<input checked="" type="radio"/> As Current	Orgn/User: Field Inspector Group	Field inspector		
<input type="radio"/> Reassign	Inspection reporting	Field inspector		
<input type="radio"/> Send for review	Inspection reporting	Field inspector		
<input type="radio"/> Send for approval	Inspection approving	Inspection manager		
<input type="radio"/> Approve	End			
<input type="radio"/> Cancel	Cancel End			

Workflow Choice	Next Step	Process Role	Assigned to	Process Plan Start
<input checked="" type="radio"/> As Current	Orgn/User: Inspection engineers	Inspection manager		
<input type="radio"/> Approve	End			
<input type="radio"/> Cancel	Cancel End			
<input type="radio"/> Reopen	Inspection reporting	Field inspector		

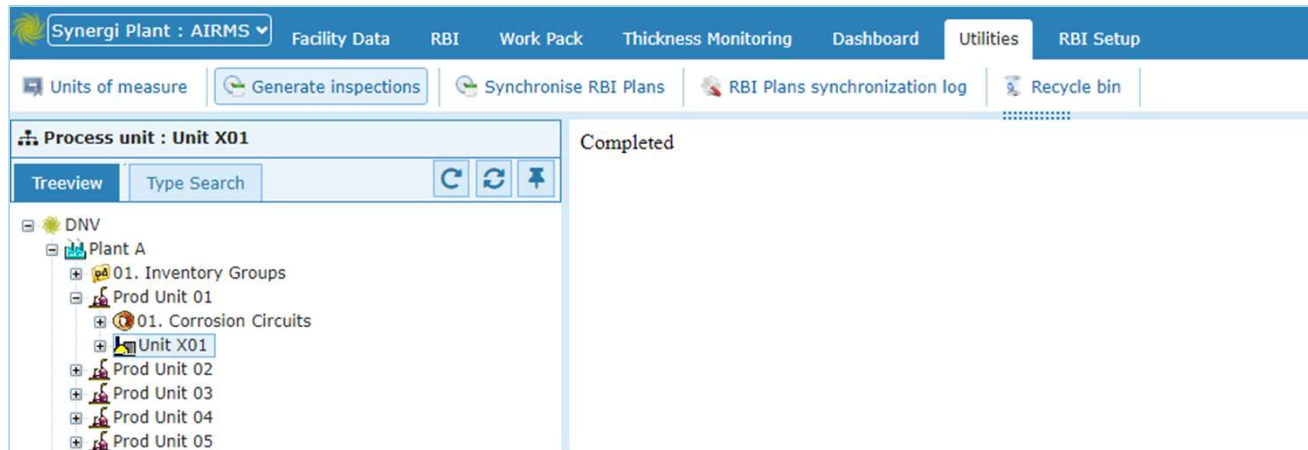
## Inspection Reporting



## Inspection Approving



## Generate scheduled inspection activities



### ➤ Generate scheduled inspections

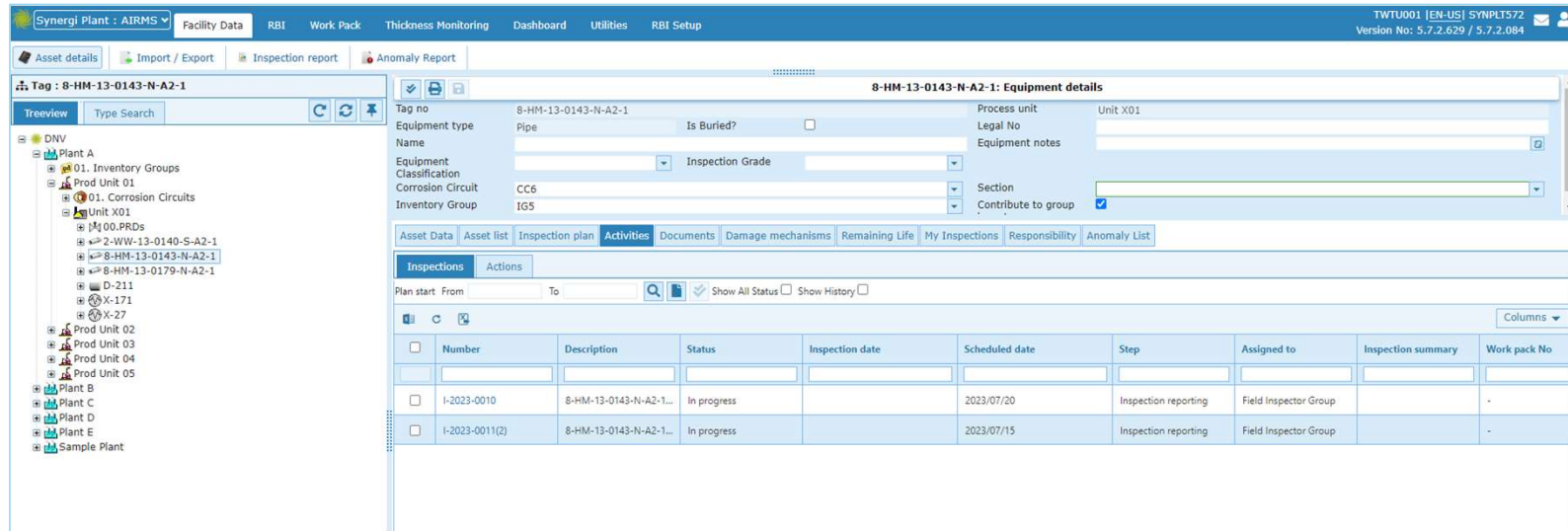
All scheduled inspection activities will be generated

RBI tasks linked to a plan will be generated as one activity with multiple tasks in it

RBI tasks not linked to a plan but scheduled will be generated as individual activities

Time-based inspection plans will be generated as activities on scheduled dates

# Find inspection activities on Asset Details



## ➤ Find inspections on Tag

Focus on a Tag in the asset tree

Goes to the Activities page and then go to the Inspections sub-page

Open inspections can be found with hyperlinks to open the inspection reporting screen

## Find inspection activities by Type Search

The screenshot shows the Synergi Plant - AIRMS software interface. The left sidebar is open to the 'Type Search' section, specifically the 'Inspection Search' filter. The main area displays a table of inspection activities. The table has the following columns: Installation, Tag No., Inspection No., Report, Inspection descr..., Scheduled date, Date performed, Status, Assigned to / Ap..., and Inspection plan ...

Installation	Tag No.	Inspection No.	Report	Inspection descr...	Scheduled date	Date performed	Status	Assigned to / Ap...	Inspection plan ...
PLANT A PROD UNIT 01	8-HM-13-0143-N-A2-1	I-2023-0010	Open	8-HM-13-0143-N-A2-1...	2023/07/20		In progress	Field Inspector Group	Risk-based Inspection
PLANT A PROD UNIT 01	D-211	I-2023-0011(2)	Open	D-211: Risk-based Insp...	2023/07/20		In progress	Field Inspector Group	Risk-based Inspection
PLANT A PROD UNIT 01	2-WW-13-0140-S-A2-1	I-2023-0012(2)	Open	2-WW-13-0140-S-A2-...	2023/07/20		In progress	Field Inspector Group	Time-based 12 month
PLANT A PROD UNIT 01	D-211	I-2023-0013(2)	Open	D-211: Time-based 12...	2023/07/20		In progress	Field Inspector Group	Time-based 12 month
PLANT A PROD UNIT 01	8-HM-13-0143-N-A2-1	I-2023-0014(2)	Open	8-HM-13-0143-N-A2-1...	2023/07/20		In progress	Field Inspector Group	Time-based 12 month
PLANT A PROD UNIT 01	8-HM-13-0179-N-A2-1	I-2023-0015(2)	Open	8-HM-13-0179-N-A2-1...	2023/07/20		In progress	Field Inspector Group	Time-based 12 month
PLANT A PROD UNIT 01	X-171	I-2023-0016(2)	Open	X-171: Time-based 12...	2023/07/20		In progress	Field Inspector Group	Time-based 12 month
PLANT A PROD UNIT 01	X-27	I-2023-0017(2)	Open	X-27: Time-based 12 m...	2023/07/20		In progress	Field Inspector Group	Time-based 12 month

### ➤ Find inspections by Type Search

Go to the Type Search next to the asset tree

Select Inspection Search

Select the Plant and click the Search button

In the result list you can filter the Installation with Contains Unit 01 for example



# Inspection: Inspection Reporting Form

- *Create Immediate Actions* can create Actions for Inspections
- *Print Report* can generate, Planned Inspection report
- Planned is checked for **Generated Inspections** .

SNo	Property Name	Description
General Information		
1	Activity Description	Long Text for inspection identifier
2	Workflow Comments	Long Text for process message
3	Inspection Driver	Options of driver
4	Schedule Type	Major or Periodic Inspection
5	Intrusive	Yes / No, Checkbox
6	Scope Description	Long Text for describing work scope
7	Task List Description	Long Text for detail task descriptions
8	Workpack Category	Work Package Campaign
9	Summary Description	Mandatory summary of results
10	Inspector	Name of responsible inspector
11	Field Inspector	Name of field inspector
13	Technician	Name of technician
14	Third Party Inspector	Name of 3 <sup>rd</sup> party inspector or company
15	Inspection Date	Actual date of inspection onsite
16	Scheduled Date	Due date of this inspection

Create immediate actions
Print report
Download WT Template

[-]
[+]
[🔍]

**Inspection Header**
[-]

Inspection No: I-2023-0010

Created at: Wall Thickness Monitoring Campaign >> Plant A >> Prod Unit 01 >> Unit X01

Tag: B-HM-13-0143-N-A2-1

Activity Description: \* B-HM-13-0143-N-A2-1: Risk-based Inspection Plan

Workflow comments:

Inspection Driver: Condition assessment

Status: In progress

Schedule Type: [v]

**Scope Details**
[-]

Planned:  Intrusive:

Scope description: Follow R01

Task list description:
 

Task #1: NonIntr+75UTS/PR  
For the total suspect area:  
>75% coverage of the TMLs/CMLs using ultrasonic scanning or profile radiography

Task #2: NonIntr+60VT+UT/RT follow-up

Work Pack No.: - Workpack Category: Wall Thickness Monitoring Campaign

**Inspection Summary**
[-]

Summary description: Serious pitting found near CML 3

Inspector: Tommy

Third party inspector: DNV

Field inspector: David

Technician: Evelyn

**Schedule**
[-]

Inspection date: \*2023/06/20 Scheduled date: \*2023/07/20 Original due date: 2023/07/20

xxxx/mm/dd

**System Information**
[+]

## Inspections: Data Lists and Documents

**Activity Recording Sheet**

Inspection Findings | Inspection Methods | RBI Tasks | Inspection Narratives | Processing history | Checklist Listing

Show 200 entries

No.	Tag	Element	Approved	Approved By	Approved On	Date of finding	Finding category	Summary description	Location description	Condition codes	Action required?	Action plan due date	Action No	Action name	Action Ref	Proposed plan	Anomaly Required?	Ano
1	8-HM-13-01...	8-HM-13-01...	No			2023/06/21	Major Non...	Serious pl...	Near CML-3	EC-Externa...	Yes	2023/07/07		Remove pit...		Remove pit...	Yes	
2	8-HM-13-01...	8-HM-13-01...	No			2023/06/21	Minor Non...	Painting f...	Top	GC-General...	Yes	2023/07/07		Redo Paint...		Redo paint...	No	

Showing 1 to 2 of 2 entries

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**Linked Documents**

Activity Document | Asset Document

Show 200 entries

Document Key	Description	Annotated	Keywords	File Type	Original Filename	Version No	Updated By	Updated On
DOC-2023-06-21-0233	DemoPipingInspect	NO	Inspection, Piping	Photograph	DemoPipingInspect.jpg	1	MGR	2023/06/21
DOC-2023-06-21-0232	DemoPipingCorrosion	NO	Corrosion, Piping	Photograph	DemoPipingCorrosion.jpg	1	MGR	2023/06/21

Showing 1 to 2 of 2 entries

### ➤ Activity Documents

- Photographs
- Technical Report
- Inspection Report
- Inspection scope doc

All these documents can store multiple files

### ➤ Activity Recording Sheets (Data Lists)

- Findings – Inspection findings can enter multiple findings
- RBI Tasks – RBI Inspection Tasks can enter multiple tasks
- Inspection Methods – Intrusive , Non-Intrusive Inspection Methods and can enter multiple details
- Observations – Inspection Observation can enter multiple details

## Findings (Multiple Inspection Findings)

- Findings, Activity Recording sheet is configured to record Inspection findings information
- Finding as two parts, New findings details and Linked Inspection Documents

**Modify**

**Finding details**

Tag: 8-HM-13-0143-N-A2-1  
 Approved:   
 Date of finding: 2023/06/21  
 Finding category: Major Non-Conformance  
 Summary description: Serious pitting fall near CML-3

Location description: Near CML-3  
 Condition codes: EC-External Corrosion, PT-Active Pitting

**Action details**

Action required?   
 Action plan due date: 2023/07/07  
 Action No:   
 Action name: Remove pitting  
 Proposed plan: Remove pitting and re-inspect.

**Anomaly details**

Anomaly Required?   
 Anomaly Severity: RED  
 Anomaly Ref:   
 Anomaly ID:   
 Anomaly ID:

**Linked Documents**

Document Type	Description	Original Filename	Sequence
<input type="checkbox"/> Photograph	DemoPipingCorrosion	DemoPipingCorrosion.jpg	1

Showing 1 to 1 of 1 entries

Save & New Save Cancel

SNo.	Property Name	Details
1	Tag	Inspected Tag
2	Element	Element of finding
3	Approved	Yes/No checkbox.
4	Date of Finding	Mandatory finding date
5	Finding Category	Major Non-Conformance, Minor Non-Conformance, Recommendation, Satisfactory.
6	Summary description	Entry, Large text
7	Location description	Entry text
8	Condition codes	Multiple options of conditions
9	Action required ?	If this finding needs follow-up action
10	Action Plan Due Date	DD/MM/YYYY date format
11	Action Name	Entry text
12	Proposed Action Plan	Entry Large text
13	Anomaly Required?	If this finding needs to create an anomaly
14	Anomaly Severity	How serious of the anomaly

## Inspection Methods

**Modify**

Method name: Ultrasonic testing (dropdown) Internal  External

Description: [Empty text area]

Inspection comments: UT is perform onsite and the readings were taken twice due to insufficient power the first time.

Equipment type: [Empty dropdown menu]

Save Cancel

### **Multiple Inspection Methods can be created for comments of each method**

- Inspection Methods are Inspection Monitoring types like Ultrasonic Testing, Radiographic Testing, Leak Testing, Acoustic Testing
- For scheduled inspection, the default inspection methods are defined in the inspection plan

## RBI Tasks

**Modify**

Inspection task: NonIntr+75UTS/PR

Internal thinning (generalized): None

Internal SCC (Caustic): None

Internal SCC (SSC): None

Internal SCC (HIC/SOHIC - HF): None

External SCC (Chloride - atmospheric): None

Lining failure: None

Thermal fatigue: None

Selected Methods: 75UTS/PR

Methods description: 75UTS/PR: >75% coverage of the TMLs/CMLs using ultrasonic scanning

Linked element: 8-HM-13-0143-N-A2-1-EL

Intrusive:

External thinning (atmospheric): None

Internal SCC (Alkaline carbonate): None

Internal SCC (PTA): None

HTHA: None

Embrittlement: None

Overhaul: None

Description: For the total suspect area: >75% coverage of the TMLs/CMLs using ultrasonic scanning or profile radiography

Cost Factor: 10

External thinning (CUI): None

Internal SCC (HIC/SOHIC - H2S): None

Internal SCC (HSC - HF): None

Creep: None

Intrusive:

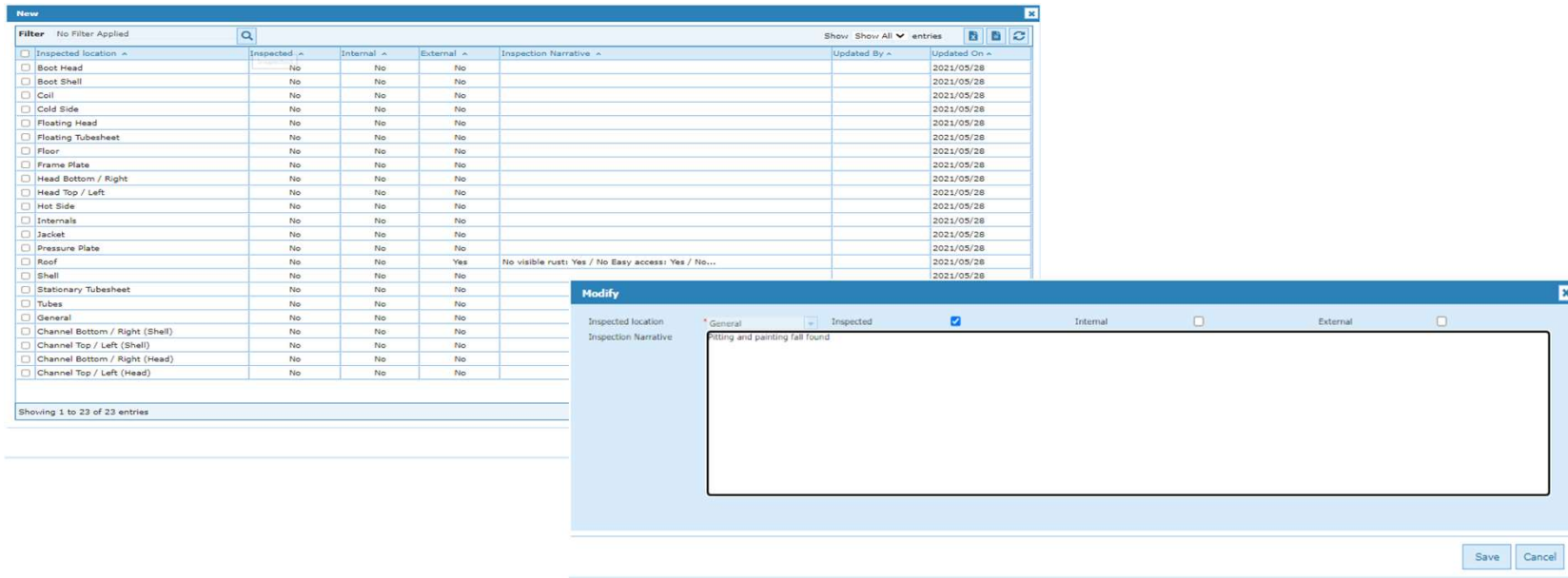
PRD Test Effectiveness: None

Save Cancel

## RBI Tasks

- Required Tasks selected based on Task Name, Intrusive, Cost Factor, Internal Thinning, External Thinning and more details.
- The Actual Inspection Effectiveness should be selected, and it will be used in the next RBI assessment. This is a very important input for the ever-greening.

# Inspection Narratives



## ➤ Inspection Narratives

- Inspection Narratives can be added with selecting the default values from the library.
- It has the Inspected location, Inspected, Internal and External corrosion to record.

# Inspection Checklists

The screenshot displays a software interface for managing inspection checklists. At the top, there are navigation tabs: Inspection Findings, Inspection Methods, RBI Tasks, Inspection Narratives, Processing history, and Checklist Listing (which is active). Below the tabs is a 'CHECKLIST LISTING' section with a search filter and a table of entries. The table has columns for Asset Name, Asset Description, Asset Class, Checklist Name, Checklist Created, Inspection No, Inspection Name, Activity Type, Due Date, Updated On, and Updated By. One entry is visible, corresponding to the detailed view shown in the modal window below.

The 'Check List Entry' modal window contains the following information:

- Asset Name: PLANT A.PROD UNIT 01.8-HM-13
- Work Pack No: [Empty]
- Checklist Entry Date: 2023/06/20
- Inspection No: I-2023-0010
- Inspection Name: 8-HM-13-0143-N-A2-1: Risk-based Inspection Plan
- Checklist Name: ADHOC CHECKLIST
- Inspected By: Tommy
- Updated On: 2023/06/21
- Updated By: MGR

The 'Checklist Detail' modal window shows a table with the following entry:

Edit	Question	Answer	Observation	Updated By	Updated On
<input checked="" type="checkbox"/>	FACILITY REVIEW - SKETCHES AND DRAWINGS - Search and review the process flow diagram and piping and instrumentation diagram for the facility and ensure that all major process vessels are covered by facility Vessel sketches/drawings	<input checked="" type="checkbox"/>	PFD and Piping ISO were reviewed without problem.	MGR	2023/06/21

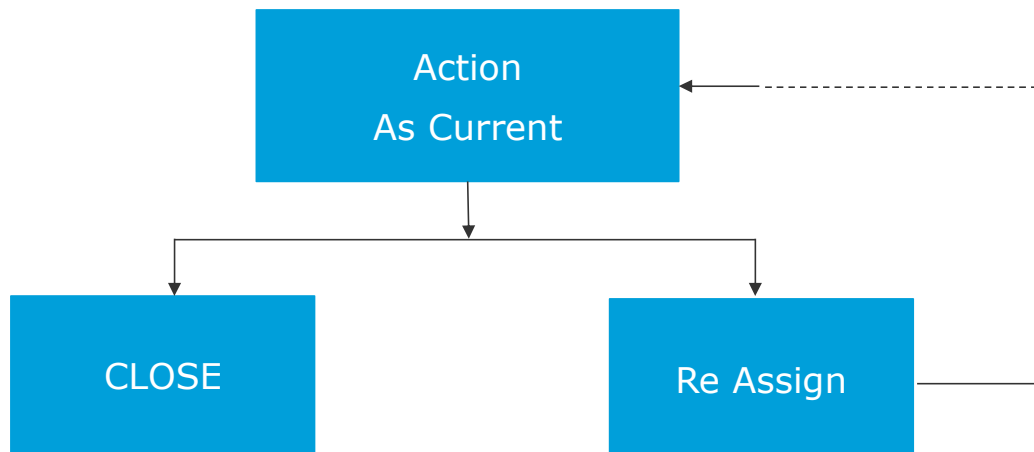
## ➤ Inspection Checklists

- Checklists can be added with selecting the default checklists defined in the library.
- For each checklist item input the answer with optional observation details.

## Actions Work Flow

Workflow Choice	Next Step	Process Role	Assigned to	Process Plan Start
<input checked="" type="radio"/> As Current	Orgn/User: Inspection Engineer Group	Inspection engineer		
<input type="radio"/> Reassign	Action performing	Inspection engineer		
<input type="radio"/> Close	End			

Save



### ➤ Actions Workflow

Actions has three Send To status.

- As Current
- Close
- Reassign to Other Group/Inspection Engineer.



# Action

**Action : Action performing** [Close]

Print report

Action No. A-2023-0023

Description Removing Pitting due to Inspection Finding

Tag No. B-HM-13-0143-N-A2-1

Summary of Action Pitting needs to be removed.

Supplementary Info

Action Due Date 2023/06/21 Original Due Date 2023/06/21

Completion Date

Created By MGR Created On 2023/06/21

Inspection No. Anomaly No.

Anomaly ID Action Type CM

**Send To**

Workflow Choice	Next Step	Process Role	Assigned to	Process Plan Start
<input checked="" type="radio"/> As Current	Orgn/User: Inspection Engineer Group	Inspection engineer		
<input type="radio"/> Reassign	Action performing	Inspection engineer		
<input type="radio"/> Close	End			

Save

**Linked assets**

Anomaly

Show 20 entries

Asset Key	Description	Updated By	Updated On
No data available in table			

Showing 0 to 0 of 0 entries

## ➤ Action Workflow

Actions as three Send To status.

- As Current
- Close
- Reassign to Other Group/Inspection Engineer.

## ➤ Action General Information

Action No. auto generated; Selected Tag displayed

Description, Summary of Action and Supplementary Info can be entered

Action Due Date is calculated but can be modified

Completion Date can be entered

## Action: Data Lists and Documents

**- Activity Recording Sheet**

**Action Tasks**

Show 200 entries

No. ^	Description ^	Deadline ^	Date Completed ^	Responsible Department ^	Responsible User ^	Status ^	Priority ^	Comment ^	Updated By ^	Updated On ^
1	Remove Pit...	2023/07/07		MAINTENANC...	Wang	NOT STARTE...	HIGH	Pitting ne...	MGR	2023/06/21

Showing 1 to 1 of 1 entries

**- Linked Documents**

**Activity Document** | Asset Document

Show 200 entries

Document Key ^	Description ^	Annotated ^	Keywords ^	File Type ^	Original Filename ^	Version No ^	Updated By ^	Updated On ^
DOC-2023-06-21-0234	DemoPipingInspect	NO	Inspection, Piping	Photograph	DemoPipingInspect.jpg	1	MGR	2023/06/21

Showing 1 to 1 of 1 entries

Activity Recording Sheets – Tasks, multiple entries

Activity Document – Inspection Report, Photograph, Technical Report, multiple entries

## Action: Tasks

Action Tasks				
No. ^	Description ^	Deadline ^	Date Completed ^	Responsible Department ^
1	Remove Pit...	2023/07/07		MAINTENANC...

Showing 1 to 1 of 1 entries

Modify			
Description	* Remove Pitting		
Deadline <small>yyyy/mm/dd</small>	* 2023/07/07	Date Completed <small>yyyy/mm/dd</small>	
Responsible Department	Maintenance	Responsible User	Wang
Status	Not Started	Priority	High
Comment	Pitting near CML-3 needs to be removed.		

SNo	Property Name	Details
2	Description	Tasks details, Entry, long text
3	Deadline	Date format: DD/MM/YYYY, Task Deadline scheduled date
4	Date Completed	Task Completed Date
5	Responsible Department	Inspection, Maintenance, Operations, Projects
6	Responsible User	Name of the person, responsible
7	Status	Cancel, Completed, In Process, Not started
8	Priority	High, Low, Medium
9	Comments	Entry, Large Text

### ➤ Task creation

- Enter Description mandatory value, Task Description
- Select Deadline, mandatory value, task scheduled date

## Activity Documents

- Activity Documents are available for both Activities, Inspections and Actions.

➤ Inspection Report

➤ Photograph

➤ Technical Report

SNo.	Document Type	File Type
1	Inspection Report	VSD, XLSM, GIF, JPG, MPG, XLS, DWG, DOCX, XLSX, PDF, DOC, PPT
2	Photograph	VSD, PNG, JPG, BMP, TIFF, GIF
3	Technical report	PDF, DOCX

Photograph

Technical Report

Inspection Report

# Synergi Plant Training

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