

SAP (IAM)

Intelligent
Asset
Management



Creating A Recommendation

Document Control

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Reference Documents

The following section describes relevant documentation:

Document Name	Description	Sharepoint Link
Risk and Criticality Assessment	Configuring risk and criticality templates	Creating A Recommendation.pdf

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1. Creating A Recommendation

1.1 Objective:

After completing this lesson, you will be able to create actionable recommendations based on the results of assessments, ensuring that they align with asset management objectives and industry standards.

1.2 Key Terms, Used in This Lesson:

1. **Strategy Assessments:** An evaluation process to suggest appropriate responses to asset failure, conducted at an asset class level.
2. **RCM (Reliability Centered Maintenance) Assessments:** A systematic process to determine the maintenance requirements of physical assets in their operating context.
3. **Recommendation Workbench:** A feature within APM where users can create, manage, and review recommendations.
4. **Recommendation Status:** The current state of a recommendation, indicating its progress from creation to potential release for use.
5. **Planning Plant:** An organizational unit within APM where maintenance planning activities are performed.
6. **Failure Data Profile:** A collection of data related to how and why assets may fail, which can be linked to recommendations.
7. **Failure Data:** Information pertaining to the causes and effects of asset failure.
8. **Proactive Type and Subtype:** Categories within a recommendation that define the nature of the suggested action, such as preventive maintenance.
9. **Operating Context and Condition:** Specific conditions under which an asset operates, which can affect its failure risk and the applicability of recommendations.

1.3 Lesson Overview: Creation of Recommendations

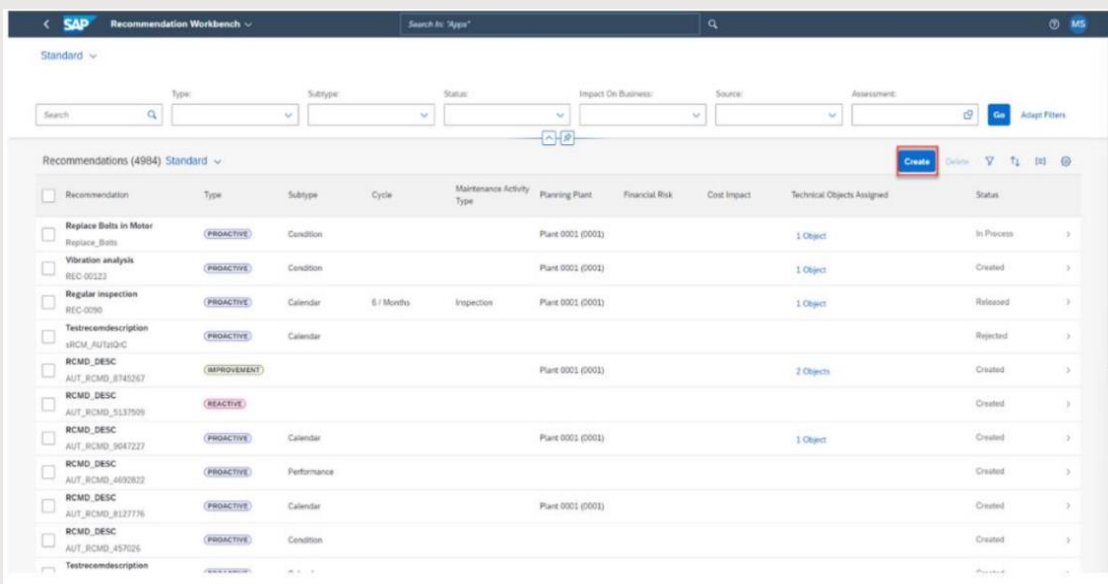
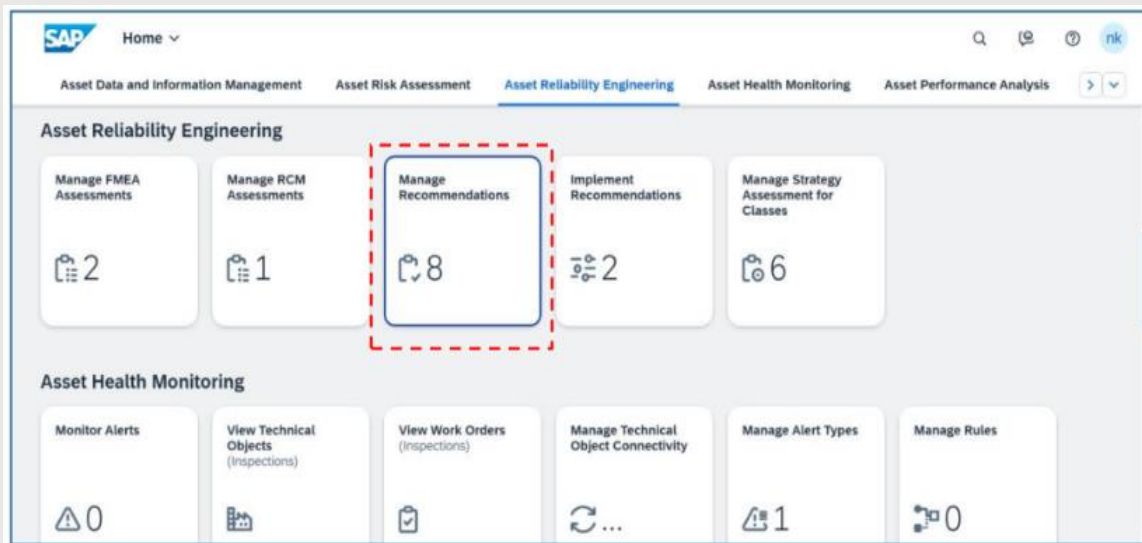
Recommendations are used within Strategy Assessments and RCM Assessments within they are valid responses, are not valid responses, or need further improvement. Recommendations can fall under multiple status types. The Recommendation statuses are listed below.

- **Created** - Recommendation just made with no further changes made
- **In Process** - Recommendation has some changes made to it but has not been evaluated yet.
- **For Review** - Recommendation is ready for another colleague to evaluate
- **On Hold** - Recommendation is in reserve but is not currently being looked at for evaluation
- **Rejected** - Recommendation will not be used
- **Ready for Release** - Recommendation accepted and needs final review before release
- **Released** - Recommendation is accepted for use

In addition to changing Recommendation Status, users can make various modifications to a Recommendation, such as adding in additional information pertaining to the Recommendation, assigning and removing Technical Objects from the Recommendation, and viewing the Associated Failure Data in a Recommendation.

1.4 DEMO:

On the main page of APM, choose the Manage Recommendations tile. The tile is in the Assessment Management tab and should be the fifth tile in the row. If not present, you should also be able to locate the tile by going to the search bar at the top, typing "**Recommendation Workbench**" in the search field, and then hitting the search button.



In the Manage Recommendations page, you can see the recommendations previously made. Recommendations can be created from a Strategy Assessment, an RCM Assessment, or just on its own. To create a Recommendation by itself, choose the Create button on the right side of the page underneath the filters.

The screenshot shows the SAP Recommendation Workbench interface. A 'Create Recommendation' pop-up form is displayed over a list of recommendations. The form fields are highlighted with red boxes:

- Recommendation ***: Lubricate_Motor_Bearings
- Description ***: Lubricate the Bearings in the Motor
- Type ***: Proactive
- Subtype ***: Calendar

The background shows a table of recommendations with columns: Recommendation, Type, Subtype, Status, Impact On Business, Source, and Assessment. The table lists various recommendations like 'Replace Belts in Motor', 'Vibration analysis', 'Regular inspection', etc.

Fill out the **Recommendation**, **Description**, and **Type** fields for your **Recommendation**. If a Proactive Type is chosen as the Recommendation type, an additional Subtype needs to be selected as well. With all necessary fields filled in, choose the Create button at the bottom of the pop up.

The screenshot shows the SAP Recommendation Workbench interface with the details of a recommendation. The recommendation is titled 'Lubricate the Bearings in the Motor'. The details are as follows:

- Status**: Created
- Financial Risk**: No Data
- Cost Impact**: No Data
- Type**: Proactive
- Subtype**: Calendar
- Technical Objects Assigned**: 2
- Description ***: Lubricate the Bearings in the Motor
- Long Description**: (Empty field)
- Type ***: Proactive
- Subtype ***: Calendar
- Cycle**: 6 Months (MON)
- Maintenance Activity Type**: Preventive maintenance
- Priority**: 2: High (2)
- Discipline**: Mechanical
- Impact On Business**: Unit Shutdown
- Organizational Data**:
 - Planning Plant**: Brazilian plant BRTM 2 (BRT2)
 - Maintenance Plant**: Plant 0005 (0005)

Modify Recommendation Fields:

The Recommendation will now be created and should open to the edit page. In this page, we have significantly more fields that we can add into the assessment. In this page, implement all necessary additions and changes to the General Data of the Recommendation. Once finished, choose the **Save** button on the right of the page to apply all new changes.

The screenshot shows the 'General Data' tab of the SAP Recommendation Workbench. The title is 'Lubricate the Bearings in the Motor' with a sub-title 'Lubricate_Motor_Bearings'. There are 'Change Status' and 'Manage' buttons in the top right. The main content area is divided into three columns: 'Financial Risk', 'Cost Impact', and 'Validity'. Each column has input fields for current and remaining values, estimated costs/savings, and validity dates. Below these is a 'Recommendation Notes' section with a rich text editor.

Financial Risk	Cost Impact	Validity
Current Risk: 10000 USD	Estimated Cost: 2500 USD	Valid From: Mar 1, 2023
Remaining Risk: 2000 USD	Estimated Maintenance Savings: 1500 USD	Valid To: Sep 1, 2023
Notes:	Notes:	

This screenshot shows the 'General Data' tab with more detailed configuration options. It includes a status bar (Created, Proactive, Calendar), a description field, and various maintenance activity parameters like Type, Subtype, Cycle, Priority, Discipline, and Impact on Business. The 'Organizational Data' section at the bottom allows selecting Planning and Maintenance Plants. A red box highlights the 'Save' button in the top right corner.

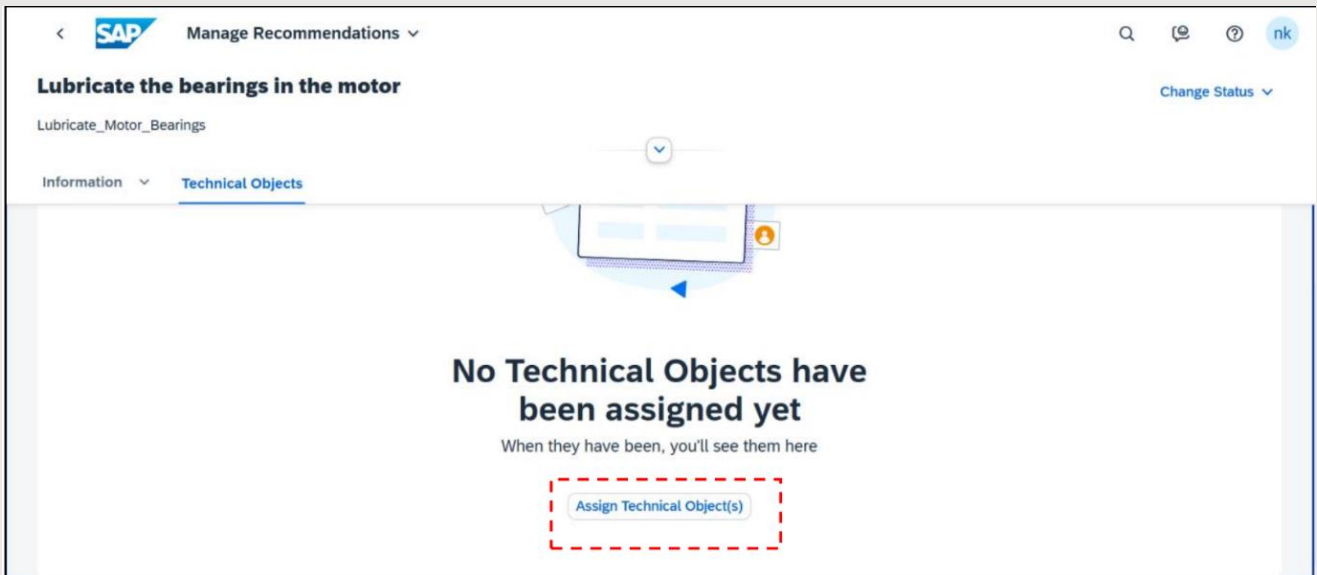
General Data	Maintenance Activity Configuration	Organizational Data
Description: Lubricate the Bearings in the Motor	Type: Proactive	Planning Plant: Brazilian plant BRTM 2 (BRT2)
Long Description:	Subtype: Calendar	Maintenance Plant: Plant 0005 (0005)
	Cycle: 6 Months (MOH)	
	Maintenance Activity Type: Preventive maintenance	
	Priority: 2: High (2)	
	Discipline: Mechanical	
	Impact On Business: Unit Shutdown	

The screenshot shows the SAP Recommendation Workbench interface. At the top, there's a search bar with 'Appn' and a magnifying glass icon. The main title is 'Lubricate the Bearings in the Motor' with the identifier 'Lubricate_Motor_Bearings'. Below this, there are two progress bars: 'Financial Risk' (Current Risk: 10000, Remaining Risk: 2000) and 'Cost Impact' (Estimated Maintenance Savings: 1500, Estimated Cost: 2500). The status is 'Created'. On the top right, there are buttons for 'Change Status' and 'Manage'. Below these, a dropdown menu shows 'In Process' selected. The main content area is divided into sections: 'General Data' (Description, Long Description, Type, Subtype, Cycle, Maintenance Activity Type, Priority, Discipline, Impact On Business), 'Organizational Data' (Planning Plant, Maintenance Plant), 'Financial Risk' (Current Risk, Remaining Risk), 'Cost Impact' (Estimated Cost, Estimated Maintenance Savings), and 'Validity' (Valid From, Valid To). An 'Edit' button is located on the right side of the main content area.

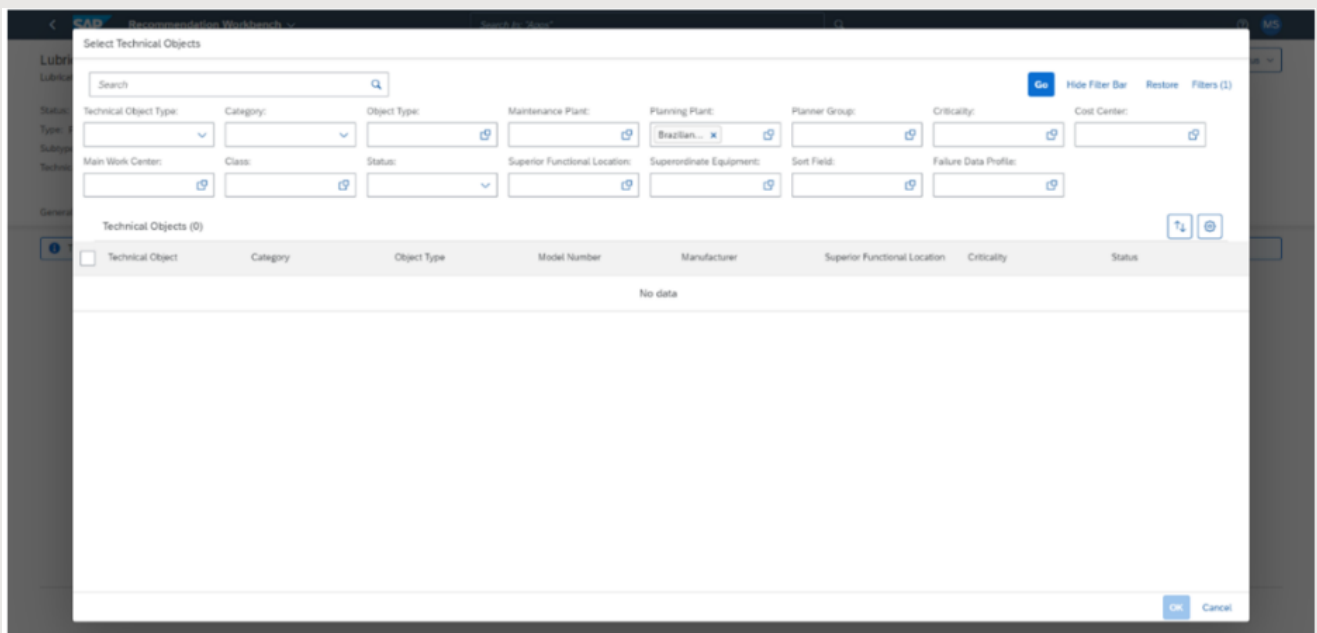
We can go back and make further changes if desired by choosing the Edit button on the right of the page. If Financial Risk and Cost Impact are added into the assessment, we can see a graphic for each at the top of the page. One thing we should also do is change the status of the Recommendation to In Process to denote that work is currently being done on it. The status of the Recommendation also needs to be set to In Process for it to be later set to other statuses. Choose the Change Status button on the top right of the page and choose the In Process sub button that appears underneath it.

The screenshot shows the SAP Manage Recommendations interface. At the top, there's a search bar with 'nk' and a magnifying glass icon. The main title is 'Lubricate the bearings in the motor' with the identifier 'Lubricate_Motor_Bearings'. Below this, there are two progress bars: 'Financial Risk' (Current Risk: 10000, Remaining Risk: 2000) and 'Cost Impact' (Estimated Maintenance Savings: 1500, Estimated Cost: 2500). The status is 'In Process'. On the top right, there is a 'Change Status' button. Below this, a dropdown menu shows 'In Process' selected. The main content area is divided into sections: 'General Data' (Description, Long Description, Type, Subtype, Cycle, Maintenance Activity Type, Priority, Discipline, Impact On Business), 'Organizational Data' (Planning Plant, Maintenance Plant), 'Financial Risk' (Current Risk, Remaining Risk), 'Cost Impact' (Estimated Cost, Estimated Maintenance Savings), and 'Validity' (Valid From, Valid To). An 'Edit' button is located on the right side of the main content area. A red dashed box highlights the 'Technical Objects' section.

We can also assign a Technical Object to the Assessment as well. Choose the **Technical Objects** tab to **Assign a Technical Object** to the Recommendation.



In the Technical Objects tab, we need to add a Technical Object to the Recommendation. Choose the Assign Technical Object(s) button at the center of the page to add in a new Technical Object.



A list of Technical Objects should now appear on the page. If a Planning Plant was selected in the General Data Tab for the Recommendation, it will automatically be applied to the filter here. If no Technical Objects appear, either remove or change the Planning Plant in the Technical Object.

Technical Objects (1,978)

Technical Object	Category	Object Type	Model Number	Manufacturer	Superior Functional Location	Criticality	Status
<input type="checkbox"/> SERVO MOTOR - 10 10000070	Customer equipment (S)				FLOC with Warranty (17301)		At customer site
<input type="checkbox"/> SERVO MOTOR controller - sub EQ 10000071	Customer equipment (S)				FLOC with Warranty (17301)	Crit Safety/Health (1)	At customer site
<input type="checkbox"/> RD_Motor 10495504	Machines (M)	Object Type 1000 (1000)					Allocated to superior equipment
<input checked="" type="checkbox"/> Motor1 10495256	Machines (M)	Motor (8031)	AM321	Siemens	Power Plant - ZX11 (ZX11)	High (A)	Allocated to superior equipment
<input type="checkbox"/> Motor Descriptions end 10496054	Machines (M)					Standard Env (E)	Available
<input type="checkbox"/> SERVO MOTOR 10496018	Machines (M)						Available
<input type="checkbox"/> SERVO MOTOR 10496017	Customer equipment (S)						Available
<input type="checkbox"/> SERVO MOTOR 10494559	Machines (M)						Available

Assuming Technical Objects do appear on the page, check the Technical Objects you wish to use and then choose the OK button on the bottom left of the page to assign them to the Recommendation. Use other filters as well to locate a specific Technical Object.

Technical Objects Assigned: 1 Object

Technical Object	Category	Object Type	Functional Location	Risk Score	Criticality	Maintenance Plant	Planning Plant	Failure Data Profile
<input checked="" type="checkbox"/> Motor1 10495256	Machines (M)	Motor (8031)	Power Plant - ZX11 (ZX11)	32.0	High (A)	Plant 9001 (9001)	Plant 9001 (9001)	Failure Data for Motor (AM-PP-8001)

The Technical Object is now assigned to the Recommendation. We can assign more Technical Objects to the Recommendation by choosing the Assign button on the right of the page. We can remove a Technical Object by checking the box to the left of the Technical Object and choosing the Remove button.

SAP Recommendation Workbench

Search in: "Apps"

Lubricate the Bearings in the Motor
Lubricate_Motor_Bearings

Change Status

Status: In Process
Type: Proactive
Subtype: Calendar
Technical Objects Assigned: 1 Object

Financial Risk
Current Risk: 10000
Remaining Risk: 2000
USD

Cost Impact
Estimated Maintenance Savings: 1000
Estimated Cost: 2000
USD

General Data | Assignments

Description: Lubricate the Bearings in the Motor
Long Description:

Type: Proactive
Subtype: Calendar
Cycle: 6 Months

Maintenance Activity Type: Preventive maintenance
Priority: 2: High (2)
Discipline: Mechanical
Impact On Business: Unit Shutdown

Organizational Data
Planning Plant: Plant 0001 (0001)
Maintenance Plant: Plant 0005 (0005)

Financial Risk
Current Risk: 10,000.00 USD
Remaining Risk: 2,000.00 USD

Cost Impact
Estimated Cost: 2,500.00 USD
Estimated Maintenance Savings: 1,500.00 USD

Validity
Valid From: Feb 28, 2023
Valid To: Aug 31, 2023

Edit

In the General Data tab, the Planning Plant field is automatically assigned to the same one associated with the Technical Object we are working with.

SAP Recommendation Workbench

Search in: "Apps"

Lubricate the Bearings in the Motor
Lubricate_Motor_Bearings

Change Status

Status: In Process
Type: Proactive
Subtype: Calendar
Technical Objects Assigned: 1 Object

Financial Risk
Current Risk: 10000
Remaining Risk: 2000
USD

Cost Impact
Estimated Maintenance Savings: 1000
Estimated Cost: 2000
USD

General Data | Assignments

Description: Lubricate the Bearings in the Motor
Long Description:

Type: Proactive
Subtype: Calendar
Cycle: 6 Months

Maintenance Activity Type: Preventive maintenance
Priority: 2: High (2)
Discipline: Mechanical
Impact On Business: Unit Shutdown

Organizational Data
Planning Plant: Plant 0001 (0001)
Maintenance Plant: Plant 0005 (0005)

Financial Risk
Current Risk: 10,000.00 USD
Remaining Risk: 2,000.00 USD

Cost Impact
Estimated Cost: 2,500.00 USD
Estimated Maintenance Savings: 1,500.00 USD

Validity
Valid From: Feb 28, 2023
Valid To: Aug 31, 2023

Edit

Change Status
For Monitor
On Hold
Rejected

1.5 Change Recommendation Statuses:

Recommendations can be set to one of the many different statuses that were discussed at the beginning of this guide. Note that if not done so already, change the status of the incident from Created to In Process. With the Recommendation set to In Process, we can again set it to other statuses from there. Depending on the status, you can change to a certain group of other statuses or no other statuses at all. The first status we are going to change to is For Review. Choosing the **Change Status** button and then the For Review sub button underneath it.

The screenshot shows the SAP Recommendation Workbench interface for a recommendation titled "Lubricate the Bearings in the Motor". The status is "For Review". A "Change Status" dropdown menu is open, showing options: "Ready for Release", "In Process", "On Hold", and "Rejected". The "On Hold" option is highlighted. The interface also displays various details about the recommendation, including its type, subtype, cycle, and financial risk.

General Data	Assignments
Description: Lubricate the Bearings in the Motor Long Description: Organizational Data Planning Plant: Plant 0001 (0001) Maintenance Plant: Plant 0005 (0005)	Type: Proactive Subtype: Calendar Cycle: 9 Months Cost Impact Estimated Cost: 2,500.00 USD Estimated Maintenance Savings: 1,500.00 USD Notes: Savings may be greater

The status of the Recommendation has now been changed to For Review. The status of the Recommendation is noted on the top left of the page underneath the Recommendation name and description. We can change the status again if we want to. Choose the Change Status button again. You will notice that there are new options to change the status to. In the For Review Status, we can now change it to Ready for Release, In Process, On Hold, or Rejected. The In Process and For Review statuses have swapped with one another and the Ready for Release status has been added here. **Change the status** to On Hold.

SAP Recommendation Workbench

Search In: "Apps"

Lubricate the Bearings in the Motor
Lubricate_Motor_Bearings

Status: On Hold
Type: Proactive
Subtype: Calendar
Technical Objects Assigned: 1 Object

Financial Risk
Current Risk: 10000
Remaining Risk: 2000
USD

Cost Impact
Estimated Maintenance Savings: 1000
Estimated Cost: 2000
USD

Change Status
In Process
Rejected

General Data

Description: Lubricate the Bearings in the Motor
Long Description:

Type: Proactive
Subtype: Calendar
Cycle: 6 Months

Maintenance Activity Type: Preventive maintenance
Priority: 2: High (2)
Discipline: Mechanical
Impact On Business: Unit Shutdown

Organizational Data
Planning Plant: Plant 9001 (9001)
Maintenance Plant: Plant 9005 (9005)

Financial Risk
Current Risk: 10,000.00 USD
Remaining Risk: 2,000.00 USD
Notes: Risk may be greater

Cost Impact
Estimated Cost: 2,500.00 USD
Estimated Maintenance Savings: 1,500.00 USD
Notes: Savings may be greater

Validity
Valid From: Feb 28, 2023
Valid To: Aug 31, 2023

Again, the status has been changed. Notice that the Edit button in the Recommendation has disappeared. It is not possible to edit a Recommendation under this status. Looking back at the Change Status button again, it can only be changed to two options now, In Process and Rejected. If we want to edit the Recommendation again, the status must be changed back to In Process. We are going to change the Recommendation here from On Hold to Rejected. Choose the Change Status button and then choose Rejected.

SAP Recommendation Workbench

Search In: "Apps"

Lubricate the Bearings in the Motor
Lubricate_Motor_Bearings

Status: Rejected
Type: Proactive
Subtype: Calendar
Technical Objects Assigned: 1 Object

Financial Risk
Current Risk: 10000
Remaining Risk: 2000
USD

Cost Impact
Estimated Maintenance Savings: 1000
Estimated Cost: 2000
USD

Change Status
In Process
Rejected

General Data

Description: Lubricate the Bearings in the Motor
Long Description:

Type: Proactive
Subtype: Calendar
Cycle: 6 Months

Maintenance Activity Type: Preventive maintenance
Priority: 2: High (2)
Discipline: Mechanical
Impact On Business: Unit Shutdown

Organizational Data
Planning Plant: Plant 9001 (9001)
Maintenance Plant: Plant 9005 (9005)

Financial Risk
Current Risk: 10,000.00 USD
Remaining Risk: 2,000.00 USD
Notes: Risk may be greater

Cost Impact
Estimated Cost: 2,500.00 USD
Estimated Maintenance Savings: 1,500.00 USD
Notes: Savings may be greater

Validity
Valid From: Feb 28, 2023
Valid To: Aug 31, 2023

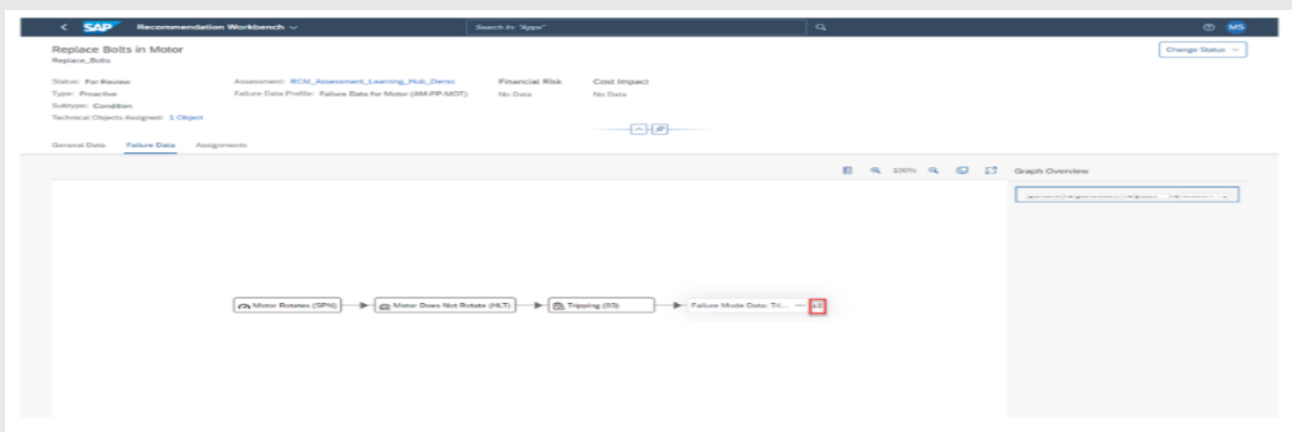
With the Recommendation Rejected, it is no longer possible to edit the Recommendation and the status cannot be changed anymore. Technical Objects also cannot be assigned to this Recommendation anymore. The Recommendation will remain in APM under this status.

The screenshot shows the SAP Recommendation Workbench interface for a recommendation titled "Replace Bolts in Motor". The left sidebar has three tabs: "General Data", "Failure Data" (which is highlighted with a red box), and "Assignments". The main content area is divided into several sections:

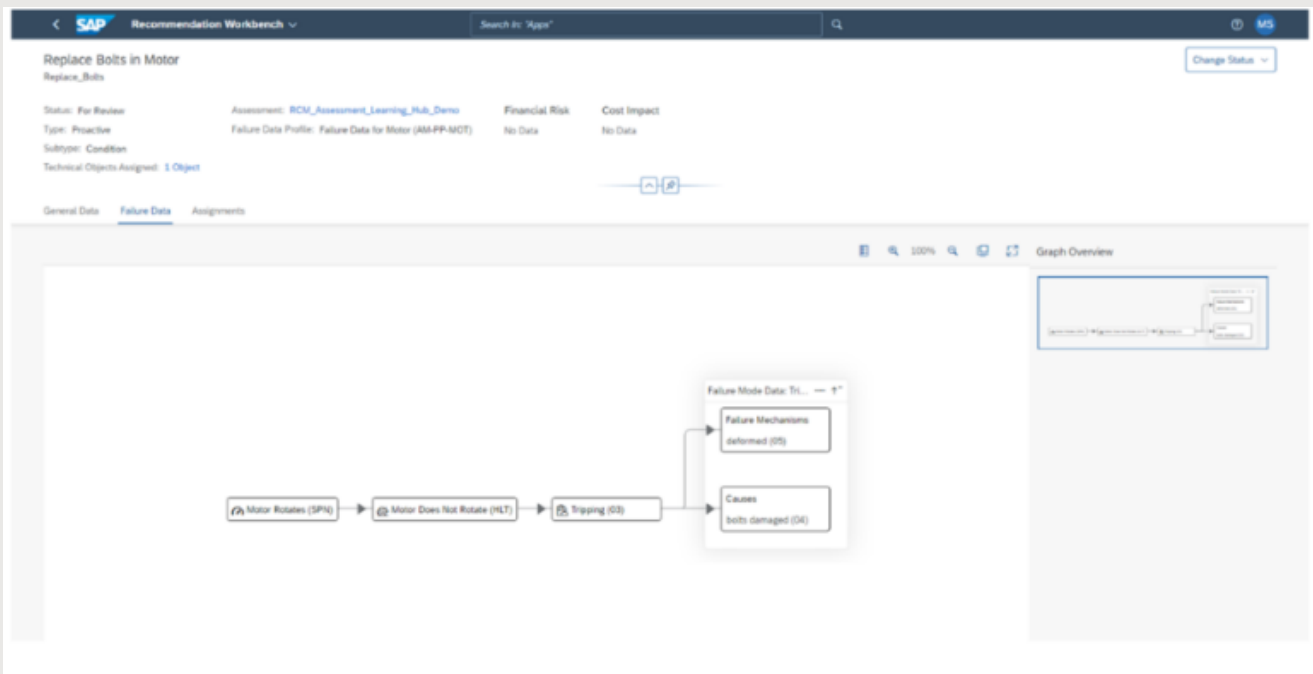
- Description:** Replace Bolts in Motor, Long Description: (empty)
- Type:** Proactive, Subtype: Condition
- Maintenance Activity Type:** Priority: (empty), Discipline: (empty), Impact On Business: (empty)
- Classification:** Failure Data Profile: Failure Data for Motor (AM-PP-MOT)
- Organizational Data:** Planning Plant: Plant 0001 (0001), Maintenance Plant: (empty)
- Financial Risk:** Current Risk: (empty), Remaining Risk: (empty), Notes: (empty)
- Cost Impact:** Estimated Cost: (empty), Estimated Maintenance Savings: (empty), Notes: (empty)
- Validity:** Valid From: (empty), Valid To: (empty)

1.6 Failure Data Tab and more Recommendation Statuses:

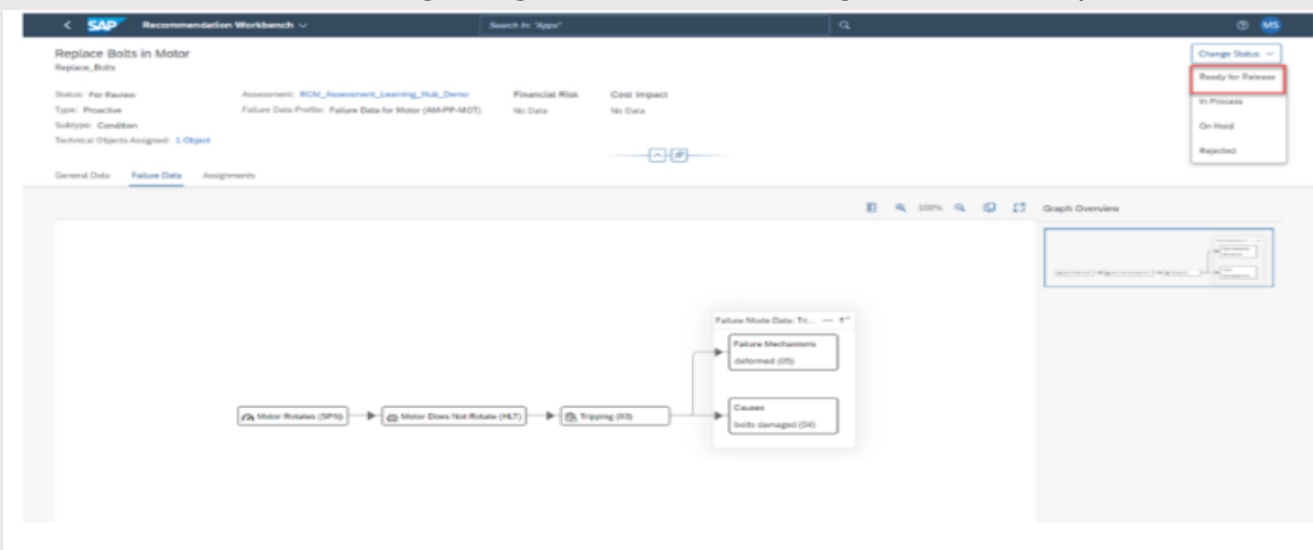
Here is another Recommendation I previously created from an RCM Assessment. Because I created this Recommendation from an Assessment, there is a new tab that to choose from, the Failure Data tab. In this tab, there is a visual displaying the Failure Catalogs that are associated with this Recommendation. Choose the Failure Data tab on the left side of the page to the right of the General Data tab.



In this tab, the specific Failure Catalogs that were assigned to the Assessment in which to the Recommendation was created appear in the graphic. For my Recommendation, I show the Function, Functional Failure, Failure Mode, and a grouping of Failure Data that was assigned under the Failure Mode here.



Choosing the Expand/Collapse button on the Failure Mode Data graphic shows me the specific Failure Catalogs I assigned here. I only have two Failure Catalogs assigned within my Failure Mode, the Failure Mechanism, and the Cause, with the Failure Effect not being assigned as I didn't assign it here in my Assessment.



Assuming that the Recommendation is now good for release, the status of the Recommendation must be changed to reflect that. Assuming that the status of this Recommendation is set to For Review, choose the Change Status button and set it to Ready for **Release**.

The screenshot shows the SAP Recommendation Workbench interface for a recommendation titled 'Replace Bolts in Motor'. The status is 'Ready for Release'. A 'Change Status' dropdown menu is open, showing options: Released, In Process, On Hold, and Rejected. The 'Released' option is highlighted with a red box. The interface also displays various fields for the recommendation, including Description, Type, Subtype, Classification, Organizational Data, Financial Risk, Cost Impact, and Validity.

Choose the Change Status button again and set the status to Released to finalize the Recommendation for official use. The Recommendation has now been released. Like a rejected Recommendation, the status cannot be changed any further and the Recommendation cannot be edited.

1.7Conclusion

1.7.1 Objective:

To understand how to create and manage recommendations in Asset Performance Management (APM) for responding to asset failures, and to learn how to navigate through various recommendation statuses and modifications.

1.7.2 Overview:

Recommendations guide responses to asset failures and their status indicate the stage of development or implementation within an organization. A recommendation can progress through several statuses from creation to release.

1.8 Steps:

1. Creating a Recommendation:

- Access the Manage Recommendations from the Assessment Management tab.
- Create a new Recommendation independently or from within an existing Strategy or RCM Assessment
- Fill in the Recommendation details, including type and subtype for proactive measures.

2. Modifying Recommendation Fields:

- On the Recommendation edit page, input all necessary data.
- Save the information to preserve the changes.
- Adjust the Recommendation status to In Process indicating active development.

3. Assigning Technical Objects:

- Go to the Assignments tab to link Technical Objects to the Recommendation.
- Apply filters to find and select the correct Technical Objects, then assign them.

4. Changing Recommendation Statuses:

- Progress the Recommendation through various statuses such as For Review, On Hold, or Rejected based on internal evaluations.

- Each status change may alter the available actions, such as editing or assigning Technical Objects.

5. Failure Data Tab:

- For Recommendations linked to an Assessment, the Failure Data tab visualizes the associated failure catalogs.
- Review the assigned Failure Catalogs to ensure they align with the Recommendation's intent.

6. Releasing the Recommendation:

- Once a Recommendation is validated, update the status to Ready for Release and then to Released.
- A Released Recommendation is finalized for use and cannot be edited or have its status changed.

Possible Recommendation Statuses are:

- Created: Newly generated, no edits made.
- In Process: Under development, changes being made.
- For Review: Ready for peer evaluation.
- On Hold: Reserved, not actively reviewed.
- Rejected: Deemed unsuitable for use.
- Ready for Release: Approved, pending final review.
- Released: Officially approved for use.

1.9 Outcome:

Understanding the flow from creation to release of Recommendations allows users to systematically evaluate and implement strategies for asset failure responses. The status of each Recommendation reflects its stage in the lifecycle and determines the actions that can be taken.