



Recommendation Management

V3.6.0.0.0



Meridium APM Recommendation Management V3.6.0.0.0

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About This Document

This file is provided so that you can easily print a portion of the **APM Foundation** section of the Meridium APM Help system. This document is not meant to be read electronically using the PDF. If you want to read the documentation electronically, you should use one of the Help systems. This file is set up to facilitate double-sided printing and includes blank pages between sections so that each section will begin on an odd page and will be printed on the *front* of the page.

Because this file represents an excerpt from the Meridium APM Help system, parts of this document may seem incomplete outside the Help system itself. When you read the documentation via the Help system, you will see links which serve as cross-references to other areas of the documentation. These cross-references are not available in this document.

To access the Meridium APM Help system, in the Meridium APM Framework application, click the **Help** menu, and then click **Meridium APM Help**.

Documentation Conventions

Throughout the documentation, we use various stylistic conventions that make it easier to interpret information and instructions. The following table provides a list and description of the conventions that are used throughout the Meridium APM documentation.

Convention	Description	Example
Bold	Identifies labels that appear on the screen. Identifies folder paths and file names when the folder path or file name is included in step-by-step instructions.	The Save As dialog box appears. Click Cancel . In the Catalog folder \\Public\Meridium\Modules\Core\Queries , open the query Field History Records .
\\	Identifies the beginning of a folder path.	The query is located in the following Catalog folder: \\Public\Meridium\Modules\Core\Queries .
Courier New	Identifies text that you must type.	Type root .
<>	Indicates that the data inside the angle brackets is variable.	Click Expand/Collapse <Record>'s Children , where <Record> is the ID of the selected record.
[]	Indicates that the data inside the square brackets is optional.	Type the following text: <Catalog Path>,[Query Parameters] ...where: <ul style="list-style-type: none">• <Catalog Path> is the Catalog path of the desired query.• [Query Prompt Value] is a value that you want to supply for a prompt in the query. If you do not pass in query prompt values, you will be prompted to supply them when you run the query.

Basics

Overview of Recommendation Management

Recommendation Management is a tool that you can use to manage all the Recommendation records that exist in the Meridium APM database. Using Recommendation Management, you can:

- Create Meridium General Recommendation records.
- Manage Recommendation record states.
- Open a Recommendation Record in the Record Manager.
- Delete Recommendation records.

Note: Throughout this documentation, we use the term *Recommendation record* to refer generically to any record that belongs to the Recommendation family or any of its subfamilies. When it is necessary to distinguish between Recommendation records that belong to different families, we use the specific family names.

Recommendation Management System Requirements

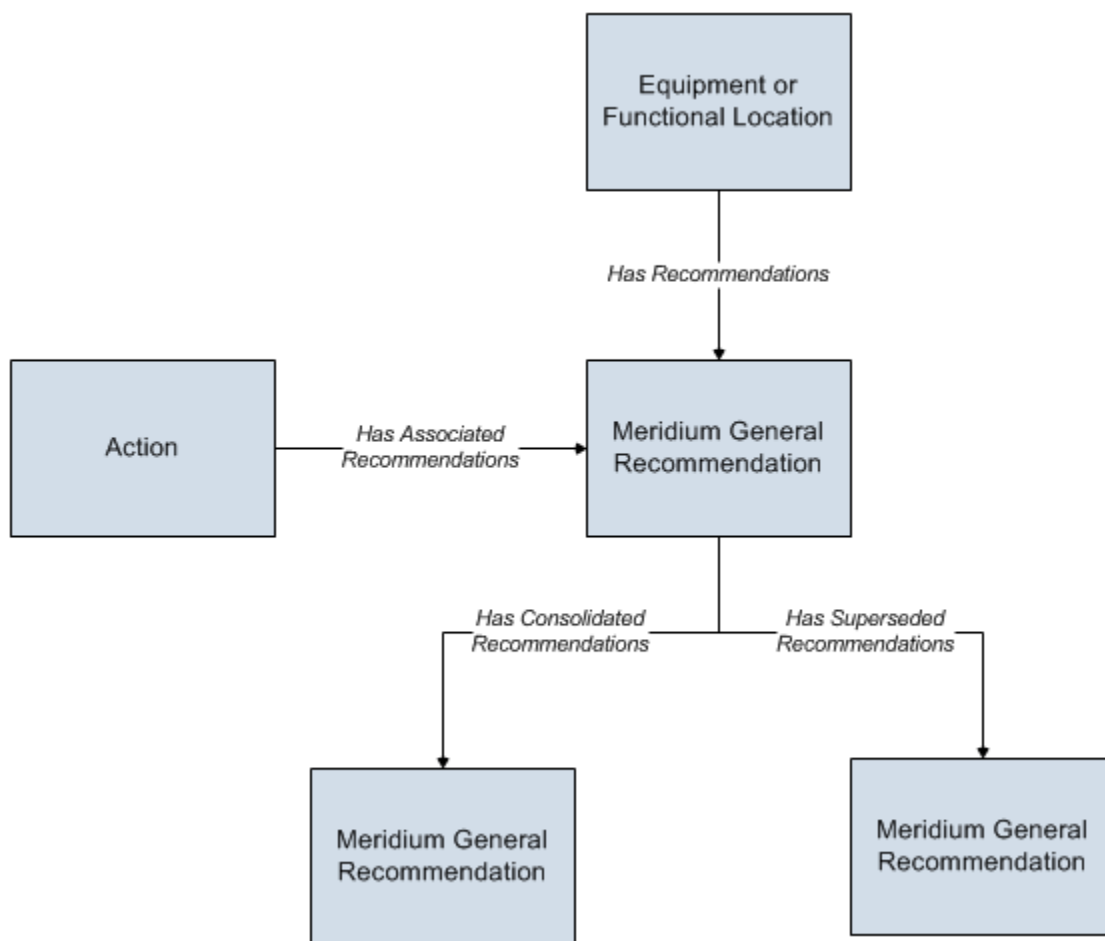
The *Meridium APM Framework Tools* license is required to take advantage of Recommendation Management functionality. In addition, your system must contain the basic Meridium APM system architecture.

After you have installed and configured the basic system architecture, you will need to perform some configuration tasks specifically for the Recommendation Management feature.

Data Structure

Recommendation Management Data Model

The following diagram illustrates the families that are provided to support Recommendation Management. The shaded boxes represent entity families, and the arrows represent relationship families. You can determine the direction of each relationship definition from the direction of the arrow head: the box from which the arrow originates is the *predecessor* in that relationship definition, and the box to which the arrow head points is the *successor* in that relationship definition.



Note that in this image, only the *Meridium General Recommendation* family is shown. Other Recommendation families (e.g., Inspection Recommendation) also participate in relationship definitions for these relationships, but those

families are described in more detail in the documentation for the modules that use those families.

State Configurations

How State Configurations Are Used in Recommendation Management

Recommendation Management employs standard State Configuration functionality to facilitate basic Recommendation Management operations and record state transitions. In Recommendation Management, the **Recommendation Tasks** menu displays a list of operations that are available for the record that is currently selected. The list of available operations will vary, depending upon the current state of the selected record and the states to which the record can transition from its current state, according to the State Configuration that exists for the entity family.

For example, in the baseline Meridium APM database, a Meridium General Recommendation record is assigned an initial state of *Created* when it is first added to the database. From the *Created* state, a Meridium APM General Recommendation record can be moved to the *Reviewed* state via the *Review* operation. Therefore, when you select a Meridium General Recommendation record that is in the *Created* state, the **Recommendation Tasks** menu will display one link: **Review**. When you click the **Review** link, the record will transition from the *Created* state to the *Reviewed* state.

Note: If you are not allowed to perform an operation on a Recommendation record due to the limitations that are imposed by the State Configuration, when you select the row containing that Recommendation record, the link corresponding to that operation will be disabled.

With the exception of reserved states, the links that appear on the **Recommendation Tasks** menu are the same as the options that would appear on **Operations** menu in the datasheet in Record Manager, provided that the State Configuration has been set up to show operations on datasheets. The **Recommendation Tasks** menu simply provides a custom view of the standard State Configuration functionality, which is also available in the Record Manager.

The **Recommendation Tasks** menu will display *any* operation that is valid for current state of the selected record, including any baseline operations and any custom operations. Note also that the **Recommendation Tasks** menu displays

reserved operations that are not available in the Record Manager. Throughout this documentation, we provide details on performing *baseline* operations for Recommendation families using their *baseline* State Configurations. If you have customized the State Configurations for the Recommendation families, additional options may be available to you.

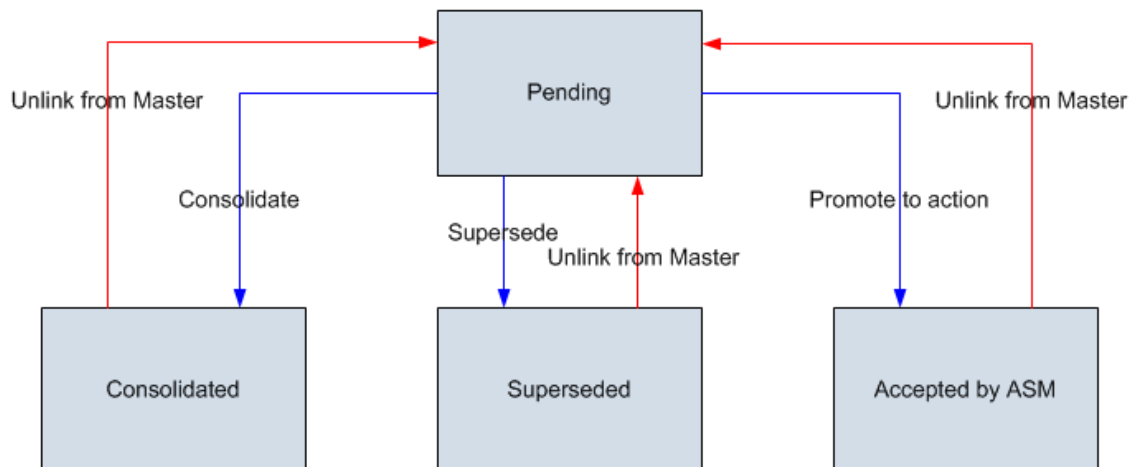
For details on the baseline State Configuration for each baseline Recommendation family, see the following topics:

- Recommendation States and Operations
- Inspection Recommendation States and Operations
- Meridium APM General Recommendation States and Operations
- Operator Rounds Recommendation States and Operations
- RBI Recommendation States and Operations
- RCA Recommendation States and Operations
- RCM FMEA Recommendation States and Operations
- Reliability Recommendation States and Operations

Recommendation States and Operations

The following diagram shows the states and operations that exist in the baseline State Configuration for the Recommendation family. You can use this diagram to determine which operations will appear on the **Recommendation Tasks** menu when you select a Recommendation record in the grid on the **Recommendation Management** page. The **Recommendation Tasks** menu will display any operation *to which* the current record can be transitioned from its current state.

Note that a blue arrow represents an operation that creates a link between records. A red arrow represents an operation that unlinks records.

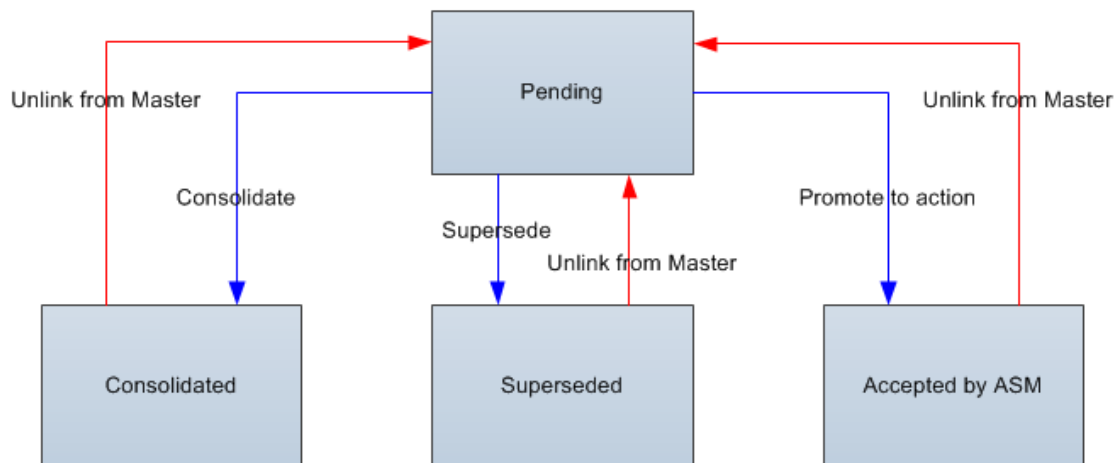


Note: The Promote to Action operation and Accepted by ASM states are included in the baseline State Configuration for the Recommendation family. The associated functionality will not be fully functional, however, unless the Asset Strategy Management module is active.

Calibration Recommendation States and Operations

The following diagram shows the states and operations that exist in the baseline State Configuration for the Calibration Recommendation family. You can use this diagram to determine which operations will appear on the Recommendation Tasks menu when you select a Calibration Recommendation record in the grid on the Recommendation Management page. The Recommendation Tasks menu will display any operation *to which* the current record can be transitioned from its current state.

Note that a blue arrow represents an operation that creates a link between records. A red arrow represents an operation that unlinks records.

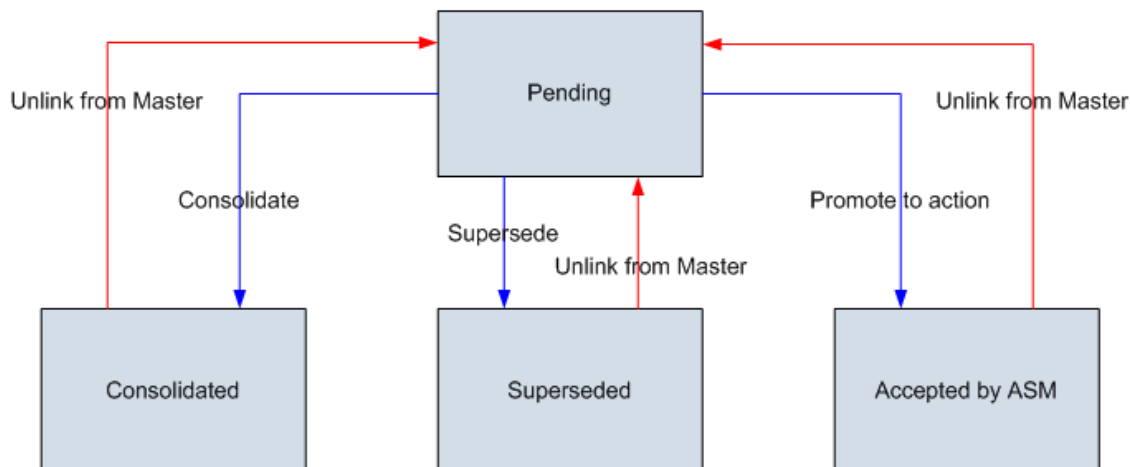


Note: The Promote to Action operation and Accepted by ASM states are included in the baseline State Configuration for the Calibration Recommendation family. The associated functionality will not be fully functional, however, unless the Asset Strategy Management module is active.

Inspection Recommendation States and Operations

The following diagram shows the states and operations that exist in the baseline State Configuration for the Inspection Recommendation family. You can use this diagram to determine which operations will appear on the Recommendation Tasks menu when you select an Inspection Recommendation record in the grid on the Recommendation Management page. The Recommendation Tasks menu will display any operation *to which* the current record can be transitioned from its current state.

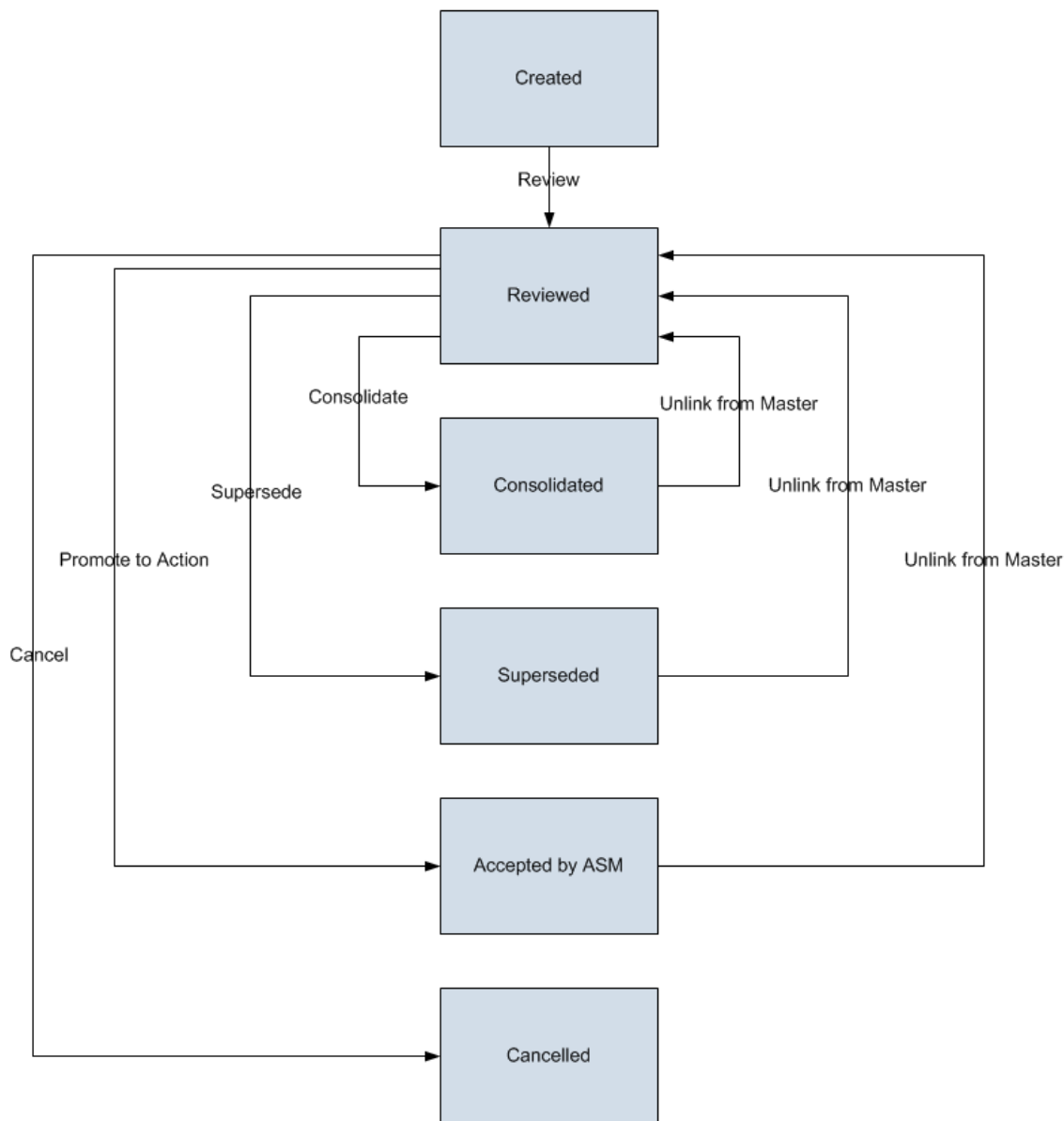
Note that a blue arrow represents an operation that creates a link between records. A red arrow represents an operation that unlinks records.



Note: The Promote to Action operation and Accepted by ASM states are included in the baseline State Configuration for the Inspection Recommendation family. The associated functionality will not be fully functional, however, unless the Asset Strategy Management module is active.

Meridium General Recommendation States and Operations

The following diagram shows the states and operations that exist in the baseline State Configuration for the Meridium General Recommendation family. You can use this diagram to determine which operations will appear on the **Recommendation Tasks** menu when you select a Meridium General Recommendation record in the grid on the **Recommendation Management** page. The **Recommendation Tasks** menu will display any operation *to which* the current record can be transitioned from its current state.



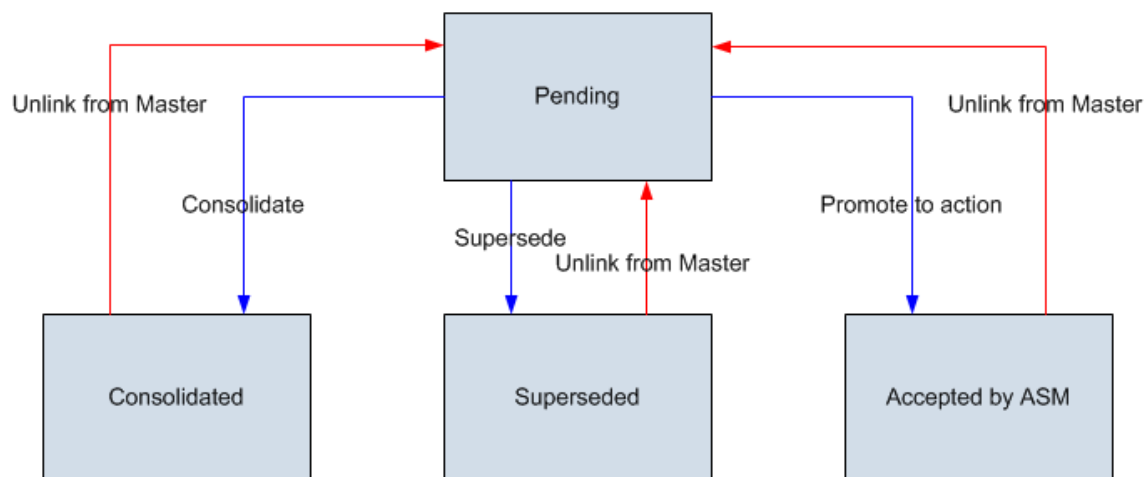
Note: The Promote to Action operation and Accepted by ASM states are included in the baseline State Configuration for the Meridium General Recommendation family. The associated functionality will not be fully functional, however, unless the Asset Strategy Management module is active.

Operator Rounds Recommendation States and Operations

The following diagram shows the states and operations that exist in the baseline State Configuration for the Operator Rounds Recommendation family. You can use this diagram to determine which operations will appear on the Recommendation Tasks menu when you select an Operator Rounds

Recommendation record in the grid on the **Recommendation Management** page. The **Recommendation Tasks** menu will display any operation *to which* the current record can be transitioned from its current state.

Note that a blue arrow represents an operation that creates a link between records. A red arrow represents an operation that unlinks records.



Note: The **Promote to Action** operation and **Accepted by ASM** states are included in the baseline State Configuration for the Operator Rounds Recommendation family. The associated functionality will not be fully functional, however, unless the Asset Strategy Management module is active.

RBI Recommendation States and Operations

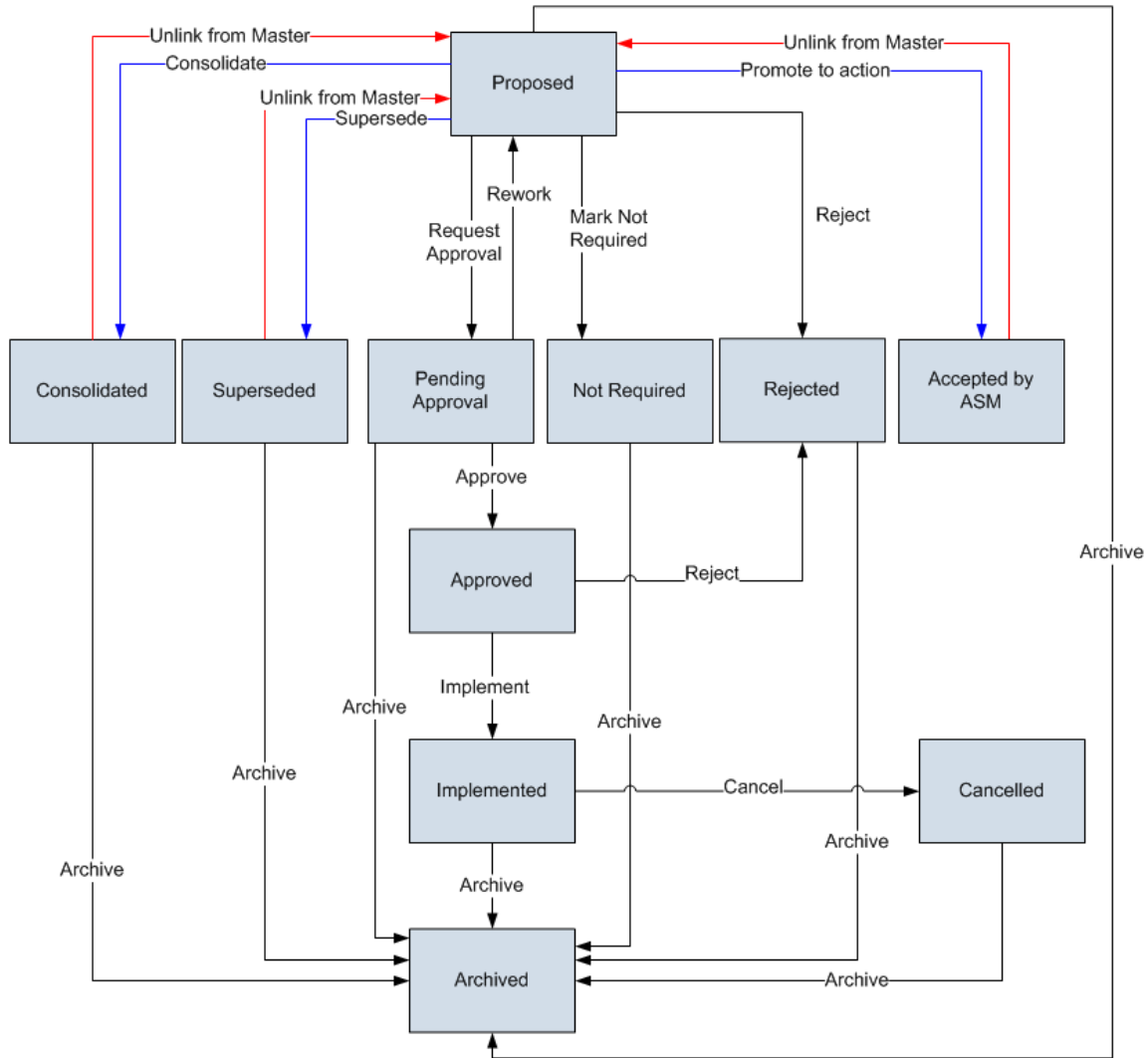
When ASM Integration is not Enabled

The following diagram shows the states and operations that exist in the baseline State Configuration for the RBI Recommendation family. You can use this diagram to determine which operations will appear on the **Recommendation Tasks** menu when you select an RBI Recommendation record in the grid on the **Recommendation Management** page and ASM integration is not enabled in RBI (i.e., the **ASM Integration Enabled** check box is cleared on the **Administrative Tasks** page).

The **Recommendation Tasks** menu will display any operation *to which* the current record can be transitioned from its current state.

Note that:

- Blue arrows represent operations that create a link between records.
- Red arrows represent operations that unlink records.



Note the following:

- When ASM integration is not enabled in RBI (i.e., the **ASM Integration Enabled** check box is cleared on the **Administrative Tasks** page), the Archive operation can be performed manually or automatically. It is performed *automatically* when you set an RBI Analysis to the Archived state. If that RBI Analysis includes RBI Recommendation records that are currently in any of the following states, those records will be set to the Archived state automatically:

- Cancelled
 - Consolidated
 - Implemented
 - Not Required
 - Proposed
 - Rejected
 - Superseded
 - Pending Approval
- The Promote to Action operation *cannot* be performed manually. Instead, this operation is performed automatically when you use the RBI workflow to promote the associated Equipment or Functional Location record to ASM.

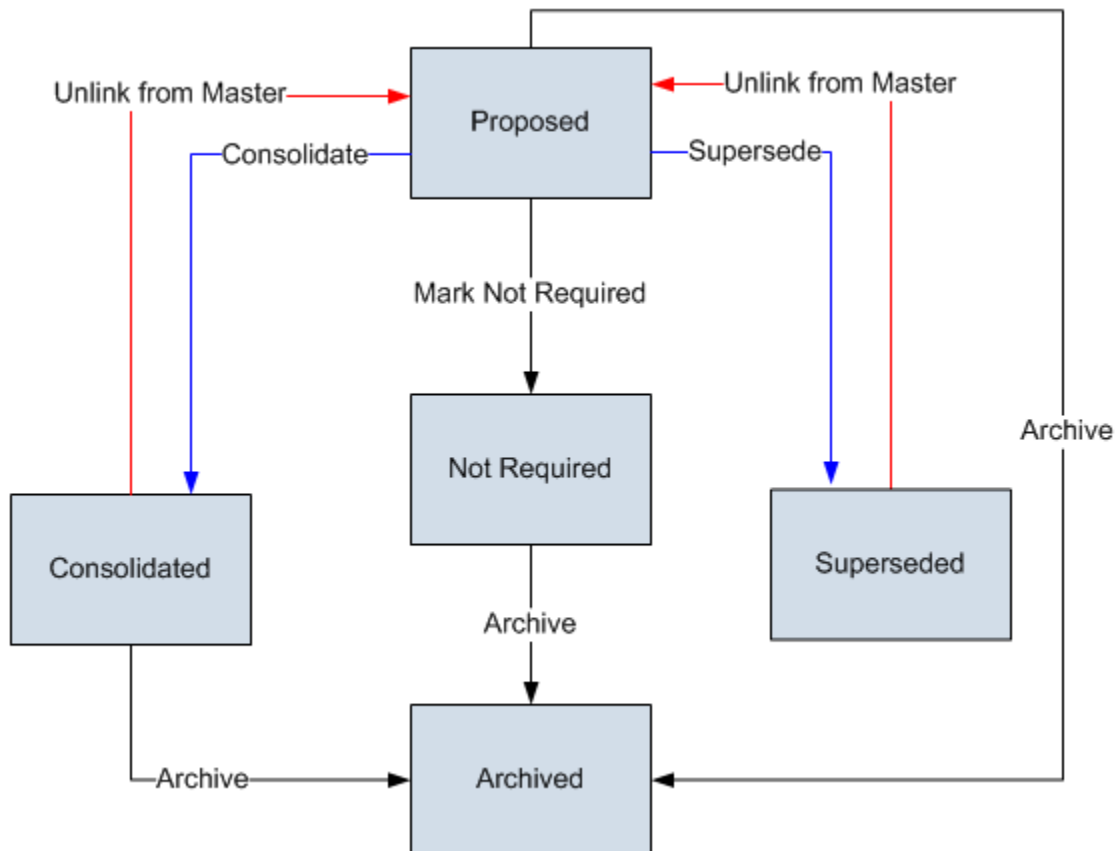
When ASM Integration IS Enabled

The following diagram shows the states and operations that exist in the baseline State Configuration for the RBI Recommendation family. You can use this diagram to determine which operations will appear on the **Recommendation Tasks** menu when you select an RBI Recommendation record in the grid on the **Recommendation Management** page and ASM integration IS enabled in RBI (i.e., the **ASM Integration Enabled** check box is *selected* on the **Administrative Tasks** page).

The **Recommendation Tasks** menu will display any operation *to which* the current record can be transitioned from its current state.

Note that:

- Blue arrows represent operations that create a link between records.
- Red arrows represent operations that unlink records.



Note that the Archive operation occurs automatically when you set an RBI Analysis to the Archived state. If that RBI Analysis includes RBI Recommendation records that are currently in any of the following states, those records will be set to the Archived state automatically:

- Proposed
- Consolidated
- Superseded
- Not Required

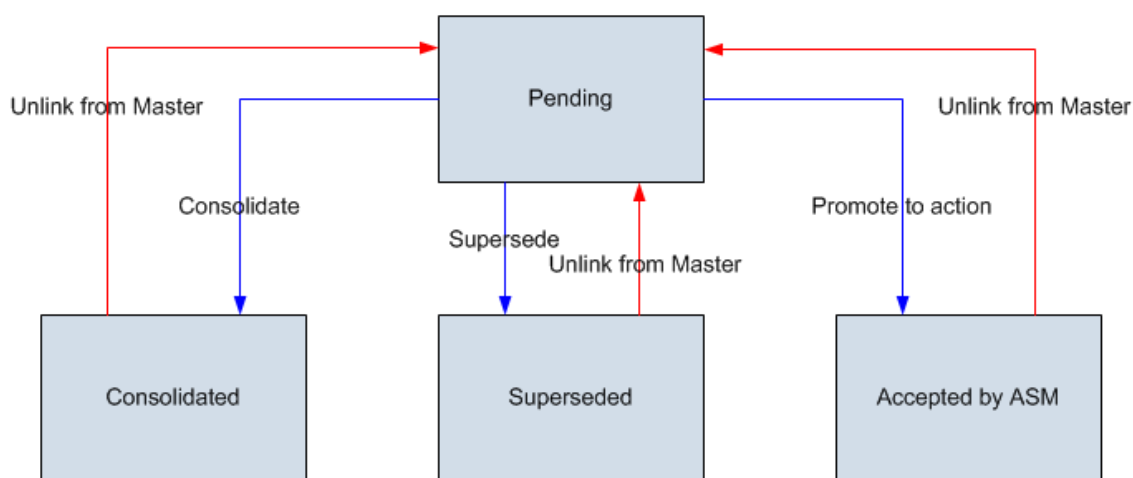
When ASM integration is enabled, you cannot archive an RBI Recommendation record manually.

Note: When you access Recommendation Management from the RBI Asset View page, the grid does not display RBI Recommendation records that are set to the Archived state.

RCA Recommendation States and Operations

The following diagram shows the states and operations that exist in the baseline State Configuration for the RCA Recommendation family. You can use this diagram to determine which operations will appear on the **Recommendation Tasks** menu when you select an RCA Recommendation record in the grid on the **Recommendation Management** page. The **Recommendation Tasks** menu will display any operation *to which* the current record can be transitioned from its current state.

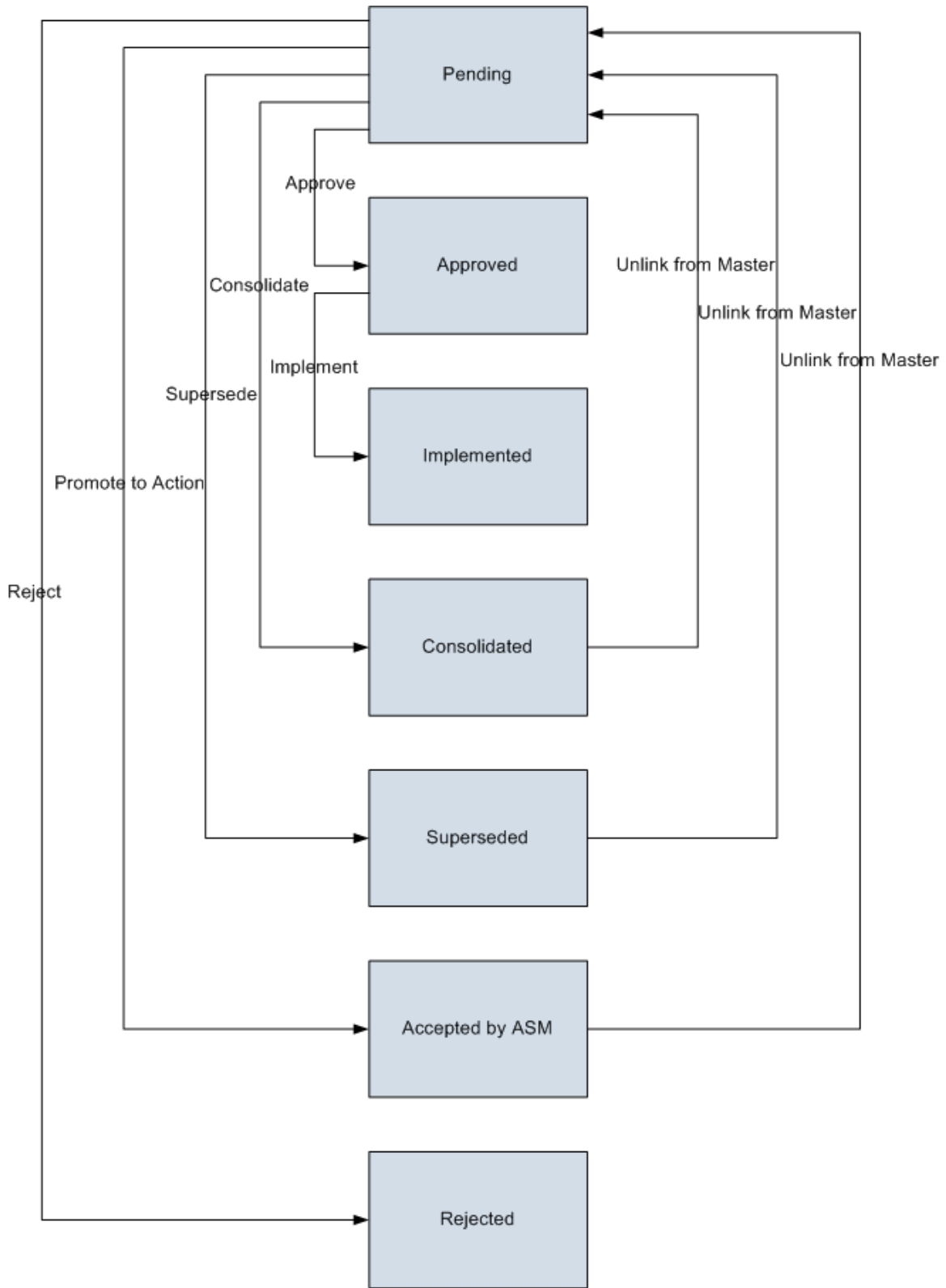
Note that a blue arrow represents an operation that creates a link between records. A red arrow represents an operation that unlinks records.



Note: The Promote to Action operation and Accepted by ASM states are included in the baseline State Configuration for the RCA Recommendation family. The associated functionality will not be fully functional, however, unless the Asset Strategy Management module is active.

RCM FMEA Recommendation States and Operations

The following diagram shows the states and operations that exist in the baseline State Configuration for the RCM FMEA Recommendation family. You can use this diagram to determine which operations will appear on the **Recommendation Tasks** menu when you select an RCM FMEA Recommendation record in the grid on the **Recommendation Management** page. The **Recommendation Tasks** menu will display any operation *to which* the current record can be transitioned from its current state.

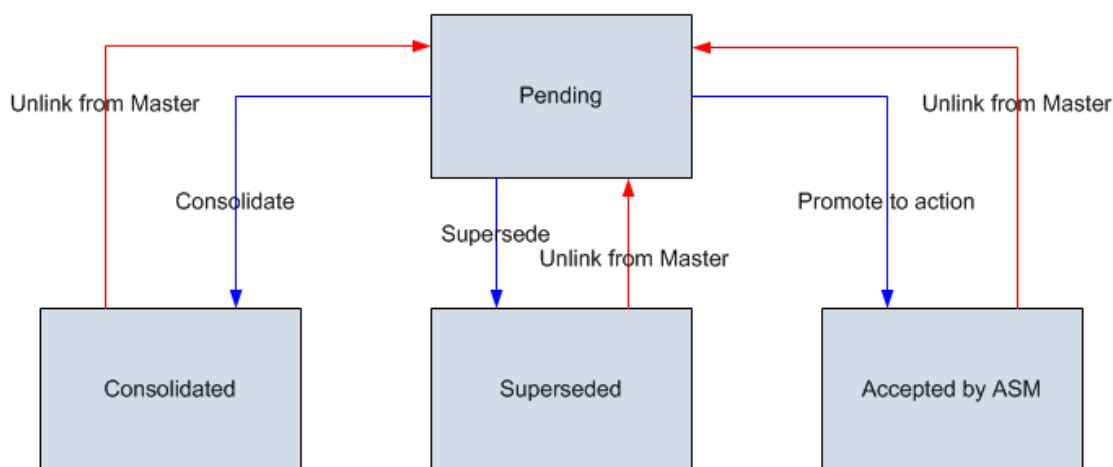


Note: The Promote to Action operation and Accepted by ASM states are included in the baseline State Configuration for the RCM FMEA Recommendation family. The associated functionality will not be fully functional, however, unless the Asset Strategy Management module is active.

Reliability Recommendation States and Operations

The following diagram shows the states and operations that exist in the baseline State Configuration for the Reliability Recommendation family. You can use this diagram to determine which operations will appear on the Recommendation Tasks menu when you select a Reliability Recommendation record in the grid on the Recommendation Management page. The Recommendation Tasks menu will display any operation *to which* the current record can be transitioned from its current state.

Note that a blue arrow represents an operation that creates a link between records. A red arrow represents an operation that unlinks records.



Note: The Promote to Action operation and Accepted by ASM states are included in the baseline State Configuration for the Reliability Recommendation family. The associated functionality will not be fully functional, however, unless the Asset Strategy Management module is active.

Accessing Recommendation Management

The following instructions explain how to access Recommendation Management from the Go To menu. You can also access Recommendation Management from

various modules, such as Risk Based Inspection and RCM. For details on accessing Recommendation Management from a specific module, see the documentation for that module.

To access Recommendation Management:

- On the Meridium APM Framework main menu, click **Go To**, point to **APM Foundation**, and then click **Recommendation Management**.

The **Recommendation Management** page appears.

Note: If records exist in a family that is not available because the corresponding module has not been activated, an error message will appear, indicating that the Family Key could not be found. To resolve the issue, you will need to activate the module.

Installation, Upgrade, and Configuration

First-Time Deployment Workflow

Deploying and configuring Recommendation Management for the first time includes completing multiple steps, which are outlined in the table in this topic. The steps in this section of the documentation provide all the information that you need to deploy Recommendation Management within the basic Meridium APM system architecture.

Whether a step is required or optional is indicated in the **Required/Optional** cell. Steps are marked as *Required* if you must perform the step to take advantage of Recommendation Management functionality.

The person responsible for completing each task may vary within your organization. We recommend, however, that these steps be performed in relatively the same order in which they are listed in the table.

Step	Task	Required/Optional	Notes
1	Review the Recommendation Management data model to determine which relationship definitions you will need to modify to include your custom equipment and location families.	Optional	This task is necessary only if you store equipment and location information in families other than the baseline Equipment and Functional Location families.

Step	Task	Required/Optional	Notes
2	Assign Security Users to the Recommendation Management Security Group via the Configuration Manager application.	Required	None
3	Modify the asset queries used by Recommendation Management.	Optional	This task is necessary only if you store equipment and location information in families other than the baseline Equipment and Functional Location families.

Upgrade Workflow

Upgrade Workflow

You can upgrade to 3.6.0.0.0 using the instructions that are provided in this section of the documentation. To access these instructions, click the starting version from which you are upgrading:

- V3.5.1
- V3.5.0 SP1 LP
- V3.5.0
- V3.4.5

Upgrading Recommendation Management from V3.5.1 to V3.6.0.0.0

Recommendation Management will be upgraded from V3.5.1 to V3.6.0.0.0 automatically when you upgrade the components in the basic Meridium APM system architecture. No additional steps are required.

Upgrading Recommendation Management from V3.5.0 SP1 LP to V3.6.0.0.0

Recommendation Management will be upgraded from V3.5.0 SP1 LP to V3.6.0.0.0 automatically when you upgrade the components in the basic Meridium APM system architecture. No additional steps are required.

Upgrading Recommendation Management from V3.5.0 to V3.6.0.0.0

Recommendation Management will be upgraded from V3.5.0 to V3.6.0.0.0 automatically when you upgrade the components in the basic Meridium APM system architecture. No additional steps are required.

Upgrading Recommendation Management from V3.4.5 to V3.6.0.0.0

Recommendation Management will be upgraded from V3.4.5 to V3.6.0.0.0 automatically when you upgrade the components in the basic Meridium APM system architecture. No additional steps are required.

Installation, Upgrade, and Configuration Steps

Recommendation Management Security Groups

One baseline Security Group is provided for Recommendation Management: MI Recommendation Management User. The following table lists the baseline privileges that are granted to this Security Group.

Family	Privileges
Entity Families	
Action	View
Equipment	View
Hazards Analysis Consequence	View
Instrumented Function	View
Protective Instrument Loop	View
RCA Analysis	View
RCA Team Member	View
RCM FMEA Analysis	View
Recommendation	View, Update, Insert, Delete
SIS Proof Test	View
SIS Proof Test Template	View
Relationship Families	
Has Asset Strategy	View, Update, Insert, Delete
Has Associated Recommendation	View, Update, Insert, Delete
Has Consolidated Recommendations	View, Update, Insert, Delete
Has Driving Recommendation	View, Update, Insert, Delete
Has Recommendations	View, Update, Insert, Delete
Has RMC FMEA Recommendation	View, Update, Insert, Delete
Has Strategy	View, Update, Insert, Delete
Has Superseded Recommendations	View, Update, Insert, Delete

Family	Privileges
Is RCM FMEA Asset	View, Update, Insert, Delete
Production Event Has RCA Analysis	View
RCA Analysis Relationships	View

Identifying Equipment and Locations

About Identifying Equipment and Locations

Recommendation records can be linked to multiple predecessor records that belong to different families. For example, an RBI Recommendation record could be linked to an Equipment record and an RBI Criticality Analysis record.

When you promote a Recommendation record that is linked to multiple predecessor records to an Action record, the Meridium APM system must find the predecessor record that identifies an *equipment or location* so that the Recommendation record can be promoted and the Asset Strategy record can be linked to the appropriate Equipment or Functional Location record.

The Equipment Asset Query and Location Asset Query

About the Equipment Asset Query and Location Asset Query

To identify the Equipment or Functional Location record that will be used to complete an operation, the Meridium APM system runs the following queries, which are stored in the Catalog folder \\Public\Meridium\Modules\Core\Queries:

- **Equipment Asset Query:** After providing a prompt for an Entity Key, the Equipment Asset Query returns the record with the provided Entity Key. In the baseline Meridium APM database, the query returns records in the Equipment family.
- **Location Asset Query:** After providing a prompt for an Entity Key, the Location Asset Query returns the record with the provided Entity Key. In the baseline Meridium APM database, the query returns records in the Functional Location family.

The Equipment Asset Query is always run first. If it returns a record, that record is assumed to be the correct predecessor record, and the Location Asset Query is not run. This means that if a Recommendation record is linked to an Equipment record *and* a Functional Location record, the Equipment record will always be assumed to be the correct predecessor record.

You will need to modify the baseline queries *only* if your Recommendation records are linked to records in a family other than the Equipment family or the Functional Location family. When you modify the queries, keep in mind that they must contain the Entity Key field from the source family whose records you want to return. A prompt must exist on the Entity Key field, but the prompt can be a simple prompt with no valid values.

Both of these queries should query at the *highest* level necessary to include all equipment or location subfamilies. This means that if *all* of your customer-defined equipment and location families are structured in a hierarchy under a single parent family, such as *Asset*, you should modify *only* the Equipment Asset Query to include this parent family. In this case, the Location Asset Query will never be run because all customer-defined equipment and location records will be returned by the Equipment Asset Query.

When These Queries are Run

The Equipment Asset Query and Location Asset Query are not meant to be run on their own. Instead, the Meridium APM system runs these queries when you promote a Recommendation record to an Action record.

When these queries are run, the Meridium APM system supplies the prompt with the Entity Keys of the predecessor records that are linked to the selected Recommendation record using the following workflow.

- The Meridium APM system first runs the Equipment Asset Query. If any of the predecessor Entity Keys identify a record that belongs to the Equipment Asset Query's source family, the Asset Strategy record will be linked to the record that is returned by the query.
- If none of the predecessor Entity Keys identify a record that belongs to the Equipment Asset Query's source family, the Meridium APM system runs the Location Asset Query. If any of the Entity Keys identify a record that belongs to this query source's family, the Asset Strategy record will be linked to the record that is returned by this query.
- If none of the predecessor Entity Keys identify a record that belongs to the Location Asset Query's source family, the Recommendation record

will be promoted to an Action record, but the Asset Strategy will not be linked to an Equipment or Functional Location record.

For example, suppose a Recommendation record is linked to the Equipment record *HX-112* and the RBI Criticality Analysis record *Analysis 101*. If you promote that Recommendation record to an Action record, the Meridium APM system will:

- Identify the Entity Key of the Equipment record HX-112 and the RBI Criticality Analysis record Analysis 101.
- Supply these Entity Keys to the prompt in the Equipment Asset Query.
- Identify the record that is returned by the query. Because the source family is the Equipment family, the Equipment record *HX-112* will be returned by the query.
- Link the new Asset Strategy record to the Equipment record HX-112.

User Instructions

Overview of the Recommendation Management Page

Aspects of the Recommendation Management Page

The Recommendation Management page is divided into the following areas:

- **Recommendation Management workspace:** The area that allows you to view a list of Recommendation records.
- **Task menus:** Menus that provide specific functionality. The following task menus are available: **Recommendation Tasks** menu, **Common Tasks** menu, and **Associated Pages** menu.

Recommendation Management Workspace

The Recommendation Management workspace on the Recommendation Management page contains a grid that displays a list of Recommendation records. The content of the grid is controlled by the query that was used to access the Recommendation Management page. The following image shows an example of the Recommendation Management workspace.

Recommendation Management				
Drag a column header here to group by that column				
Current State	Recommendation ID	Recommendation Type	Recommendation Headline	Recommendation Description
Proposed	2-1-1-2-1-1	RCM	No scheduled maintenance	No scheduled maintenance required
Proposed	2-2-1-3-1-1	RCM	Standby pump test	After Unit Stabilization, start the Standby Pump
Proposed	2-1-1-1-1-1	RCM	Thermography on motor	Thermography - See Power supply analysis
Proposed	2-2-1-2-1-1	RCM	Visual Seal Inspection	Run Pump up for 1 hour min to achieve
Proposed	2-2-1-1-1-1	RCM	Vibration Inspection	Perform Vibration Monitoring as part of monthly
Proposed	2-1-1-3-1-1	RCM	Thermography on motor	Thermography - See Power supply analysis
Pending	REC-21	RELIABILITY	Increase Holding Level	Increase Holding Level from 1 to 2
Pending	REC-41	RCA	Upgrade Cleaning Procedure	Upgrade Cleaning Procedure to incorporate
Pending	REC-42	RCA	Improve Water Treatment for Process	Improve Water Treatment for Process to
Consolidated	3-1-1-1-1	FMEA	Vibration Analysis	Perform vibration analysis on pump bearings.
Consolidated	3-1-1-1-2	FMEA	Overhaul	Perform complete overhaul of pump to inspect
Consolidated	3-1-2-1-1	FMEA	Operational Check	Check casing gaskets and connections for signs
Consolidated	3-1-2-1-2	FMEA	Overhaul	Perform complete overhaul of pump to inspect
Consolidated	3-1-3-1-1	FMEA	Operational Check	Check and record pump flow and pressure
Accepted by ASM	3-1-4-1-1	FMEA	Lube Analysis	Perform Lubrication analysis on pump bearings.
Accepted by ASM	3-1-5-1-1	FMEA	Inspect Coupling	Inspect, check alignment and lubricate (where
Accepted by ASM	3-1-5-1-2	FMEA	Replace or Rebuild Coupling	Change coupling elastomers or replace coupling
Consolidated	3-1-5-1-3	FMEA	Vibration Analysis	Perform vibration analysis on pump bearings.
Accepted by ASM	3-1-6-1-1	FMEA	Motor Test	Test motor current and inspect.
Consolidated	3-1-7-1-1	FMEA	Overhaul	Perform complete overhaul of pump to inspect
Consolidated	3-1-7-1-2	FMEA	Vibration Analysis	Perform vibration analysis on pump bearings.
Consolidated	3-1-8-1-1	FMEA	Operational Check	Check and record pump flow and pressure.

Page: 1 of 1 253 records found << First < Previous Next > Last >> Page Size: 1000

If the Recommendation Management workspace is displaying the results of the baseline Available Recommendations query, the following columns are displayed in the grid:

- Current State
- Recommendation ID
- Recommendation Type
- Recommendation Headline
- Recommendation Description
- Asset ID
- Analysis ID

As with all grids, you can customize the appearance of the grid (e.g., sort the results).

Hint: If you apply a filter to the grid using the **Recommendation Type** column, keep in mind that this column displays the value in the Recommendation Type field. It does not represent the Recommendation family. For example, the *Meridium APM General Recommendation* family contains Recommendation records where the Recommendation Type is *General*. Other Recommendation records might also have the same Recommendation Type value. In other words, you cannot necessarily use the Recommendation Type value to return a list of Recommendation records that belong to a certain family.

Queries Used by Recommendation Management

The Recommendation Management tool lets you manage Recommendation records. The main interface of the Recommendation Management tool is the **Recommendation Management** page, which contains a grid that displays a list of Recommendation records. The content of the grid is controlled by the query that was used to access the **Recommendation Management** page.

When you access the **Recommendation Management** page from the **Go To** menu, the results of the Available Recommendations query are displayed in the grid in the **Recommendation Management** workspace. The Available Recommendations query is stored in the Catalog folder //Public/Meridium APM/Modules/Recommendation Manager/Queries. By default, the Available Recommendations query returns a list of records belonging to the Recommendation family or any of its subfamilies. If desired, you can customize the Available Recommendations query to modify the results that are displayed. You should not, however, delete this query or change its name. Doing so will cause the Recommendation Management tool to be inaccessible from the **Go To** menu.

Note: As with all baseline queries, a copy of the Available Recommendations query is also stored in the Catalog folder //Baseline/Meridium APM/Modules/Recommendation Manager/Queries. When you access Recommendation Management from the **Go To** menu, however, the Meridium APM system runs the query from the *Public* folder.

Other queries are used to return results when the Recommendation Management page is accessed from other places in the Meridium APM Framework application. For example, when you access Recommendation Management from an RCM Analysis, the Meridium APM system runs the *Recommendation Review* query that has been configured for RCM. For details on the queries that are used when Recommendation Management is accessed from other locations in the Meridium APM Framework application, see the documentation for that module.

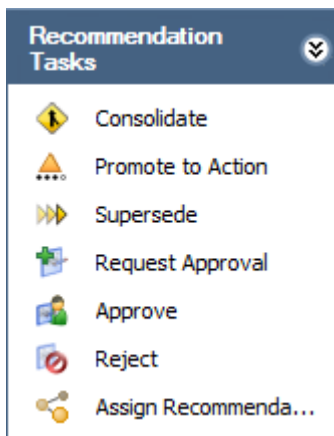
Note also that you can customize the content of the **Recommendation Management** workspace by creating a custom query and then building a URL to access the **Recommendation Management** page using that query.

If you access the **Recommendation Management** page using a query that contains a prompt, the prompt will appear at the top of the page instead of in a separate dialog box.

Note: In the Catalog folder //Public/Meridium APM/Modules/Recommendation Manager/Queries, you will also see the Supersede query. This query is not used, however, by the Recommendation Management feature.

Task Menus

Recommendation Tasks Menu



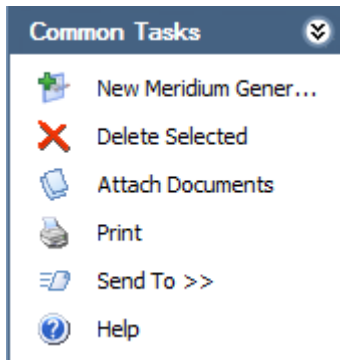
The **Recommendation Tasks** menu on the **Recommendation Management** page displays links that allow you to perform operations against a Recommendation record or set of Recommendation records. The links that are available depend upon the State Configuration that is defined for the Recommendation family and the current state of the selected Recommendation record(s).

For example, in the baseline State Configuration that is defined for the Recommendation family, the state of a Recommendation record can be changed from Pending to Rejected via the *Reject* operation. So, if you select a Pending Recommendation record in the grid on the **Recommendation Management** page, the **Recommendation Tasks** menu will contain the **Reject** link.

Note: If you are not allowed to perform an operation on a Recommendation record due to the limitations that are imposed by the State Configuration, when you select the row containing that Recommendation record, the link corresponding to that operation will be disabled.

In addition to containing links representing operations, the **Recommendation Tasks** menu always contains the **Assign Recommendations** link, which you can click to access the **State Assignments** window, where you can manage the Security Users that are assigned to states for all of the selected Recommendation records. Note that this link is enabled only when you select multiple Recommendation records that belong to the same family in the grid in the Recommendation Management workspace.

Common Tasks Menu



The **Common Tasks** menu on the **Recommendation Management** page contains the following links:

- **New Meridium Recommendation:** Displays a blank Meridium General Recommendation datasheet, where you can create a new Meridium APM General Recommendation record.
- **Delete Selected:** After asking for confirmation, deletes the selected Recommendation records.
- **Attach Documents:** Displays the **Reference Documents** window, where you can manage the Reference Document records that are linked to the selected Recommendation record. This link is enabled only when a single Recommendation record is selected in the grid.

Note: If you click this link after selecting a row containing a record that belongs to a family that is not related to the Reference Document family through the Has Reference Documents relationship, a message appears, indicating that the relationship definition is missing.

- **Print:** Displays Preview window, from which you can print the query results that you are currently viewing.
- **Send To:** Displays a submenu with options that let you provide a link to the current page on your desktop (create shortcut), in an email message, or on a Home Page.
- **Help:** Displays the context-sensitive Help topic for the Recommendation Management page.

Associated Pages Menu

The **Associated Pages** menu on the **Recommendation Management** page displays the links that have been defined for the family of the record that is currently selected in the grid. Note that if you select records that belong to different families, the menu displays the links that are defined for the family of the *last* record that you selected.

Creating a Meridium General Recommendation Record

Only *Meridium General Recommendation* records can be created via Recommendation Management. Other types of Recommendation records can be created via the Record Manager or from the appropriate module. The following instructions provide details on creating a new Meridium APM General Recommendation record in Recommendation Management.

To create a new Meridium General Recommendation record:

1. In the Meridium APM Framework, access the **Recommendation Management** page.
2. On the **Common Tasks** menu, click the **New Recommendation** link.

A new Meridium APM General Recommendation datasheet appears.

	Value(s)
Recommendation ID	REC-1424
Recommendation Headline	
Recommendation Description	...
Recommendation Basis	
Asset ID	...
Technical Number	
Function ID	
Required Equipment Status	
Business Impact	
Target Completion Date	
Mandatory Date	
Recommendation Priority	
Author Name	Duncan, Amy aduncan
Create Work Request?	<input type="checkbox"/>
Work Request Reference	
Work Request Equipment	
Work Request Functional Lo...	
Implemented Date	

- If you want to link the Meridium General Recommendation record to an Equipment or Functional Location record, to the right of the **Asset ID** cell, click the button. Otherwise, skip to step 7.

The **Find Items** window appears.

- Perform a search to locate the desired Equipment or Functional Location record. You can perform a Simple Search or an Advanced Search.
- In the list of search results, select the row containing the desired Equipment or Functional Location record, and click the **Open** button.

The **Find Items** window closes, and your cursor appears in the **Asset ID** cell on the Meridium General Recommendation datasheet.

- Navigate to a different field.

The **Asset ID** cell is populated with the Record ID from the Equipment or Functional Location record you selected on the **Find Items** window.

7. Provide values in each of the fields that appear on the datasheet. Be sure to complete any required fields. Note that in the baseline Meridium APM implementation, the Target Completion Date is required.
8. Click **OK**.

The Meridium General Recommendation record is created and saved to the database.

Opening a Recommendation Record in the Record Manager

The baseline Available Recommendations query contains the Recommendation ID field, which is configured to appear in the Recommendation Management grid as a hyperlink that provides access to the Record Manager.

Note: If you make changes to the Recommendation record in the Record Manager, you should return to the **Recommendation Management** page using your original point of access (e.g., the **Go To** menu). Clicking the **Back** button will not cause the **Recommendation Management** page to be refreshed, and your changes will not be displayed or taken into account when you perform certain operations.

To open any Recommendation record in Record Manager while viewing the results of the Available Recommendations query:

- In the Meridium APM Framework, in the Recommendation Management grid, click the hyperlinked Recommendation ID of the record that you want to open.

The Record Manager appears, displaying the details of the selected record.

Linking a Recommendation Record to a Reference Document Record

To link a Recommendation record to a Reference Document record:

1. In the Meridium APM Framework, in the Recommendation Management grid, select the row containing the Recommendation record that you want to link to a Reference Document record.
2. On the **Common Tasks** menu, click the **Attach Documents** link.

The **Reference Documents** window appears, where you can manage the Reference Document records that are linked to the selected Recommendation record.

3. Use the **Reference Documents** window to link the Recommendation record to the desired Reference Document record.

Managing State Assignments for Multiple Recommendation Records

If desired, instead of assigning Security Users to states for *individual* Recommendation records one at a time via the Record Manager, in Recommendation Management, you can select multiple Recommendation records belonging to the same Recommendation family and manage the Security Users that are assigned to states for *all* of those records. The selections that you make will be applied to all of the selected Recommendation records.

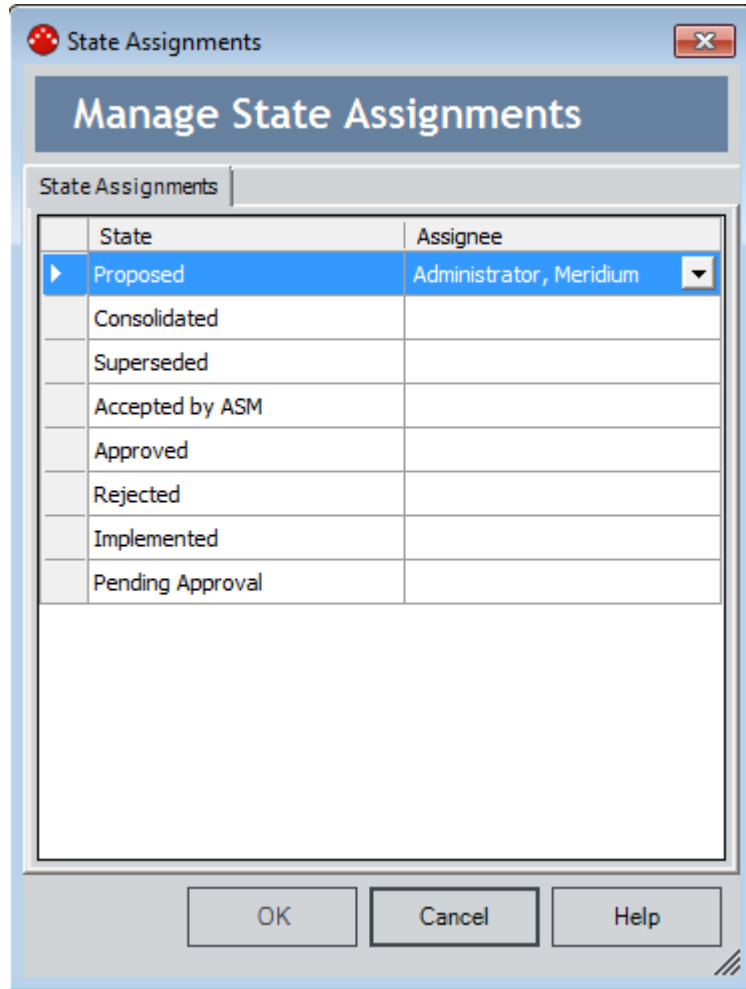
For example, if your database contains ten Inspection Recommendation records, you might want to assign John Smith to the Consolidated state for all ten of those records. Instead of using the Record Manager to open each record one at a time and assign John Smith to the Consolidated state for each one, using Recommendation Management, you can select all ten Inspection Recommendation records and then use the **State Assignments** window to assign John Smith to the Consolidated state for all of those records.

To manage state assignments for multiple Recommendation records at one time:

1. In the Meridium APM Framework, in the Recommendation Management grid, select the rows containing the records for which you want to assign Security Users to states. For example, if you wanted to assign John Smith to the Consolidated state for ten Inspection Recommendation records, you would need to select the rows containing those ten Inspection Recommendation records.
2. On the Recommendation Tasks menu, click the **Assign Recommendations** link.

Note: This link is enabled only if you selected multiple Recommendation records that belong to the same family and if the State Configuration for that family is configured to show the states on the datasheet.

The State Assignments window appears.



- In the grid, in the row representing the state to which you want to assign a Security User, in the **Assignee** cell, select the Security User that you want to assign to that state. Using the previous example, if you wanted to assign John Smith to the Consolidated state, in the row containing the Consolidated state, in the **Assignee** list, you would select *John Smith*.

Note: Your selection on this window will *override* any state assignments that already exist for the selected Recommendation records. For example, if Bob Jones is already assigned to the Consolidated state for a Recommendation record but you assign John Smith to the Consolidated state for that Recommendation record using this window, Bob Jones will be removed as the assignee, and John Smith will be assigned to the Consolidated state instead.

- Repeat step three for all states to which you want to assign a Security User for the selected Recommendation records.

5. When you are finished assigning Security Users to states for the selected Recommendation records, click **OK**.

The selected Security Users are assigned to the designated states, and the Recommendation Management grid returns to focus.

Scheduling Recommendation Alert Emails

When you create a Recommendation record in some Recommendation families, you can also schedule an alert email message to be sent to the person responsible for ensuring that the recommendation is implemented. Before a recommendation alert email can be sent, the value in the Status field should be *Approved* or *In Progress*. If you complete the necessary fields on the **Alert** tab and the value in the Status field of the RCA Recommendation record is *Approved* or *In Progress*, the following items are created:

- An Alert record.
- A scheduled item in the Schedule Manager.
- An email message, which is sent to the specified recipient(s) according to the schedule defined on the **Alert** tab. The user whose name appears in the Assigned To field (usually on the **General Information** tab of the datasheet) will receive the email message.

For example, on January 5, 2009, you specify to send an email message to Jane Doe one day before the Target Completion Date, which is January 29, 2009. The Alert record and scheduled item would be created on January 5, 2009, but the email message would not be sent until January 28, 2009.

To schedule an alert email message to be sent to the person responsible for implementing a recommendation:

1. In the Meridium APM Framework, access the Recommendation record for which you want to schedule an alert email message.
2. Click the **Alert** tab.

The **Alert** tab appears. The following image shows the **Alert** tab on the RCA Recommendation datasheet.

	Value(s)
<input checked="" type="checkbox"/> Alert Responsible Party When Due?	
Days Before Due Date to be Alerted	
Frequency of Alert After Due Date	
Implementation Alert Text	...
Reevaluate?	<input type="checkbox"/>
Reevaluation Date	
Reevaluation Alert List	
Reevaluation Alert Body Text	...

3. Select the check box in the **Alert Responsible Party When Due** field, and click in another field on the datasheet.

The following fields become enabled and are required:

- **Days Before Due Date to be Alerted**
 - **Frequency of Alert After Due Date**
4. In the **Days Before Due Date to be Alerted** text box, specify the *number* of days before the value that appears in the Target Completion Date field (usually on the **General Information** tab) that you want the alert email message to be sent.
 5. In the **Frequency of Alert After Due Date** list, select one of the following values:
 - **Never:** Indicates that additional emails will not be sent after the due date has passed.
 - **Daily:** Indicates that an email will be sent every day after the due date has passed.
 - **Monthly:** Indicates that an email message will be sent once a month after the due date has passed.
 - **Yearly:** Indicates that an email message will be sent once a year after the due date has passed.

6. If you want to send an email message suggesting a reevaluation of the recommendation, select the **Reevaluate** check box, and then click in another field on the datasheet.

The following fields become enabled and are required:

- **Reevaluation Date**
 - **Reevaluation Alert List**
 - **Reevaluation Alert Body Text**
7. In the **Reevaluation Date** list, select a date from the Calendar.
 8. In the **Reevaluation Alert List** list, select the name(s) of the user(s) who should receive the reevaluate email message.
 9. In the **Reevaluation Alert Body Text** text box, type the body of the reevaluation email as desired.
 10. On the **Common Tasks** menu, click the **Save Recommendation** link.

The Recommendation record is saved to the database.

Managing Recommendation States

About Managing Recommendation States

Each Recommendation family has its own State Configuration, which defines the applicable states for records in those families and the operations that allow you to transition the states of the records. The **Recommendation Tasks** menu in Recommendation Management allows you to perform operations on the selected Recommendation records based on the State Configuration that is defined for the family of the selected records.

While each Recommendation family has its own unique State Configuration, the following operations are common among most Recommendation families:

- **Consolidate**

- Supersede
- Unlink from Master
- Promote to Action

In addition to these operations, the following operations are also available for certain Recommendation families, as indicated in the following table.

Operation	Family
Review	Meridium General Recommendation
Request Approval	RBI Recommendation ¹
Approve	RCM FMEA Recommendation RBI Recommendation ¹
Implement	RCM FMEA Recommendation RBI Recommendation ¹
Mark Not Required	RBI Recommendation ¹
Rework	RBI Recommendation ¹
Reject	RCM FMEA Recommendation RBI Recommendation ¹
Cancel	Meridium General Recommendation RCM FMEA Recommendation RBI Recommendation ¹
Archive	RBI Recommendation ¹

Note that *except* for the Review operation, all other operations are available only if ASM integration is not enabled for RBI (i.e., the **ASM Integration Enabled** check box is cleared on the **Administrative Tasks** page).

Reviewing Recommendations

After a Meridium General Recommendation record has been created, it must be reviewed before any other operation can be performed against it. When you review a Meridium General Recommendation record, the record state is changed from *Created* to *Reviewed*.

To review a Meridium General Recommendation record:

1. In the Meridium APM Framework, access the **Recommendation Management** page.
2. In the list of Recommendation records, select the Meridium General Recommendation records that you want to review.

Hint: To perform the Review operation however, all the records that you select must be in the *Created* state.

3. On the Recommendation Tasks menu, click the Review link.

The state of the selected Recommendation record is set to *Reviewed*, and the Recommendation Management grid is refreshed.

Consolidating Recommendations

Performing the Consolidation Operation

If two or more Recommendation records contain similar information, you can consolidate them into a single Recommendation record. When you first perform the Consolidate operation, a new master Recommendation record will be created to store the consolidated information. The source Recommendation records will be transitioned to the *Consolidated* state and linked to the new master Recommendation record. After the master Recommendation exists, additional Recommendations can be consolidated into it. Any new source Recommendations will be transitioned into the Consolidated state.

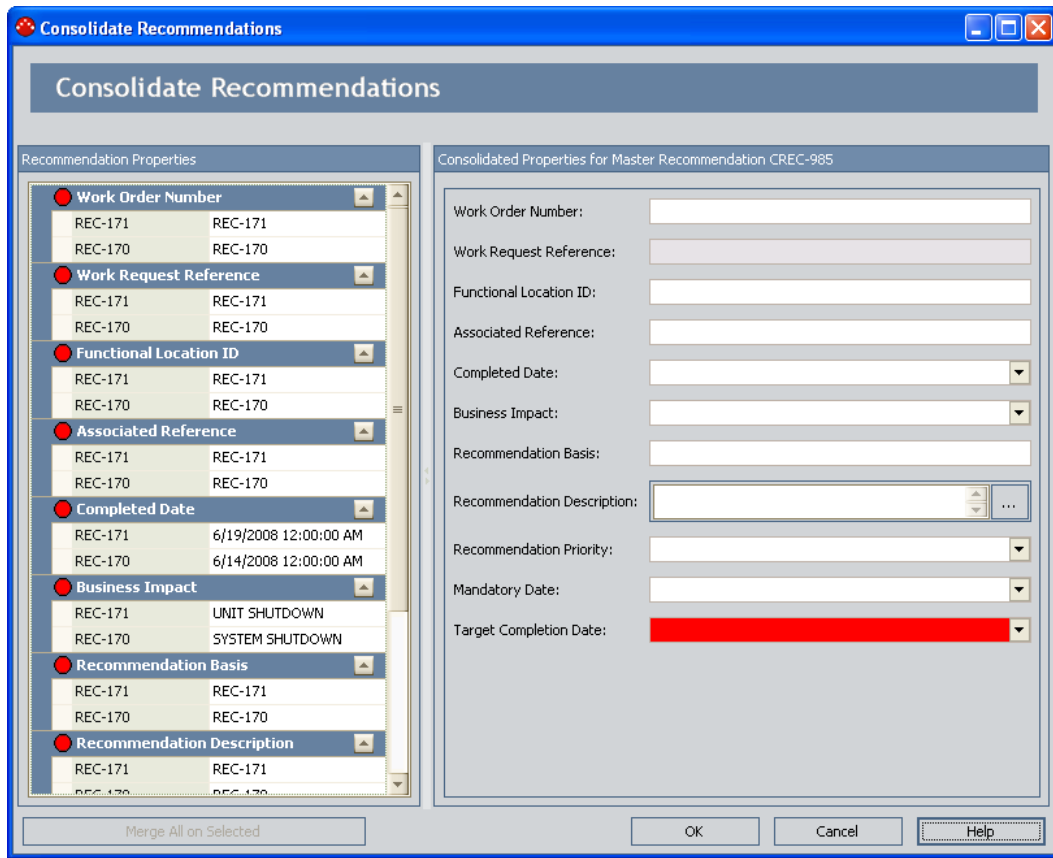
Note: After an RBI Recommendation record is consolidated, it cannot be modified.

To consolidate multiple Recommendation records into a single master Recommendation record:

1. In the Meridium APM Framework, access the **Recommendation Management** page.
2. In the Recommendation Management grid, select the Recommendation records that you want to consolidate. Note that:

- In the baseline Recommendation Management implementation, Recommendation records in the Reviewed or Pending state can be consolidated.
 - To be consolidated, the selected Recommendation records must be of the same Recommendation Type.
 - To consolidate RCM FMEA Recommendations, they must belong to the same RCM or FMEA Analysis.
3. On the Recommendation Tasks menu, click the Consolidate link.

The Consolidate Recommendations window appears.



4. For the first field in the list on the left, select the row containing the value that you want to use for the master Recommendation record.

When you select a row, a right-pointing arrow will appear to the right of that row.

5. Click the arrow to apply that value to the master Recommendation.

The value you selected appears in the corresponding field on the right side of the window. The list of values on the left collapses, and a green circle appears to the left of the field name to indicate that the field has been reconciled. If needed, you can click the down arrow to the right of field name to expand the list and choose a different value.

Hint: Alternatively, you can copy values from the fields on the left and paste them into the fields on the right. Note that this option is available only for fields that are enabled on the right.

6. Repeat steps 4 and 5 for each field in the list on the left.

Note: Instead of selecting each field individually, you can select any Recommendation ID under any field header and click the **Merge All on Selected** to consolidate the Recommendations using the values from a single Recommendation. When you use this option, the values from all fields that are displayed will be copied from the selected source Recommendation into the master Recommendation.

7. When you are finished choosing values for the new Recommendation record, click **OK**.

The **Consolidate Recommendations** window closes, and the master Recommendation record is created or updated, as appropriate.

- If a new master Recommendation record is created, it is assigned the *Created* or *Pending* state, depending upon the type of Recommendations that you consolidated and the State Configuration associated with the Recommendation family. You can click the plus sign to the left of the master Recommendation to view the details of the associated Consolidated Recommendations.
- The source Recommendations are transitioned to the *Consolidated* state. When a Recommendation record is in the Consolidated state, you can click the plus sign to the left of that row to view information about the master Recommendation record.
- If the source Recommendation records are RCM FMEA Recommendation records, all fields on the RCM FMEA

Recommendation datasheet become disabled except for the Comments field, which you can use to indicate the reason for the consolidation.

Aspects of the Consolidate Recommendations Window

The **Consolidate Recommendations** window appears when you click the **Consolidate** link on the **Recommendations Tasks** menu on the **Recommendation Management** page.

The window is divided into the following sections:

- **Recommendation Properties**
- **Consolidated Properties for Master Recommendation <Recommendation ID>**, where <Recommendation ID> is the automatically generated ID of the master Recommendation record.

On the left side of the window, the **Recommendation Properties** section displays a list of fields from the selected Recommendation records that contain different values. If any of the values in a field are different between the selected Recommendation records, the values from each selected Recommendation record will be displayed. The Recommendation ID appears to the left of each value to identify the Recommendation record that contains that value.

Any fields that are not included in the list on the left either contain matching values among all the selected Recommendation records or are empty within the selected source Recommendation records. For any field that is not displayed, the master Recommendation record will be populated with the matching value or a null value from the source Recommendation records, as appropriate.

Below the **Recommendation Properties** section is a button labeled either:

- **Merge All on Selected** (if you have not yet moved any field values from the **Recommendation Properties** section to the **Consolidated Properties** section)

-or-

- **Merge Remaining on Selected** (if you have already moved a field value from the **Recommendation Properties** section to the **Consolidated Properties** section)

This button is enabled when you select a row in the **Recommendation Properties** section. If you click this button, all remaining empty fields in the master Recommendation record will inherit values from the Recommendation record that is selected in the **Recommendation Properties** section.

On the right side of the window, the **Consolidated Properties** section displays the values that will be used in the master Recommendation record that will be created after you click **OK**.

Superseding Recommendations

If two Recommendations exist where one takes precedence over the other, you can override one with another. For example, while a given Recommendation may be valid, it may become obsolete if another Recommendation is implemented. In this case, you could supersede the obsolete Recommendation with the one that you plan to implement.

Note: After an RBI Recommendation record is superseded, all fields are disabled except for Superseded by Recommendation Number.

To supersede one Recommendation with another Recommendation record:

1. In the Meridium APM Framework, access the **Recommendation Management** page.
2. In the grid, select all the Recommendation records that will be involved in the Supersede operation, including the Recommendation that will become the master and the Recommendation records that it will supersede.

Note: To perform the Supersede operation, you must select Recommendation records that belong to the same family.

3. On the **Recommendation Tasks** menu, click the **Supersede** link.

The **Supersede Recommendations** window appears, displaying all the Recommendation records that you selected in step 2.

4. In the list of Recommendations, select the one that you want to become the master Recommendation.
5. Click OK.

The **Supersede Recommendations** window closes, revealing the **Recommendation Management** page.

- The master Recommendation record is assigned the *Created* or *Pending* state, depending upon the type of Recommendations you superseded and the State Configuration associated with the Recommendation family. You can click the plus sign to the left of the master Recommendation to view the details of the associated superseded Recommendations.
- The Recommendation records that were superseded by the master Recommendation are assigned the *Superseded* state. When a Recommendation record is in the superseded state, you can click the plus sign to the left of that row to view information about the master Recommendation record.

Unlinking a Recommendation from the Master Recommendation

When you consolidate or supersede Recommendations, the original Recommendation records are transitioned to the Consolidated or Superseded state, as appropriate, and linked to a master Recommendation record. If needed, you can undo these operations by unlinking the source Recommendation records from the master Recommendation record.

Note: You cannot unlink a Recommendation record from a master Recommendation record that has been promoted to an Action.

To unlink a Recommendation record from the master Recommendation record:

1. In the Meridium APM Framework, access the **Recommendation Management** page.
2. In the Recommendation Management grid, select one or more Recommendation records in the Consolidated or Superseded state.

Note: You can select multiple Consolidated Recommendation records or multiple superseded Recommendation records, but you cannot select a combination of Consolidated and Superseded Recommendation records.

3. On the Recommendation Tasks menu, click the Unlink from Master link.

The link is broken between the master Recommendation record and the Recommendation records that you selected. Note that:

- The records that you selected in step 2 are assigned the *Created* or *Pending* state, depending upon the type of Recommendations you selected and the State Configuration associated with the Recommendation family.
- If the master Recommendation resulted from *consolidating* Recommendation records, if you unlink it from ALL of its associated consolidated Recommendation records, the master Recommendation is deleted from the database.
- If the master Recommendation resulted from *superseding* Recommendation record, if you unlink it from ALL of its associated superseded Recommendation records, the master Recommendation record is not deleted from the database, and it is set back to the state that was assigned to it before you performed the unlink operation.

Promoting a Recommendation to an Action

When the Recommendation is Linked to an Equipment or Functional Record

When you create a new Meridium General Recommendation record, you have the option of linking it to an Equipment or Functional Location record. Similarly, Recommendation records that originate in other modules may be linked to an Equipment or Functional Location record. Recommendation records that are linked to Equipment or Functional Location records can be promoted to Action records that are, in turn, associated with Asset Strategies. When you perform the Promote to Action operation on a Recommendation record that is linked to an Equipment or Functional Location record, note that:

- If an Asset Strategy already exists for the Equipment or Functional Location record, a new Action record will be created and linked to the existing Asset Strategy.
- If an Asset Strategy does not already exist for the Equipment or Functional Location record, you will be prompted to create a new Asset Strategy that will serve as the root record of the new Action record.

Note that this functionality is available in Recommendation Management only if ASM is active. This functionality will work properly only if the necessary ASM relationships have been configured for the Equipment and Functional Location family.

Note: You cannot promote RBI Recommendation records to Action records. If you want to integrate RBI Recommendation records with ASM, you will need to use the RBI workflow to promote the associated Equipment or Functional Location record to ASM.

To promote a Recommendation record to an Action record when it is linked to an Equipment or Functional Location record:

1. In the Meridium APM Framework, access the **Recommendation Management** page.
2. In the Recommendation Management grid, select one or more Recommendation records that you want to promote to Action records.

Note: You can select multiple Recommendations to promote in a single operation, but they must be associated with the same Equipment or Functional Location record or no Equipment or Functional Location record.

3. On the **Recommendation Tasks** menu, click the **Promote to Action** link.
 - If an Asset Strategy does not already exist for the Equipment or Functional Location record, an error message is displayed indicating that one will be created. If this message appears, click the **Yes** button. The **ASM - Asset Strategy Actions** page appears, displaying the new Asset Strategy and Action.
 - If an Asset Strategy already exists for the Equipment or Functional Location record, the **ASM - Manage Recommendation to Action Links** page appears.

After the Promote to Action operation is complete, the Recommendation records that you selected in step 2 are assigned the *Accepted by ASM* state. When a Recommendation record is in the Accepted by ASM state, you can click the plus sign to the left of that row to view information about the associated Asset Strategy.

When the Recommendation is not Linked to an Equipment or Functional Location Record

If a Recommendation record is not linked to an Equipment or Functional Location record, you can still promote that Recommendation to an Action record, but you will first need to identify an Equipment or Functional Location and create an Asset Strategy for it.

Note: You cannot promote RBI Recommendation records to Action records. If you want to integrate RBI Recommendation records with ASM, you will need to use the RBI workflow to promote the associated Equipment or Functional Location record to ASM.

To promote a Recommendation record to an Action record when it is not linked to an Equipment or Functional Location record:


1. In the Meridium APM Framework, access the **Recommendation Management** page.
2. In the Recommendation Management grid, select one or more Recommendation records that you want to promote to Action records.

Note: If you select multiple Recommendations, you will need to link them to the same Equipment or Functional Location record.

3. On the **Recommendation Tasks** menu, click the **Promote to Action** link.

A message appears indicating that the Recommendation is not associated with an Equipment or Functional Location record.

4. If you want to create a new Asset Strategy, click the **Yes** button to display a blank Asset Strategy datasheet.
 - a. On the **Main** tab, supply at least the Strategy ID and any other optional information.

- b. On the **Asset** tab, click the  button to the right of the **Asset Name** cell, and find the desired **Equipment** or **Functional Location** record.
- c. After you have finished providing all the desired information, click **OK**.

The **ASM - Asset Strategy Actions** page appears

-or-

If you want to search for an existing **Asset Strategy**, click the **No** button to display the **Find Items** window.

- a. Perform a search to locate the desired **Asset Strategy**.
- b. In the list of results, select the desired **Asset Strategy**, and click **OK**.

The **ASM - Manage Recommendation to Action Links** page appears.

After the **Promote to Action** operation is complete, the **Recommendation** records that you selected in step 2 are assigned the *Accepted by ASM* state. When a **Recommendation** record is in the **Accepted by ASM** state, you can click the plus sign to the left of that row to view information about the associated **Asset Strategy**.
 ASM.chm::/About_Action_Records.htm

Values Mapped from Recommendation Fields to Action Fields

When you promote a **Recommendation** record to an **Action** record, several values in the **Recommendation** record are used to populate fields in the **Action** record. The following table describes these field mappings.

Recommendation Field	Action Field
Recommendation Basis	Action Basis
Recommendation Headline	Name
Recommendation Description	Description
Action Type ¹	Action Type

Recommendation Field	Action Field
Interval ¹	Interval
Interval Units ¹	Interval Units
Nonrecurring ¹	Nonrecurring
Performance Interval ¹	Performance Interval
Performance Interval Units ¹	Performance Interval Units
Estimated Cost ¹	Cost
Estimated Cost Basis ¹	Cost Basis
Recommended Resource ¹	Recommended Resource
Target Completion Date	Target Completion Date

1. This field is available in the RCM FMEA Recommendation family only. This means that if you are promoting a Recommendation record in a family *other than* the RCM FMEA Recommendation family, the corresponding field in the Action record will not contain a value. You will need to populate it manually.

Requesting Approval for a Recommendation

Using the baseline Recommendation Management implementation, an RBI Recommendation record can be requested for approval from the Proposed state if ASM integration is disabled for RBI (i.e., the **ASM Integration Enabled** check box is cleared on the **Administrative Tasks** page).

Note: After an RBI Recommendation record is set to Pending Approval, it cannot be modified.

To request approval for an RBI Recommendation:

1. In the Meridium APM Framework, access the **Recommendation Management** page.
2. In the Recommendation Management grid, select any RBI Recommendation that is in the Proposed state.
3. On the **Recommendation Tasks** menu, click the **Request Approval** link.

The selected Recommendation record is transitioned to the Pending Approval state.

Approving a Recommendation

When approving Recommendations, note that:

- Using the baseline Recommendation Management implementation, an RCM FMEA Recommendation record can be approved from the Pending state.
- An RBI Recommendation can be approved from the Pending Approval state if ASM integration is *disabled* for RBI (i.e., the **ASM Integration Enabled** check box is cleared on the **Administrative Tasks** page).
- After an RBI Recommendation record is approved, it cannot be modified.

To approve a Recommendation:

1. In the Meridium APM Framework, access the **Recommendation Management** page.
2. In the Recommendation Management grid:
 - Select any RCM FMEA Recommendation record that is in the Pending state.
 - or-
 - Select any RBI Recommendation record that is in the Pending Approval state.
3. On the **Recommendation Tasks** menu, click the **Approve** link.

The selected Recommendation record is transitioned to the Approved state. From here, the Recommendation record can be implemented.

Implementing a Recommendation

Using the baseline Recommendation Management implementation, RCM FMEA Recommendation records and RBI Recommendation records can be implemented from the Approved state. Note that:

- You can implement an RBI Recommendation only if ASM integration is disabled for RBI (i.e., the **ASM Integration Enabled** check box is cleared on the **Administrative Tasks** page).
- After an RBI Recommendation record is implemented, it cannot be modified.

To implement a Recommendation:

1. In the Meridium APM Framework, access the **Recommendation Management** page.
2. In the Recommendation Management grid, select any RCM FMEA Recommendation or RBI Recommendation record that is in the Approved state.
3. On the **Recommendation Tasks** menu, click the **Implement** link.

The selected Recommendation record is transitioned to the Implemented state.

Marking a Recommendation as Not Required

Using the baseline Recommendation Management implementation, an RBI Recommendation record can be marked as not required from the Proposed state.

Note: After an RBI Recommendation record is set to Not Required, it cannot be modified.

To mark an RBI Recommendation as Not Required:

1. In the Meridium APM Framework, access the **Recommendation Management** page.
2. In the Recommendation Management grid, select any RBI Recommendation record that is in the Proposed state.
3. On the **Recommendation Tasks** menu, click the **Mark Not Required** link.

The selected RBI Recommendation record is transitioned to the Not Required state.

Reworking a Recommendation

Using the baseline Recommendation Management implementation, an RBI Recommendation record can be reworked from the Approved state if ASM integration is disabled for RBI (i.e., the **ASM Integration Enabled** check box is cleared on the **Administrative Tasks** page).

To rework an RBI Recommendation:

1. In the Meridium APM Framework, access the **Recommendation Management** page.
2. In the Recommendation Management grid, select any RBI Recommendation record that is in the Approved state.
3. On the **Recommendation Tasks** menu, click the **Rework** link.

The selected RBI Recommendation record is transitioned to the Proposed state.

Rejecting a Recommendation

Using the baseline Recommendation Management implementation.

- An RCM FMEA Recommendation record can be rejected from the Pending state.
- An RBI Recommendation record can be rejected from the Proposed state or the Approved state if ASM integration is not enabled for RBI (i.e., the **ASM Integration Enabled** check box is cleared on the **Administrative Tasks** page).
- After an RBI Recommendation record is rejected, it cannot be modified.

To reject a Recommendation:

1. In the Meridium APM Framework, access the **Recommendation Management** page.
2. In the Recommendation Management grid:
 - Select any RCM FMEA Recommendation record that is in the Pending state.

-or-

 - Select any RBI Recommendation that is in the Proposed state or the Rejected state.
3. On the **Recommendation Tasks** menu, click the **Reject** link.

The selected Recommendation record is transitioned to the Rejected state.

Canceling a Recommendation

Using the baseline Recommendation Management implementation.

- A Meridium General Recommendation record can be cancelled from the Reviewed state.
- An RBI Recommendation record can be cancelled from the Implemented state if ASM integration is disabled for RBI (i.e., the **ASM Integration Enabled** check box is cleared on the **Administrative Tasks** page).
- After an RBI Recommendation record is cancelled, it cannot be modified.

To cancel a Recommendation:

1. In the Meridium APM Framework, access the **Recommendation Management** page.
2. In the Recommendation Management grid:

- Select any Meridium General Recommendation record that is in the Reviewed state.
- or-
- Select any RBI Recommendation record that is in the Implemented state.

3. On the **Recommendation Tasks** menu, click the **Cancel** link.

The selected Recommendation record is transitioned to the Cancelled state.

Archiving a Recommendation

Using the baseline Recommendation Management implementation, an RBI Recommendation record can be archived manually from the following states if ASM integration is disabled for RBI (i.e., the **ASM Integration Enabled** check box is cleared on the **Administrative Tasks** page):

- Cancelled
- Consolidated
- Implemented
- Not Required
- Proposed
- Rejected
- Superseded
- Pending Approval
- Accepted by ASM

When ASM integration is enabled, you cannot archive an RBI Recommendation record manually.

Note: The Archive operation is also performed *automatically* when you set an RBI Analysis to the Archived state.

After an RBI Recommendation record is archived, it cannot be modified.

To archive a Recommendation:

1. In the Meridium APM Framework, access the **Recommendation Management** page.
2. In the Recommendation Management grid, select any RBI Recommendation record that is in any of the states listed above.
3. On the **Recommendation Tasks** menu, click the **Archive** link.

The selected Recommendation record is transitioned to the Archived state.

Deleting a Recommendation Record

The following instructions explain how to delete a Recommendation record from within Recommendation Management. Note that the following Recommendation records *cannot* be deleted:

- Recommendation records in the Consolidated and Superseded states.
- Recommendation records that are the master of a Consolidated or Superseded Recommendation record.
- Recommendation records that are set as Action drivers.

To delete a Recommendation record:

1. In the Meridium APM Framework, in the Recommendation Management grid, select the record(s) that you want to delete.
2. On the **Common Tasks** menu, click the **Delete Selected** link.

A confirmation message appears, asking if you are sure that you want to delete the selected Recommendation record(s).

3. Click the Yes button.

The selected Recommendation records are deleted from the database.

Reference Information

Family Field Descriptions

Meridium General Recommendation



The following table provides a list and description of some of the fields that exist in Meridium General Recommendation records and are available on the baseline Meridium General Recommendation datasheet. Most of these fields also exist in other Recommendation families and on their baseline datasheets. Regardless of the record in which you see the fields, they behave similarly to the descriptions in the table.

The following table defines how these fields behave when you create a Recommendation record from scratch using the **New** button on the Meridium APM Framework toolbar, assuming that you have not customized the behavior of the fields. In some modules that use Recommendation records, the behavior of these fields is customized to fit the needs of that module. If you create a Recommendation record using a module-specific workflow, the fields might behave differently from how they are described in the table. Where a Recommendation field behaves a specific way within a specific module, you can find details on the unique field behavior in that module's documentation.

In addition, some modules use fields in *addition* to those that are described in the following table. If a module uses Recommendation fields other than those described in the table, you can find details on those fields in that module's documentation.

The table lists *datasheet* captions, not *field* captions.

Datasheet Caption	Description
Recommendation ID	A value that identifies the Recommendation record.

Datasheet Caption	Description
Recommendation Headline	<p>A short description of the recommended action.</p> <p>If you select the Alert Assignee When Due check box, the text that you type in the Recommendation Headline field will become the subject of the email.</p>
Recommendation Description	<p>A short description of the recommended action.</p>
Asset ID	<p>The Record ID of the Equipment record to which the Recommendation record is linked.</p> <p>To remove a value from the Asset ID field, you can click the  button to access the Select a Record window and then click the Clear button on the bottom of the window.</p>
Function ID	<p>The Record ID of the Functional Location record to which the Recommendation record is linked</p> <p>-or-</p> <p>The Record ID of the Functional Location record that is linked to the Equipment record that appears in the Asset ID field.</p> <p>To remove a value from the Function ID field, you can click the  button to access the Select a Record window and then click the Clear button on the bottom of the window.</p>
Required Equipment Status	<p>The state in which the equipment should exist before performing the recommended action against it. On the datasheet, this field contains a list of System Codes that exist in the MI_STATUS System Code Table. You can choose from the following baseline values:</p> <ul style="list-style-type: none"> • On-line (ON-LINE) • Off-line (OFF-LINE) • Not Applicable (N/A)

Datasheet Caption	Description
Business Impact	<p>The impact to the business if the recommended action is performed. On the datasheet, this field contains a list of System Codes that exist in the MI_BUSINESS_IMPACT System Code Table. You can choose from the following baseline values:</p> <ul style="list-style-type: none"> • Facility Shutdown (FACILITY SHUTDOWN) • Facility Slowdown (FACILITY SLOWDOWN) • Unit Shutdown (UNIT SHUTDOWN) • Unit Slowdown (UNIT SLOWDOWN) • System Shutdown (SYSTEM SHUTDOWN) • System Slowdown (SYSTEM SLOWDOWN)
Target Completion Date	The date by which the recommended action should be completed.
Mandatory Date	The date by which the recommended action <i>must</i> be completed if it was not completed by the target completion date.
Recommendation Priority	<p>The priority of the recommended action. On the datasheet, this field contains a list of System Codes that exist in the MI_PRIORITY System Code Table. You can choose from the following baseline values:</p> <ul style="list-style-type: none"> • High (HIGH) • Medium (MEDIUM) • Low (LOW)
Author Name	The first and last name of the Security User who created the Recommendation record. This field is not disabled, but we recommend that you not change the default value.

Datasheet Caption	Description
Create Work Request?	Specifies whether or not a work request should be created in an external EAM system when this record is saved (e.g., using functionality provided with the SAP Interfaces, Oracle EBS eAM Interfaces, and Maximo Interfaces).
Work Request Reference	The ID of the external work request that was created from this Recommendation record (e.g., using functionality provided with the SAP Interfaces, Oracle EBS eAM Interfaces, and Maximo Interfaces). This field is disabled and populated automatically after the SAP Notification or Oracle EBS eAM Work Request is created.
Work Request Equipment	The ID of the external equipment that is associated with the external work request that was created from this Recommendation record (e.g., using functionality provided with the SAP Interfaces, Oracle EBS eAM Interfaces, and Maximo Interfaces). This field is disabled and populated automatically after the external work request is created.
Work Request Functional Location	The ID of the external location that is associated with the external work request that was created from this Recommendation record (e.g., using functionality provided with the SAP Interfaces, Oracle EBS eAM Interfaces, and Maximo Interfaces). This field is disabled and populated automatically after the external work request is created.
Implemented Date	The date on which the recommended action was performed.

Recommendation Records With Alert Records

Some baseline Recommendation datasheets contain alert fields, which are sometimes separated into their own **Alert** tab. The following table provides a list and description of some of these alert fields. The information in the table

reflects the baseline state and behavior of these fields. If your implementation has been customized, these fields may behave differently, and fields in addition to those listed here may be available.

Note that the table lists the *datasheet* captions, not the *field* captions.

Datasheet Caption	Description
Alert Assignee When Due?	Indicates whether or not you want to send an email message to the person who is responsible for implementing the recommendation (the user that appears in the Assigned To field).
Days Before Due Date to be Notified	Specifies how many days before the Target Completion Date that the email message will be sent. This field is required when the Alert Assignee When Due check box is selected.
Frequency of Alert After Due Date	Specifies how often email messages will be sent after the completion date has passed. You can choose any of the following options: <i>Never</i> , <i>Daily</i> , <i>Weekly</i> , <i>Monthly</i> , or <i>Yearly</i> . This field is required when the Alert Assignee When Due check box is selected.
Reevaluate?	Indicates whether or not you want to send an email message suggesting a reevaluation of the recommendation.
Reevaluation Date	The date that a reevaluation email message will be sent. This field is required when the Reevaluate check box is selected.
Reevaluation Notification List	The users to whom the re-evaluation email message will be sent. This field is required when the Reevaluate check box is selected.
Reevaluation Alert Body Text	The text that will be included in the re-evaluation email message. This field is required when the Reevaluate check box is selected.

System Code Tables Used by Recommendation Management

The following System Code Tables are used by Recommendation Management.

Table ID	Table Description	Function
MI_BUSINESS_IMPACT	CORE, Impact to company's production carrying out equipment work	Used to populate the Business Impact list in Recommendation records.
MI_PRIORITY	CORE, baseline priority types	Used to populate the Recommendation Priority list in Recommendation records.
MI_RECOMMENDATION_TYPE	CORE, Recommendation Type	Used to populate the Recommendation Type list in Recommendation records. Note that the Recommendation Type field is not included on any baseline Recommendation datasheets.
MI_STATUS	Status Codes - CORE	Used to populate the Status list in Recommendation records.
M002	Equipment Operational Status	Used to populate the Required Equipment Status list in Recommendation records.

URLs

Parameters for the Recommendation Management URL

The URL for Recommendation Management, `meridium://Registry/RecommendationManager`, accepts the parameters listed in the following table. Note that a link created from the path with *no* parameters will display the **Recommendation Management** page using the Available Recommendations query in the Catalog folder `\\Public\Meridium\Modules\Recommendation Manager\Queries`.

Parameter Name	Description	Accepted Value(s)	Notes
SHOW_LINKING_MENU			This parameter is no longer used by the Meridium APM product.
SHOW_TASK_ENABLED	Specifies whether or not you want to display the Task for Asset section below the list of RBI Recommendation records.	true false	This parameter is used in a baseline hyperlink that provides access to Recommendation Management from RBI and has been tested in this context only.
Query	Opens the Recommendation Management page using a custom query. When the Recommendation Management page is displayed, the results of the specified query will be shown.	Catalog path of the query that you want to use for accessing the Recommendation Management page.	You can use this parameter to specify a query you want to display on the Recommendation Management page. Otherwise, the default query will be used.

Examples of the Recommendation Management URL

- `meridium://Registry/RecommendationManager`

Opens the **Recommendation Management** page using the Available Recommendations query in the Catalog folder
`\\Public\Meridium\Modules\Recommendation Manager\Queries.`

- `meridium://Registry/RecommendationManager?Query=Public\Meridium\Modules\Recommendation Manager\Queries\CustomRecommendationQuery`

Opens the **Recommendation Management** page using the query CustomRecommendtionQuery, which is stored in the Catalog folder \\Public\Meridium\Modules\Recommendation Manager\Queries.

Glossary

Consolidated Recommendation

A Recommendation record that you create from two or more Recommendation records that contain similar information.