Meridium APM Asset Criticality Analysis

3.6.1.1.0

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About This Document

This file is provided so that you can easily print this section of the Meridium APM Help system.

You should, however, use the Help system instead of a printed document. This is because the Help system provides hyperlinks that will assist you in easily locating the related instructions that you need. Such links are not available in a print document format.

The Meridium APM Help system can be accessed within Meridium APM itself or via the Meridium APM Documentation Website (https://www.me-ridium.com/documentation/WebHelp/WebHelpMaster.htm).

> Note: If you do not have access to the Meridium APM Documentation Website, contact Meridium Global Support Services.

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Overview of Asset Criticality Analysis

Asset Criticality Analysis (ACA) is a tool that lets you conduct an ACA Analysis, which consists of an Asset Criticality Analysis record and all the records that are linked to that record. Using ACA, you can evaluate the criticality of systems and the individual locations and pieces of equipment that make up those systems by defining the consequences and probability of the failure events that may occur. In this way, you can determine which of your locations, pieces of equipment, and systems have the highest risk of failure in your facility. In other words, using ACA, you can determine which of your locations, pieces of equipment, and systems are *critical*.

After you have determined which of your locations, pieces of equipment, and systems are critical, you can use Meridium APM modules to further analyze and safeguard those systems, locations, and pieces of equipment For example, through an ACA Analysis, you might discover that if Equipment A were to fail, it could cause a catastrophic event in your facility, leading to personal injury. In this case, Equipment A is considered critical, and you may want to use the Asset Strategy Management (ASM) module to develop a strategy for optimizing the performance of Equipment A.

Using the Asset Criticality Analysis, you can:

- Define the systems, locations, and pieces of equipment whose criticality you want to assess.
- Evaluate the criticality of those systems, locations, and pieces of equipment by defining the consequences and probability of the events that may occur.
- Determine if further analysis and tracking is necessary, based on the risks that the systems, locations, and pieces of equipment present.
- Promote systems to modules in the Asset Strategy work process to develop a plan for mitigating the risk of the system and its associated locations and pieces of equipment.

Asset Criticality Analysis leverages the standard Meridium APM risk matrix that you can use to assess the criticality of your systems, locations, and pieces of equipment. After you have identified the criticality of your systems, locations, and pieces of equipment, you can determine which ones require further safeguarding, analysis, and tracking using Meridium APM modules.

ACA System Requirements

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

In order to update your SAP system to reflect the criticality value that is determined in ACA, the licenses *SAP Interfaces – Foundation* and *SAP Interfaces - Criticality Assessment* are also required.

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

Components of an ACA Analysis

An *ACA Analysis* consists of an Asset Criticality Analysis record and all the records that are linked directly and indirectly to it. When you think about the components of an ACA Analysis, you should refer to the [data model image](#) for details on how these records are linked to one another in the Meridium APM database.

An ACA Analysis consists of one Asset Criticality Analysis record and records in the following families:

- **Human Resource:** Stores details about the team members participating in the analysis.
- **Reference Document:** Stores hyperlinks to documents that are external to the Meridium APM Framework, such as a diagram, that the team can use during the analysis.
- **Asset Criticality Analysis System:** Stores details about the systems in your facility for which you are conducting the analysis.

Asset Criticality Analysis System records are linked directly to Asset Criticality Analysis records through the *Asset Criticality Analysis Has System* relationship. Therefore, in addition to the records listed above, an ACA Analysis includes records in the following families that are linked directly to an Asset Criticality Analysis *System* record:

- **Meridium General Recommendation:** Stores details on recommendations that have been proposed by the ACA Analysis team to mitigate the risk of a system or asset failure.
- **Risk Assessment:** Stores the unmitigated risk value for the system or asset that you are analyzing.
- **Equipment and Functional Location:**Stores details on the equipment and locations that are included in the system that is represented by the Asset Criticality Analysis System record.

Overview of the Asset Criticality Analysis Data Model

Asset Criticality Analysis (ACA) consists of entity families, relationship families, and business rules. The pages in ACA provide you with a custom view of ACA records that exist in the database. These pages also help facilitate the creation of new records.

When attempting to understand and make use of the Meridium APM ACA functionality, it can be helpful to visualize the ACA data model. The Asset Criticality Analysis data model uses families to represent the various components of an ACA Analysis and leverages the Meridium APM fundamental entity and relationship family infrastructure to store data related to an ACA Analysis. Because you should already be familiar with the concept of records and viewing records in the Meridium APM Record Manager, as you attempt to get your bearings in ACA, it may be useful to remember that ACA is simply a customized view of individual records that work together to make up an ACA Analysis.

All ACA Analyses begin with an *Asset Criticality Analysis record*. Each Asset Criticality Analysis record will be linked to:

- One or more Human Resource records.
- One or more Reference Document records.
- One or more Asset Criticality Analysis System records.
- One Site Reference record.

Each Asset Criticality Analysis System record will be linked to the following set of records, which further define the Asset Criticality Analysis System:

- One or more Equipment or Functional Location records.
- One or more Meridium General Recommendation records.
- A Risk Assessment record.

The Asset Criticality Analysis System family can participate in additional relationships if you promote records in that family to modules in the Asset Strategy work process.

Illustration of the Asset Criticality Analysis Data Model

The following diagram illustrates the families that participate in the ACA Analysis. 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. For example, you can see that the Asset Criticality Analysis System records are linked to Risk Assessment records through the Has Risk relationship, where the Asset Criticality Analysis System family is the predecessor.
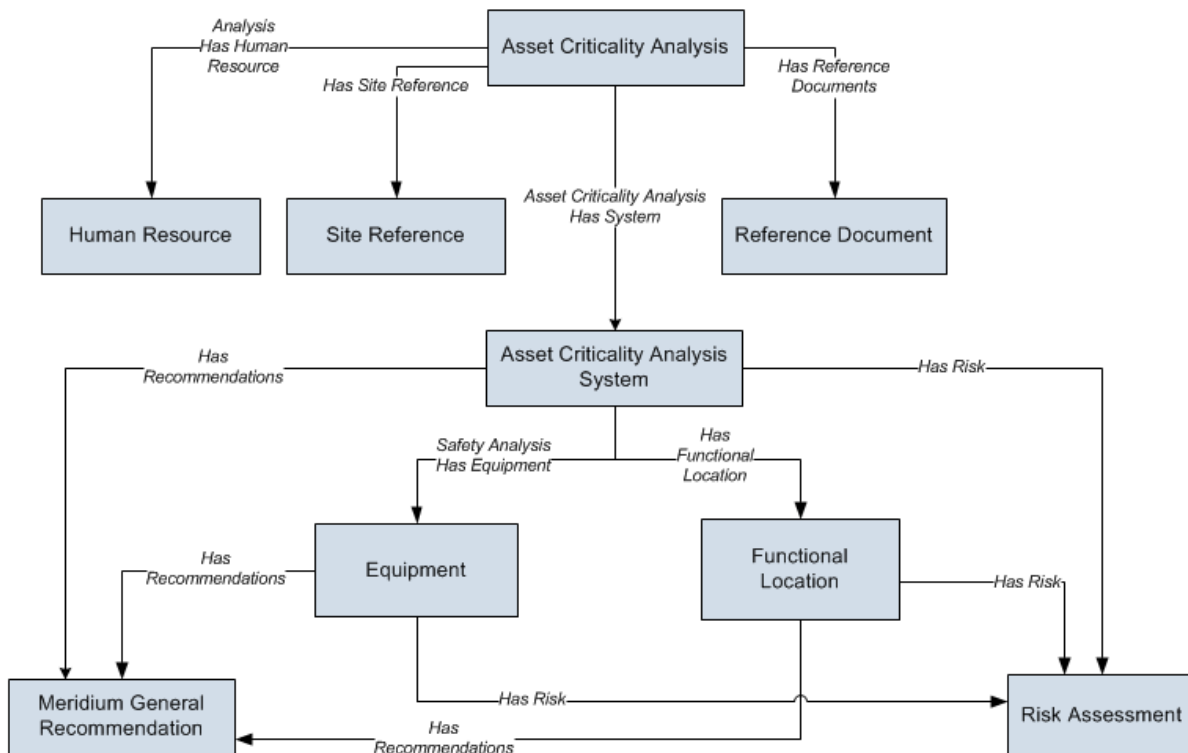
In this image, the *Equipment* and *Functional Location* families represent the equipment and locations that are involved in the ACA Analysis.

The Asset Criticality Analysis data model may also include relationships to RCM, ASM, and FMEA families, depending upon the licenses that have been activated in your database.

Illustrations of the ACA Data Model Integrated With Asset Strategy

Depending upon the licenses that are active in your database, you can promote records from Asset Criticality Analysis to the following modules in the Asset Strategy work process:

- Reliability Centered Maintenance (RCM)
- Failure Modes and Effects Analysis (FMEA)
- Asset Strategy Management (ASM)

Throughout the ACA documentation, we assume that the ASM, RCM, and FMEA modules are active.

The illustrations in this section of the documentation show the families and relationship that participate in the integration between Asset Criticality Analysis and RCM, FMEA, and ASM. In this illustrations, the boxes represent entity families, and the arrows represent relationship families. You can determine the cardinality of a relationship by the direction of the arrow (i.e., the family to which the arrow points is the successor family).

> **Note:** The RCM and FMEA modules utilize the same families and relationships. Therefore, only one illustration is provided to illustrate the RCM/FMEA integration with ACA.

RCM/FMEA Integration With ACA

The following illustration shows how families in the ACA data model are related to families in the RCM and FMEA data models.
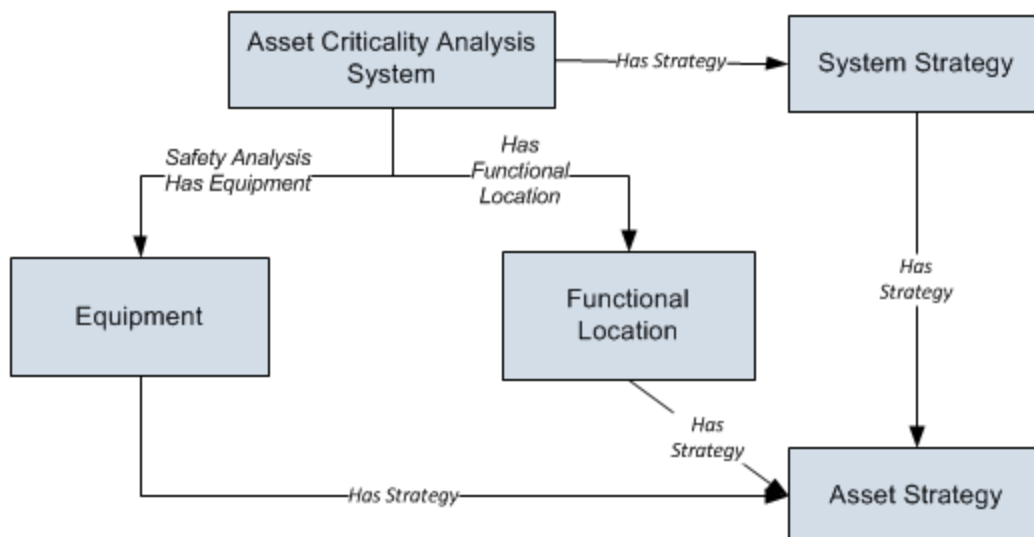
ASM Integration With ACA

The following illustration shows how the families in the ACA data model are related to families in the ASM data model.
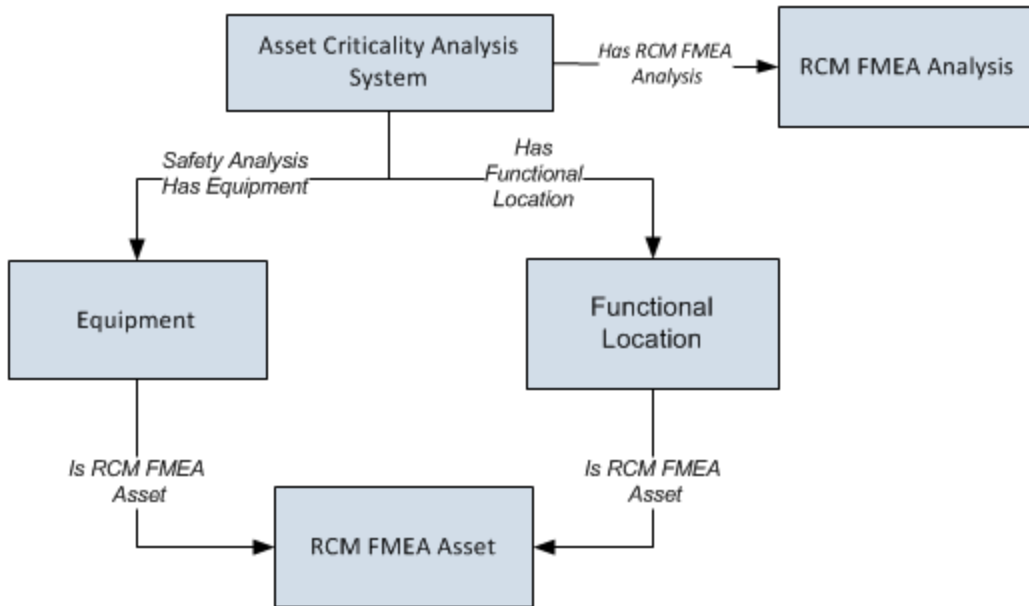
Equipment, Locations, and Asset Criticality Analysis Systems

Each Asset Criticality Analysis System record can be linked to:

- **Only Equipment records.** You will want to use this option if you want to evaluate the criticality only of pieces of equipment that do *not* get moved between locations. Remember that these Equipment records will be linked to Functional Location records to represent the locations in which they are installed.

  -or-

- **Only Functional Location records.** You will want to use this option if you want to evaluate the criticality only of pieces of equipment where each piece of equipment is often replaced with another piece of equipment.

  -or-

- **Equipment and Functional Location records.** You will want to use this option if you want to evaluate the criticality of pieces of equipment that do *not* get moved around *and* pieces of equipment that *do* get replaced with other pieces of equipment.

In the baseline database, the Asset Criticality Analysis System family is related to the:

- Equipment family through the *Safety Analysis Has Equipment* relationship.
- Functional Location family through the *Has Functional Location* relationship.

These relationships are illustrated in the following diagram.
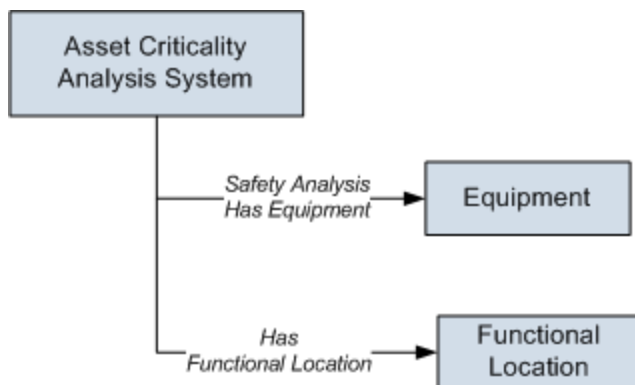
In addition to this relationship, the Equipment family is related to the Functional Location family as a successor through the *Safety Analysis Has Equipment* relationship.

> Note: The **Find Items** window that appears from the **Asset Criticality Analysis Systems** page displays only families that participate as successors in the *Has Functional Location* or *Safety Analysis Has Equipment* relationship. To link Equipment or Functional records to Asset Criticality Analysis System records, you must use these baseline relationships.

Asset Criticality Analysis State Configuration

This topic describes attributes of the State Configuration that is defined for the Asset Criticality Analysis family in the baseline Meridium APM database.

States and Operations

The following State Configuration is defined for the Asset Criticality Analysis family. Note that in this image, a box represents a state, and an arrow represents an operation. The state to which an arrow points represents a successor state.
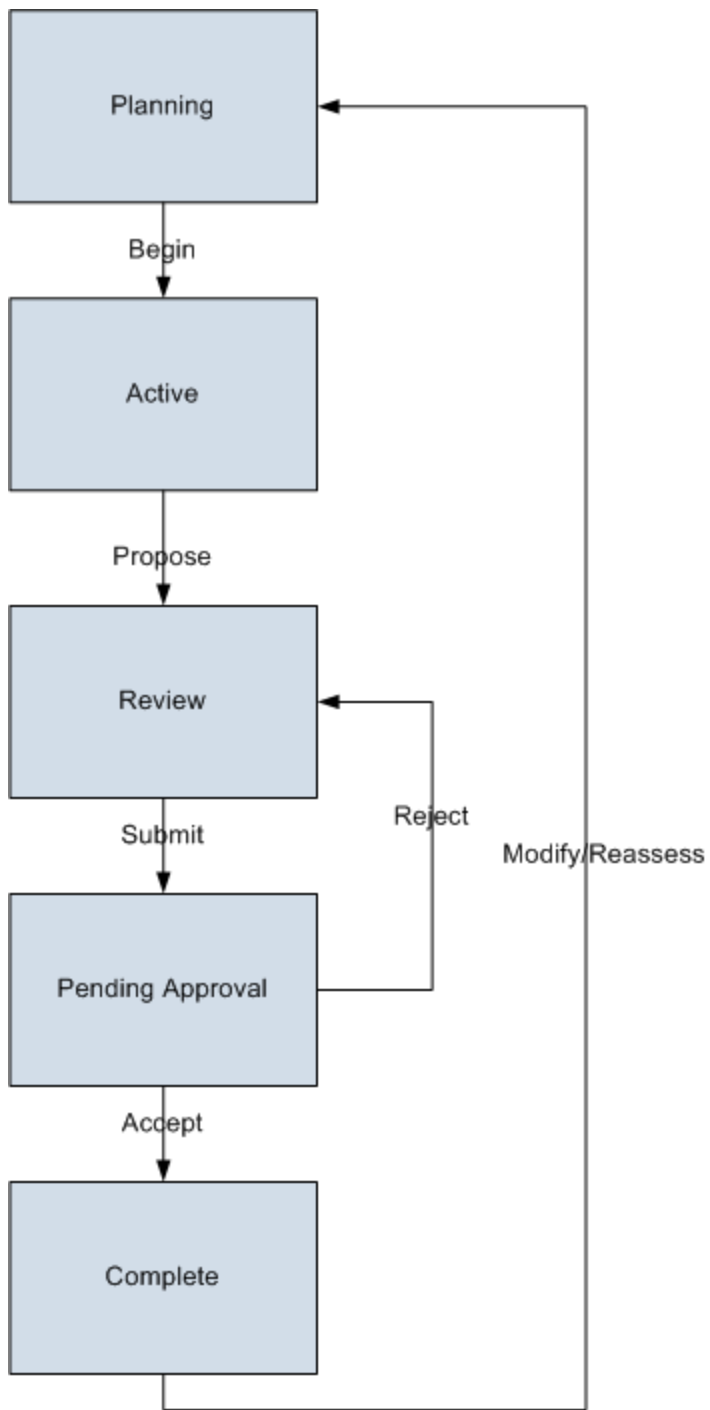
Initial State

The Planning state is the initial state of all new Asset Criticality Analysis records.

Datasheet Configuration

By default, states and operations will appear on the datasheet when you are viewing an Asset Criticality Analysis record.

Reserved States and Operations

By default, all states and operations displayed in the diagram are reserved. This means that you cannot remove or modify any of these states or operations. You can, however, add your own states and operations to the State Configuration.

State Configuration Roles

By default, the MI ACA Owner State Configuration Role is assigned to all predecessor and successor states in the Asset Criticality Analysis State Configuration. If desired, you can assign other State Configuration Roles to any state. In addition, for each state, the **Require a specific user to be assigned to a state** check box is *selected*.

About This Example

This section of the documentation provides topics that correspond to each step in the workflow for developing an ACA Analysis. In each topic, the workflow for creating an ACA Analysis will be illustrated through examining the criticality of the assets that make up an electrical system. The following topics appear in this section of the documentation and are intended to be read in the order in which they are presented in this list:

- Creating the Asset Criticality Analysis record.
- Defining the ACA Analysis team.
- Managing Reference Document records.
- Defining the system.
- Evaluating risk.
- Creating Meridium General Recommendation records.

This example makes the following assumptions:

- All ACA administration tasks have been completed.
- The Equipment family exists in the database and has been properly configured for use within Asset Criticality Analysis.
- The following records and links exist:
    - Equipment record with the ID *Kitchen Stove ~ Stove*.
    - Equipment record with the ID *Washing Machine ~ Washer*.
    - Equipment record with the ID *Water Heater ~ Water Heater*.
    - Equipment record with the ID *Television ~ Family TV*, which is linked to the Functional Location record with the ID *Family Room ~ Family room* through the *Safety Analysis Has Equipment* relationship family.

Creating the Asset Criticality Analysis Record: An Example

The first step in conducting an Asset Criticality Analysis is to create the Asset Criticality Analysis record. The user who will serve as the Process Owner can complete this step using the **Create Analysis** link on the **Navigation** menu on the **Asset Criticality Analysis Search** page.

In this case, you would define the Asset Criticality Analysis record as shown in the following image.

Defining the ACA Analysis Team: An Example

After you have defined the ACA Analysis that you want to conduct, the user who will serve as the Process Owner can define the ACA Analysis team by accessing the **Asset Criticality Analysis Team Members** page.

When you define the ACA Analysis team, you want to select the names of users who can contribute a range of expertise to the team and assign two users the role of Process Owner or Facilitator. In this case, you would select the following team members:

- Home Owner, the owner of the electrical system, because she is the primary operator of the assets within the electrical system. Home Owner should also be specified as the Process Owner for the analysis.
- Daughter, the secondary operator of the assets within the electrical system.
- Pete Handy, the local repairman, because he is an expert on electrical systems.
- Bob Speck, the home inspector who inspected the family's home, because he is an expert on electrical systems and safety guidelines. Bob Speck should also be specified as the Facilitator for the analysis.

After you define the ACA Analysis team using these examples, the **Asset Criticality Analysis Team Members** page will look similar to the following image.

Managing Reference Document Records: An Example

Using the options below the grid on the **Reference Documents** page, you can link Reference Document records to the ACA Analysis record to provide details on the electrical system as well as the role of each ACA team member.

The Reference Document records that you link to the ACA Analysis record should provide information that the team can use to supplement their assessment of the electrical system. In this case, you would want to add Reference Document records similar to those shown in the following image.

Defining the System: An Example

After you have created the Asset Criticality Analysis record, defined the ACA Analysis team, and linked Reference Document records to the ACA Analysis record, you can define the electrical system via the **Actions** menu on the **Asset Criticality Analysis Systems** page. Defining the system includes:

- Creating the Asset Criticality Analysis System record.
- Linking Equipment and Functional Location records to the Asset Criticality Analysis System record.

In this case, you would define the Asset Criticality Analysis System record for the electrical system, as shown in the following image.

Next, you would link the following Equipment and Functional Location records to the Asset Criticality Analysis System record:

- Equipment record with the ID *Kitchen Stove ~ Stove*.

- Equipment record with the ID *Washing Machine ~ Washer*.

- Equipment record with the ID *Water Heater ~ Water Heater*.

- Functional Location record with the ID *Family Room ~ Family room*, which is linked to the Equipment record with the ID *Television ~ Family TV*.

The following image shows the **Asset Criticality Analysis Systems** grid after you have linked the Equipment and Functional Location records to the Asset Criticality Analysis System record.

In this image, you can see that the Equipment record *Television ~ Family TV* appears in the **Equipment ID** column automatically. This is because it is linked to the Functional Location record *Family Room ~ Family room* through the *Safety Analysis Has Equipment* relationship family.

Evaluating Risk: An Example

After you have defined the electrical system, you can evaluate the unmitigated risk rank that is associated with that system and each individual asset within that system, using the links on the **Actions** menu on the **Asset Criticality Analysis Systems** page.

In this case, you will want to select risk rank values for the following Equipment and Functional Location records:

- Equipment record with the ID *Kitchen Stove ~ Stove*.
- Equipment record with the ID *Washing Machine ~ Washer*.
- Equipment record with the ID *Water Heater ~ Water Heater*.
- Functional Location record with the ID *Family Room ~ Family room*.
- Equipment record with the ID *Television ~ Family TV*.

After you have assessed the risk rank associated with each piece of equipment or location, you can assess the risk rank that is associated with the electrical system.

The following image shows the **Asset Criticality Analysis Systems** grid after you have selected the unmitigated risk rank values for the Equipment, Functional Location, and the Asset Criticality Analysis System record.

	System ID:	Location/Equipment ID:	Equipment ID:	Unmitigated Risk:	Recommendations:
▶ ⊟	⚠ Electrical System			3600	
		⚙ Kitchen Stove ~ Stove		2610	
		⚙ Washing Machine ~ Washer		660	
		⚙ Water Heater ~ Water Heater		2610	
⊟		⚑ Family Room ~ Family room		15000	
			⚙ Television ~ Family TV	5510	

As you can see, the unmitigated risk value for the electrical system is 3,600. In this case, you would want to create a Meridium General Recommendation record that stores a recommendation for an action that can be taken on the electrical system to mitigate the risk.

Creating Meridium General Recommendation Records

After you have determined that the unmitigated risk rank associated with the electrical system is higher than the acceptable risk level, you would want to link a Meridium General Recommendation record to the Asset Criticality Analysis System record to recommend an action that should be taken to mitigate the risk. You can do so using the **Recommendations** dialog box, which you can access via the **Actions** menu on the **Asset Criticality Analysis Systems** page.

In this case, you would create a new Meridium General Recommendation record for the Asset Criticality Analysis System record *Electrical System*, similar to the one shown in the following image.

After you link the Meridium General Recommendation record to the Asset Criticality Analysis record, the grid will look similar to the following image.

At this point, the ACA Analysis team can track the progress of the recommendation. The Asset Criticality Analysis, however, is finished.

Accessing the Asset Criticality Analysis Start Page

The **Asset Criticality Analysis Start Page** provides access to options that you can use to conduct an ACA Analysis.

To access the Asset Criticality Analysis Start Page:

- On the Meridium APM Framework main menu, click **Go To**, point to **APM Foundation**, and then click **Asset Criticality Analysis**.

  The **Asset Criticality Analysis Start Page** appears.
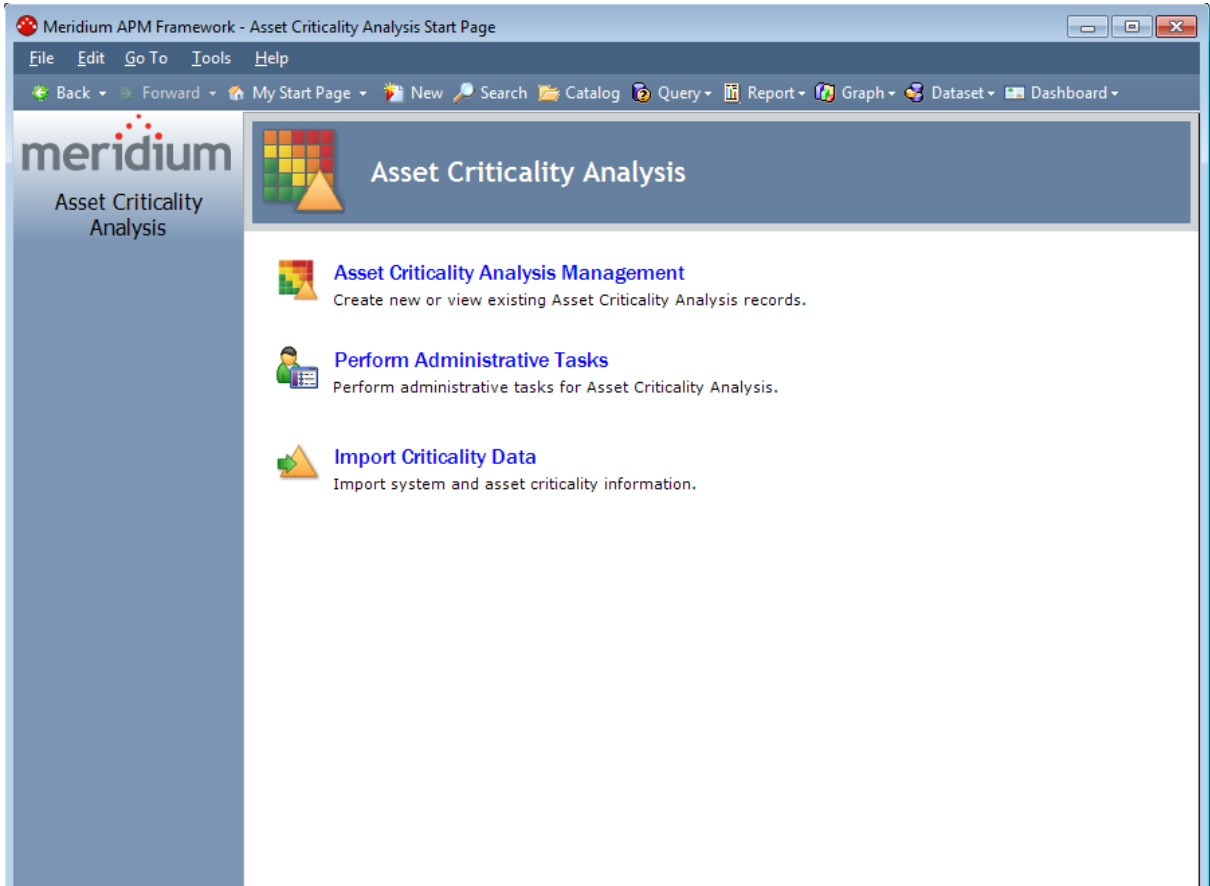
Aspects of the Asset Criticality Analysis Start Page

The **Asset Criticality Analysis Start Page** serves as a starting point for the tasks that you can perform using Asset Criticality Analysis (ACA).

The **Asset Criticality Analysis Start Page** contains the following links:

- **Asset Criticality Analysis Management:** Displays the **Asset Criticality Analysis Search** page, where you can search for an existing Asset Criticality Analysis record or create a new one.
- **Perform Administrative Tasks:** Displays the **Asset Criticality Analysis Administration** page, where you can configure administrative settings. This link appears only to Super Users and members of the MI ACA Administrator Security Group.
- **Import Criticality Data:** Displays the **Open** dialog box, where you can select the Microsoft Excel file that you want to use to [create new ACA Analyses](#).

> **Note:** The **Import Criticality Data** link appears only if you are a Super User or a member of the MI ACA Administrator Security Group.

First-Time Deployment Workflow

Deploying and configuring ACA 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 and configure ACA 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 ACA functionality.

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

Step	Task	Required/Optional	Notes
1	Assign Security Users to one or more of the ACA Security Groups.	Required	None
2	If you have equipment or location data in families outside of the baseline Equipment and Functional Location families, review the ACA 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 will use equipment and location families other than the baseline Equipment and Functional Location families.
3	Modify the baseline ACA Search query.	Optional	This task is necessary only if you do not want to use the baseline query.

Step	Task	Required/Optional	Notes
4	[Modify the baseline ACA System Search query]().	Optional	This task is necessary only if you do not want to use the baseline queries. By default, the system is configured to use the baseline queries.
5	[Specify different search queries to be used by ACA]().	Optional	None
6	[Define sites to associate with ACA Analyses]().	Optional	This task is necessary only if you do not want to use the default label, *Unmitigated Risk*.
7	[Specify the alternate label]() that you want to use for the **Unmitigated Risk** column in the grid on the **Asset Criticality Analysis Systems** page.	Optional	This task is necessary only if you do not want risk values to be specified manually via the Risk Matrix.
8	[Lock the Risk Matrix]().	Optional	This task is necessary only if you want to update your SAP system to reflect the criticality value that is determined in ACA.

Step	Task	Required/Optional	Notes
9	[Create Criticality Mapping records and link them to corresponding Risk Threshold records](#).	Optional	This task is necessary only if you will use equipment and location families other than the baseline Equipment and Functional Location families.

Upgrade or Update Asset Criticality Analysis to 3.6.1.1.0

The following tables list the steps that are required to update or upgrade ACA to 3.6.1.1.0. These steps assume that you have completed the steps for upgrading the basic Meridium APM system architecture.

Update from version V3.6.1.0.0

This module will be updated to 3.6.1.1.0 automatically when you update the components in the basic Meridium APM system architecture. No additional steps are required.

Upgrade from any version V3.6.0.0.0 through V3.6.0.12.3

Step	Task	Required/Optional	Notes
1	Specify the alternate label that you want to use for the **Unmitigated Risk** column in the grid on the **Asset Criticality Analysis Systems** page.	Optional	This task is necessary only if you do not want to use the default label, *Unmitigated Risk*.
2	Lock the Risk Matrix.	Optional	This task is necessary only if you do not want risk values to be specified manually via the Risk Matrix.
3	Create Criticality Mapping records and link them to corresponding Risk Threshold records.	Optional	This task is necessary only if you want to update your SAP system to reflect the criticality value that is determined in ACA.

Upgrade from any version V3.5.1.0.0 through V3.5.1.12.0

Step	Task	Required/Optional	Notes
1	Specify the alternate label that you want to use for the **Unmitigated Risk** column in the grid on the **Asset Criticality Analysis Systems** page.	Optional	This task is necessary only if you do not want to use the default label, *Unmitigated Risk*.
2	Lock the Risk Matrix.	Optional	This task is necessary only if you do not want risk values to be specified manually via the Risk Matrix.
3	Create Criticality Mapping records and link them to corresponding Risk Threshold records.	Optional	This task is necessary only if you want to update your SAP system to reflect the criticality value that is determined in ACA.

Upgrade from any version V3.5.0 SP1 LP through V3.5.0.1.9.0

Step	Task	Required/Optional	Notes
1	Specify the alternate label that you want to use for the **Unmitigated Risk** column in the grid on the **Asset Criticality Analysis Systems** page.	Optional	This task is necessary only if you do not want to use the default label, *Unmitigated Risk*.
2	Lock the Risk Matrix.	Optional	This task is necessary only if you do not want risk values to be specified manually via the Risk Matrix.

Step	Task	Required/Optional	Notes
3	Create Criticality Mapping records and link them to corresponding Risk Threshold records.	Optional	This task is necessary only if you want to update your SAP system to reflect the criticality value that is determined in ACA.

Upgrade from any version V3.5.0 through V3.5.0.0.7.1

Step	Task	Required/Optional	Notes
1	Specify the alternate label that you want to use for the **Unmitigated Risk** column in the grid on the **Asset Criticality Analysis Systems** page.	Optional	This task is necessary only if you do not want to use the default label, *Unmitigated Risk*.
2	Lock the Risk Matrix.	Optional	This task is necessary only if you do not want risk values to be specified manually via the Risk Matrix.
3	Create Criticality Mapping records and link them to corresponding Risk Threshold records.	Optional	This task is necessary only if you want to update your SAP system to reflect the criticality value that is determined in ACA.

Upgrade from any version V3.4.5 through V3.4.5.0.1.4

Step	Task	Required/Optional	Notes
1	Specify the alternate label that you want to use for the **Unmitigated Risk** column in the grid on the **Asset Criticality Analysis Systems** page.	Optional	This task is necessary only if you do not want to use the default label, *Unmitigated Risk*.

Step	Task	Required/Optional	Notes
2	Lock the Risk Matrix.	Optional	This task is necessary only if you do not want risk values to be specified manually via the Risk Matrix.
3	Create Criticality Mapping records and link them to corresponding Risk Threshold records.	Optional	This task is necessary only if you want to update your SAP system to reflect the criticality value that is determined in ACA.

ACA Security Groups

The following Security Groups are provided for Asset Criticality Analysis users:

- **MI ACA Administrator:** Provides users with administrative access to Asset Criticality Analysis.
- **MI ACA Member:** Provides users with view access to Asset Criticality Analysis.
- **MI ACA Owner:** Provides users with general access to Asset Criticality Analysis.

The baseline privileges for these Security Groups are summarized in the following table.

Family	MI ACA Administrator	MI ACA Member	MI ACA Owner
Analysis Has Human Resource	View, Update, Insert, Delete	View	View, Update, Insert, Delete
Asset Criticality Analysis	View, Update, Insert, Delete	View	View, Update, Insert, Delete
Asset Criticality Analysis Has System	View, Update, Insert, Delete	View	View, Update, Insert, Delete
Asset Criticality Analysis System	View, Update, Insert, Delete	View	View, Update, Insert, Delete
Consequence	View, Update, Insert, Delete	View	View
Consequence Modifier	View, Update, Insert, Delete	View	View
Criticality Mapping	View	View	View
Equipment	View	View	View
Equipment Has Equipment	View	View	View
Functional Location	View	View	View
Functional Location Has Equipment	View	View	View
Functional Location Has Functional Location	View	View	View
Has Criticality Mapping	View	View	View
Has Functional Location	View, Update, Insert, Delete	View	View, Update, Insert, Delete

Family	MI ACA Admin-istrator	MI ACA Member	MI ACA Owner
Has RCM FMEA Analysis	View	None	None
Has Recommendations	View, Update, Insert, Delete	View	View, Update, Insert, Delete
Has Reference Documents	View, Update, Insert, Delete	View	View, Update, Insert, Delete
Has Reference Values	View, Update, Insert, Delete	View	View
Has Risk	View, Update, Insert, Delete	View	View, Update, Insert, Delete
Has Risk Category	View, Update, Insert, Delete	View	View, Update, Insert, Delete
Has Risk Matrix	View, Update, Insert, Delete	View	View, Update, Insert, Delete
Has Site Reference	View, Update, Insert, Delete	View	View, Update, Insert, Delete
Has Strategy	View	None	None
Human Resource	View, Update, Insert, Delete	None	View, Update, Insert, Delete
Meridium General Recom-mendation	View, Update, Insert, Delete	View	View, Update, Insert, Delete
Mitigates Risk	View, Update, Insert, Delete	View	View, Update, Insert, Delete
Notification	View, Update, Insert, Delete	View	View, Update, Insert, Delete
Probability	View, Update, Insert, Delete	View	View
Protection Level	View	View	View
RCM FMEA Analysis	View	None	None
Reference Document	View, Update, Insert, Delete	View	View, Update, Insert, Delete

Family	MI ACA Admin-istrator	MI ACA Member	MI ACA Owner
Risk	View, Update, Insert, Delete	View	View, Update, Insert, Delete
Risk Assessment	View, Update, Insert, Delete	View	View, Update, Insert, Delete
Risk Category	View, Update, Insert, Delete	View	View, Update, Insert, Delete
Risk Matrix	View, Update, Insert, Delete	View	View, Update, Insert, Delete
Risk Threshold	View, Update, Insert, Delete	View	View
Safety Analysis Has Equipment	View, Update, Insert, Delete	View	View, Update, Insert, Delete
Site Reference	View	View	View
System Strategy	View	None	None

Accessing the Asset Criticality Analysis Administration Page

The **Asset Criticality Analysis Administration** page lets you specify the Asset Criticality Analysis Search query.

To access the Asset Criticality Analysis Administration page:

- On the **Asset Criticality Analysis Start Page**, click the **Perform Administrative Tasks** link.

  The **Asset Criticality Analysis Administration** page appears.
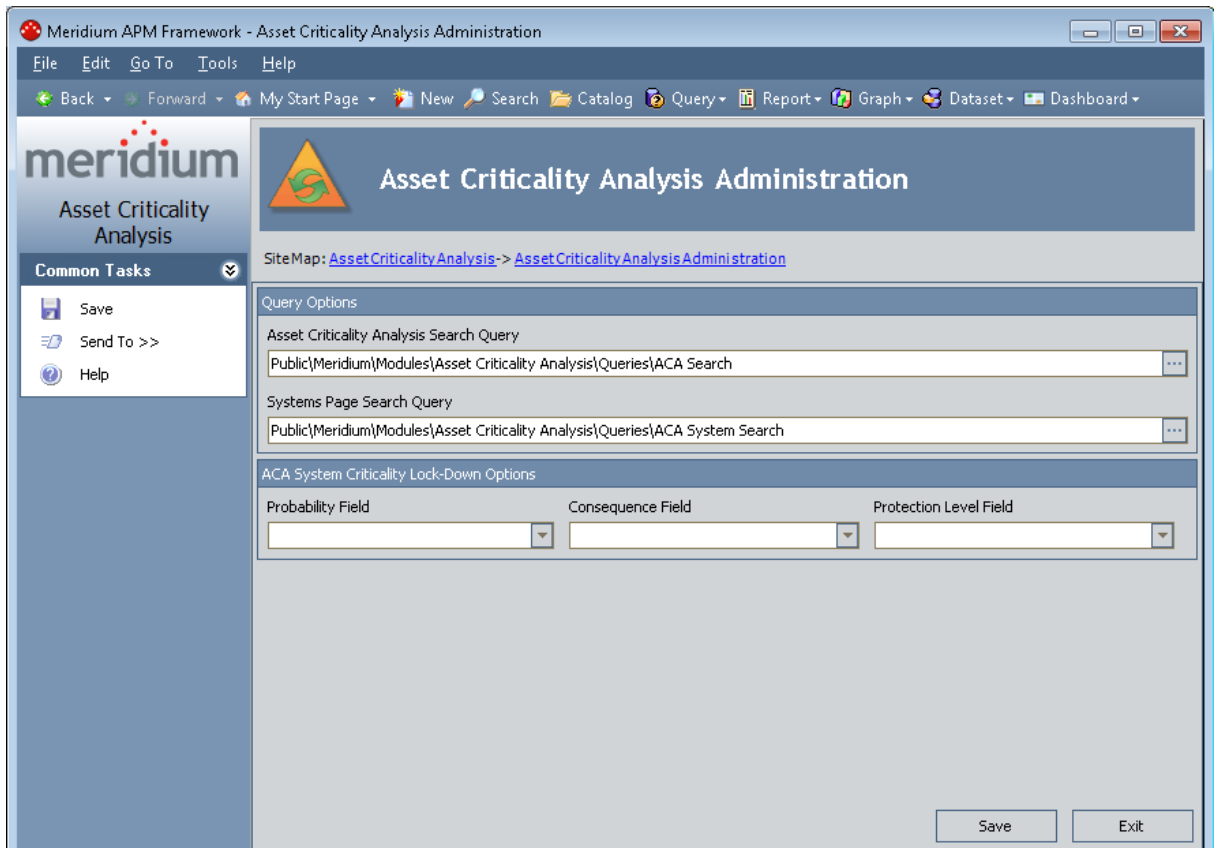
Aspects of the Asset Criticality Analysis Administration Page

The **Asset Criticality Analysis Administration** page appears when you click the **Perform Administrative Tasks** link on the **Asset Criticality Analysis Start Page**.
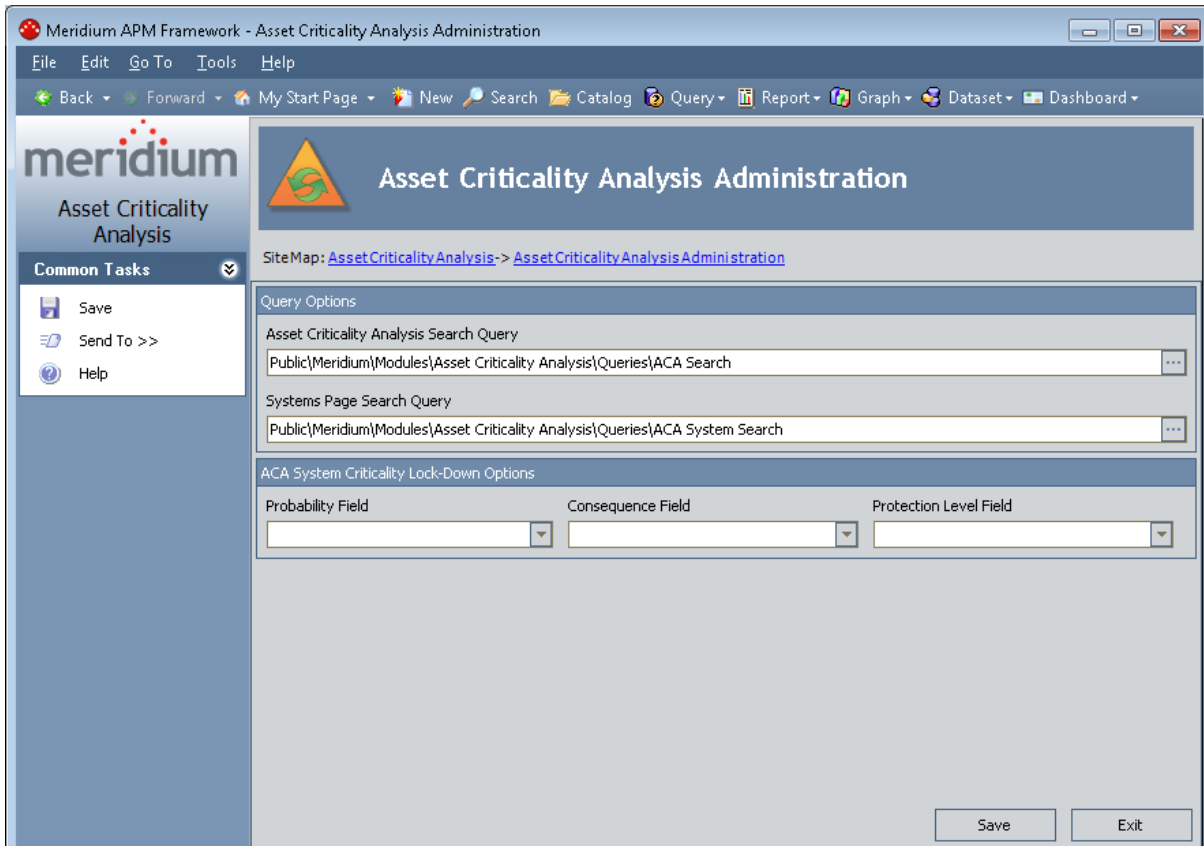
The **Asset Criticality Analysis Administration** page contains the following items:

- **Query Options section:** Contains the following items:
  - **Asset Criticality Analysis Search Query text box:** Stores the Catalog path to the search query used on the **Asset Criticality Analysis Search** page. By default, the text box contains the Catalog path \\Public\Meridium\Modules\Asset Criticality Analysis\Queries\ACA Search. You can [modify this value to point to a different query](#).
  - **Systems Page Search Query text box:** Stores the Catalog path to the search query used on the **Asset Criticality Analysis System** page. By default, the text box contains the Catalog path \\Public\Meridium\Modules\Asset Criticality Analysis\Queries\ACA System Search. You can [modify this value to point to a different query](#).
- **ACA System Criticality Lock-Down Options:** Contains the following items:

- **Probability Field list:** Contains a list of all fields belonging to the Asset Criticality Analysis System family. You can select the field that will store the probability value that will be mapped to the Risk Matrix. If you select a value in this list, users will not be able to modify the probability value on the Risk Matrix. By default, this list is empty, meaning that users will need to specify probability values manually using the Risk Matrix or by mapping them to the Risk Matrix from Microsoft Excel (when creating new analyses or updating risk values in existing analyses).

- **Consequence Field list:** Contains a list of all fields belonging to the Asset Criticality Analysis System family. You can select the field that will store the consequence value that will be mapped to the Risk Matrix. If you select a value in this list, users will not be able to modify the consequence value on the Risk Matrix. By default, this list is empty, meaning that users will need to specify consequence values manually using the Risk Matrix or by mapping them to the Risk Matrix from Microsoft Excel (when creating new analyses or updating risk values in existing analyses).

- **Protection Level Field list:** Contains a list of all fields belonging to the Asset Criticality Analysis System family. You can select the field that will store the protection level value that will be mapped to the Risk Matrix. If you select a value in this list, users will not be able to modify the protection level value on the Risk Matrix. By default, this list is empty, meaning that users will need to specify protection level values manually using the Risk Matrix or by mapping them to the Risk Matrix from Microsoft Excel (when creating new analyses or updating risk values in existing analyses).

- **Save button:** Saves the current administrative settings.

- **Exit button:** Displays the **Asset Criticality Analysis Start Page**. If you have made changes to the administrative settings, when you click this button, a dialog box will appear, asking if you want to save your changes.

- **Task menu pane:** Contains the **Common Tasks** menu.

Common Tasks Menu
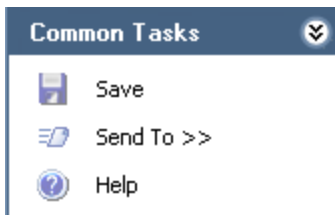
The **Common Tasks** menu on the **Asset Criticality Analysis Administration** page contains the following links:

- **Save:** Saves your changes.
- **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 **Asset Criticality Analysis Administration** page.

About the ACA Search Query

The ACA Search query is stored in the Catalog folder \\Public\Meridium\Modules\Asset Criticality Analysis\Queries. By default, the results of this query appear on the **Asset Criticality Analysis Search** page and display the list of existing Asset Criticality Analysis records filtered by state.

The ACA Search query contains a prompt that contains a list of states as they have been defined in the Configuration Manager for the Asset Criticality Analysis family.

About the ACA System Search Query

The ACA System Search query is stored in the Catalog folder \\Public\Meridium\Modules\Asset Criticality Analysis\Queries.

> **Note:** The query cannot be run via the Catalog folder as it contains a SQL parameter that is not supported by the query design. In other words, you can only view the results of the ACA System Search query.

By default, the results of this query appear on the **Asset Criticality Analysis Systems** page and display Asset Criticality Analysis System records and records in the following families that are linked to the Asset Criticality Analysis System records:

- Equipment and Functional Location
- Risk Assessment
- Meridium General Recommendation

This query contains a prompt for the System ID of an Asset Criticality Analysis System record. By default, the **ID** text box contains the value *%*, which returns *all* the Asset Criticality Analysis System records that are linked to the *current* ACA Analysis.

The ACA System Search query contains the following SQL parameters that are required for this query to work properly on the **Asset Criticality Analysis Systems** page.

SELECT system.*, analysis.ENTY_KEY
SELECT system.*, analysis.ENTY_KEY
SELECT system.*, analysis.ENTY_KEY"3. "JOIN_SUCC [MI_ASCRTSYS] system ON {MIR_ASCRTHS}
analysis.ENTY_KEY = (? :n :id=analysis_key)

If you want to modify the ACA System Search query or create your own custom ACA Search query, the query must contain these parameters.

Specifying a Different Search Query

If desired, you can modify the Catalog path in the **Asset Criticality Analysis Search Query** or **Systems Page Search Query** text box on the **Asset Criticality Analysis Administration** page to point to a different search query.

When you click the **Save** button on the **Asset Criticality Analysis Administration** page, the Meridium APM system checks the query specified in the **Systems Page Search Query** text box to be sure that it contains the required parameters. You will not be able to specify an invalid ACA System Search query.

To specify a different search query:

1. In the Meridium APM Framework, access the **Asset Criticality Analysis Administration** page.

2. In the **Asset Criticality Analysis Search Query** or **Systems Page Search Query** text box, type the Catalog path to the desired query.

   -or-

   To the right of the text box, click the ⋯ button to locate the desired query. These instructions assume that you want to locate the query.

   The **Select Query** dialog box appears.

3. Navigate to the desired query, and click the **Open** button.

   The Catalog path to the selected query appears in the **Asset Criticality Analysis Search Query** or **Systems Page Search Query** text box.

4. Click the **Save** button.

   Meridium APM checks the query specified in the **Systems Page Search Query** , and if the query contains the necessary parameters, all your changes are saved. If the query in the **Systems Page Search Query** text box does not contain the required parameters, a message appears indicating that the query is invalid. You will need to correct the query before you can save any changes to the settings on the **Asset Criticality Analysis Administration** page.

About Locking the Risk Matrix

You can configure ACA to allow users to assign risk values to Asset Criticality Analysis System, Equipment, and Functional Location records using fields defined for the Asset Criticality Analysis System family. To do so, you will need to specify which Asset Criticality Analysis System fields will accept the risk values. You can optionally add these fields to the Asset Criticality Analysis System datasheet. If you add the fields to the datasheet, users will be able to specify risk values in those fields within ACA. If you do *not* add these fields to the datasheet, however, users will need to map values to them by importing the values from a Microsoft Excel file (when creating new analyses or updating risk values in existing analyses).

After an Asset Criticality Analysis System record is saved with risk values in the specified fields, the appropriate Risk Assessment and Risk Rank records will be created automatically using the specified values. In the Risk Matrix, each tab will contain the specified probability, consequence, and protection level. In addition, users will *not* be able to select a different probability, consequence, or protection level using the Risk Matrix. In other words, these properties of the Risk Matrix will be locked down.

> **Note:** The risk values that are specified for an Asset Criticality Analysis System record will be inherited by any Equipment or Functional Location records that are linked to it.

Throughout this documentation, we refer to this functionality as *locking the Risk Matrix*. Keep in mind that you can lock *any combination* of the following Risk Matrix properties:

- Probability
- Consequence
- Protection Level

In other words, you might lock the probability and the consequence, only the probability, only the consequence, and so on. For any property that is locked, the corresponding item on the Risk Matrix will be disabled. For example, if you lock only the probability, when a user accesses the Risk Matrix, he will be able to select a consequence but *not* a probability. The probability must be set from the selected field in the Asset Criticality Analysis System family.

Locking the Risk Matrix

To lock the Risk Matrix:

1. In the Asset Criticality Analysis System family, create the fields that will store the probability, consequence, and protection level values.

2. If you want users to be able to specify values in these fields via the datasheet, add the new fields to the Asset Criticality Analysis System datasheet.

3. On the **Asset Criticality Analysis Administration** page, select the new fields in the **ACA System Criticality Lock-Down Options** section, and save your changes.

   Users will now be able to specify values in these fields, which will cause the Risk Matrix to be populated automatically with the selected values and locked down.

An Example of Locking the Risk Matrix

The following example illustrates how to lock the Risk Matrix in ACA. It assumes that you have added fields to the Asset Criticality Analysis System datasheet so that users can type values in them manually using the datasheet (versus importing them from Microsoft Excel).

In the Asset Criticality Analysis System family, suppose that you have created the fields Probability and Consequence and that you have added those fields to the Asset Criticality Analysis System datasheet, as shown in the following image.

Now, suppose you have also selected these fields on the **Asset Criticality Analysis Administration** page, as shown in the following image.

In this case, you could type the values in the **Probability** and **Consequence** text boxes on an Asset Criticality Analysis System datasheet, as shown in the following image.

Probability:	1	Consequence:	10

After saving the record, the values would be mapped to each tab of the Risk Matrix, as shown in the following image.

		Very Low 1	Low 10	Medium 100	High 500	Very High 1000
	Frequent 5	5	50	500	2500	5000
	Probable 1	1	10 ⚠	100	500	1000
	Possible 0.3	0.3	3	30	150	300
	Remote 0.1	0.1	1	10	50	100
	Improbable 0.05	0.05	0.5	5	25	50

Consequence (column header); Probability (row header)

Notice that all other cells on the Risk Matrix are disabled, or locked, meaning that you cannot use the Risk Matrix to select different risk values. Instead, to change the risk values, you will need to modify the values on the Asset Criticality Analysis System datasheet.

About Associating ACA Analyses with a Specific Site

Some companies that use the Meridium APM software have facilities at multiple sites, or locations, around the world. Each site contains unique units, systems, and assets.

If desired, you can define these sites and associate equipment and locations with the site to which they belong. You can also associate risk matrices with specific sites. If a risk matrix is associated with a site, you can specify which site you want to associate with an ACA Analysis. You can associate a site with an ACA Analysis by selecting the ID of the desired Site Reference record in the Site ID field on the Asset Criticality Analysis record for that ACA Analysis.

After an ACA Analysis is associated with a site, when you create a Risk Assessment record for an Asset Criticality Analysis System, Equipment, or Functional Location record associated with the ACA Analysis, rather than seeing the default risk matrix, you will see the risk matrix that is associated with the specified site.

You can add to an ACA Analysis an Equipment or Functional Location record that is already associated with a site even if the site is different than the one specified in the Asset Criticality Analysis record. If an Equipment or Functional Location record is already associated with a site and a risk rank value already exists for that record:

- The risk rank value that was determined using the risk matrix associated with the Equipment or Functional Location record will appear in the **Asset Criticality Analysis Systems** grid.
- When you try to view or modify the risk rank for the Equipment or Functional Location record, a message will appear, indicating that the risk rank was determined using a risk matrix other than the one that is currently associated with the analysis. When this message appears, you can choose to:
    - Accept the current risk rank value that was determined using risk matrix other than the one that is associated with the current analysis. If you choose this option, you will not be able to modify the risk rank for the record.
    - Determine the risk rank for the Equipment or Functional Location record using the risk matrix that is associated with the current analysis.

> **Note:** This information is also true if you specify a site for the ACA Analysis and then later specify a different site.

If an Equipment or Functional Location record is associated with a site but a risk rank value has *not* been determined for that record, when you click the **Risk Matrix** link to define the risk rank for that record, the risk matrix that is currently associated with the ACA Analysis appears.

Specifying the Alternate Label for the Unmitigated Risk Column

On the **Asset Criticality Analysis Systems** page, by default, the grid contains the **Unmitigated Risk** column, which displays the unmitigated risk for each Asset Criticality Analysis System, Equipment, and Functional Location record in the grid. If your company prefers a label other than *Unmitigated Risk*, you can use the following instructions to specify an alternate label.

Note that an alternate label is specified using the Risk Matrix record. This means that after you specify an alternate label in a Risk Matrix record, it will be used by *all* ACA Analyses that use that Risk Matrix.

To specify an alternate label for the Unmitigated Risk column on the Asset Criticality Analysis Systems page:

1. Open the Risk Matrix record for the Risk Matrix that is used by your ACA Analyses.

2. On the Risk Matrix Definition datasheet, in the **Unmitigated Risk Rank** text box, type the alternate label that you want to use.

    > **Note:** If the text box is *empty*, it indicates that the default label, *Unmitigated Risk*, is currently being used.

3. For example, to specify the label *Risk*, you would type *Risk* in the **Unmitigated Risk Rank** text box, as shown in the following image.

4. On the **Common Tasks** menu, click the **Save** link.

    The Risk Matrix record is saved. Now, when you access the **Asset Criticality Analysis Systems** page for an ACA Analysis that uses this Risk Matrix, the new label will appear. In the following image, the new column label *Risk* is outlined in red.

Creating Criticality Mapping Records

In SAP systems, each Equipment and Functional Location contains a *criticality indicator* value. If you have an SAP system and your ACA Analyses include Equipment and Functional Location records that were created from SAP (using the SAP interfaces), when you assess criticality in ACA, you can also update the corresponding criticality indicator values in SAP with the ACA values.

To enable this functionality, you must first create Criticality Mapping records, which identify the criticality indicator values in your SAP system (e.g., A, B, C). You will need to link each Criticality Mapping record to the Risk Threshold record that represents the Meridium APM criticality value that should be mapped to the SAP criticality indicator values (e.g., High, Medium, Low). If you are using multiple SAP Systems, you can link one Criticality Mapping record for each system to the same Risk Threshold record.

To create a Criticality Mapping record and link it to a Risk Threshold record:

1. Access the Risk datasheet of the Risk Matrix record that is used by your ACA Analyses.

2. In the **Record Explorer** pane, expand the **Risk Threshold** node.

3. Expand the node of the Risk Threshold record for which you want to map criticality values (i.e., High, Low, Medium, or Very High).

   In the following image, the *High* Risk Threshold record is expanded, and the Criticality Mapping family node appears.
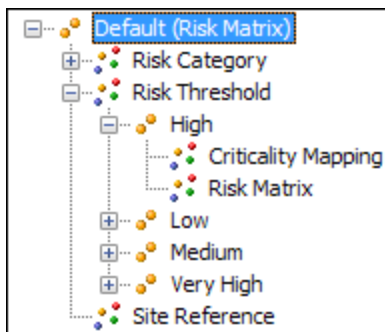
4. Right-click the **Criticality Mapping** family node, and then click **Create a New Criticality Mapping to link to <Risk Threshold record>**.

   A new Criticality Mapping record appears in a new window.
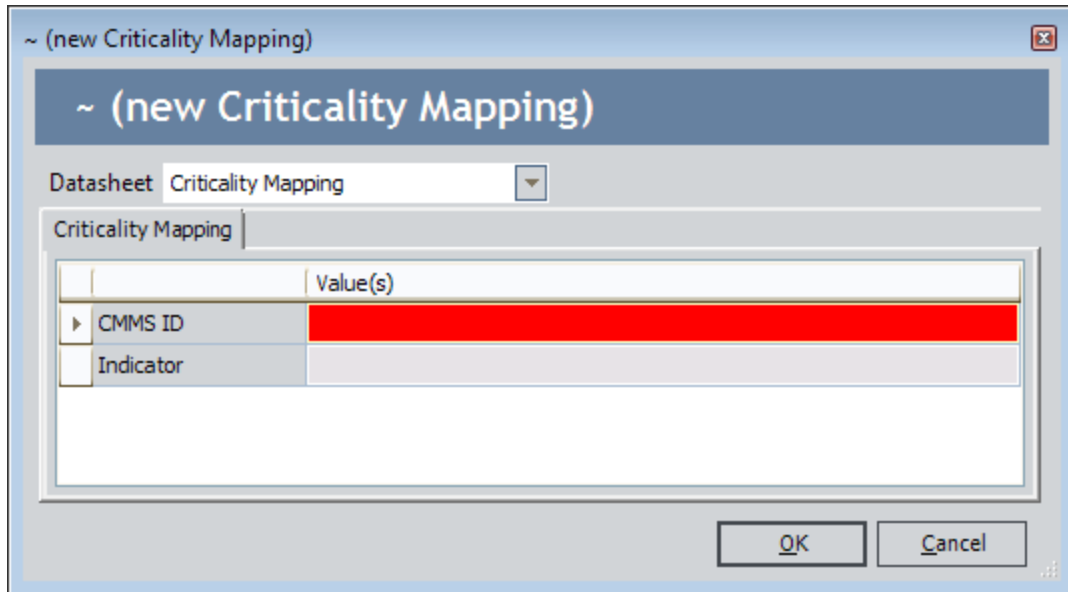
5. In the **CMMS ID** list, select the SAP system to which you want to transfer criticality values. This list displays the value in the System ID field for each SAP System record in Meridium APM.

6. In the **Indicator** list, select the SAP criticality indicator value to which you want to map the risk threshold that is represented by the Risk Threshold record to which this Criticality Mapping record is linked. The list displays the criticality indicator values in the SAP system that you selected.

7. Click **OK**.

8. Repeat steps 3 through 7 for each Risk Threshold record defined for your Risk Matrix.

9. Click the 🔲 button.

   The new Criticality Mapping record is linked to the selected Risk Threshold record.

About Navigating ACA

Asset Criticality Analysis is context-driven. This means that each page that you view within it will contain data related only to the ACA Analysis with which you are currently working. After you have opened an Asset Criticality Analysis record on the **Asset Criticality Analysis Definition** page, the ID of the ACA Analysis will appear on the site map and title bar on each page within the module, indicating the ACA Analysis with which you are currently working.

The **Navigation** menu appears on almost every page in ACA, which you can use to access the pages that contain the features that allow you to create and perform an ACA Analysis. After you open an Asset Criticality Analysis record on the **Asset Criticality Analysis Definition** page, you can use the links on the **Navigation** menu to facilitate a workflow for creating the remaining records that make up the ACA Analysis with which you are currently working.

For example, assume that the Asset Criticality Analysis record *ACA-Site123* appears on the **Asset Criticality Analysis Definition** page. The site map and the title bar contain the text *ACA-Site123* as shown in the following image.
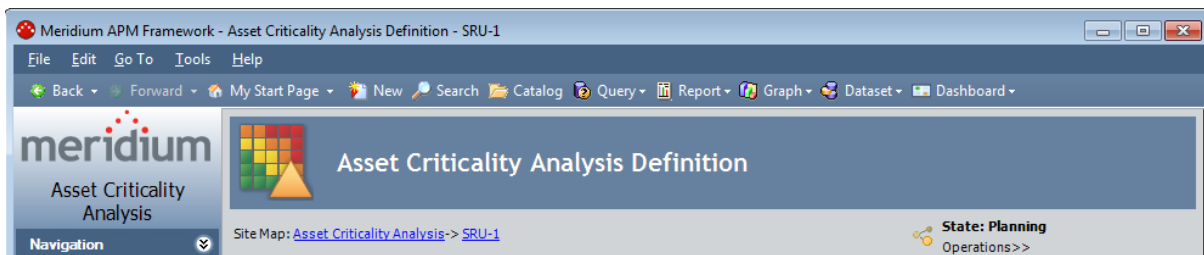
To define the ACA Analysis team for ACA Analysis *ACA-Systems123*, you could click the **Team Members** link on the **Navigation** menu and see that the site map and title bar still contain the Analysis ID *ACA-Systems123*.
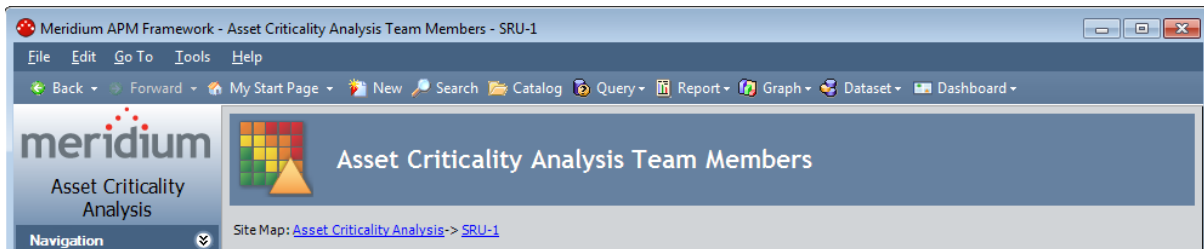
Accessing the Asset Criticality Analysis Search Page

The **Asset Criticality Analysis Search** page lets you search for an existing Asset Criticality Analysis record or create a new one.

To access the Asset Criticality Analysis Search page:

- In the Meridium APM Framework, on the **Asset Criticality Analysis Start Page**, click the **Asset Criticality Analysis Management** link.

  The **Asset Criticality Analysis Search** page appears.

Aspects of the Asset Criticality Analysis Search Page

The **Asset Criticality Analysis Search** page displays the results of the query that is specified in the **Asset Criticality Analysis Search Query** text box on the **Asset Criticality Analysis Administration** page. The baseline query ACA Search is provided for use on the **Asset Criticality Analysis Search** page. The results of this query appear by default. The query contains a State prompt for the record state of the Asset Criticality Analysis records. The **State** list displays the value **All** by default, which returns the list of *all* existing Asset Criticality Analysis records. If desired, you can filter this list by the record state. You can choose from the following baseline states:

- **All:** Displays the list of *all* existing Asset Criticality Analysis records.
- **Active:** Displays the list of Asset Criticality Analysis records in the *Active* state.
- **Complete:** Displays the list of Asset Criticality Analysis records in the *Complete* state.
- **Pending Approval:** Displays the list of Asset Criticality Analysis records in the *Pending Approval* state.
- **Planning:** Displays the list of Asset Criticality Analysis records in the *Planning* state.
- **Review:** Displays the list of Asset Criticality Analysis records in the *Review* state.

The query results appear in the **Asset Criticality Analysis Search** grid below the **State** prompt. Each row in the grid represents one Asset Criticality Analysis record. For each Asset Criticality Analysis record, the following information is displayed:

- **Analysis ID:** The value that is stored in the Analysis ID field in the Asset Criticality Analysis record.
- **Analysis Description:** The value that is stored in the Analysis Description field in the Asset Criticality Analysis record.
- **State:** The state of the current Asset Criticality Analysis record.
- **Owner:** The value that is stored in the Analysis Owner field in the Asset Criticality Analysis record.
- **Start Date:** The value that is stored in the Start Date field in the Asset Criticality Analysis record.
- **End Date:** The value that is stored in the End Date field in the Asset Criticality Analysis record.

The **Asset Criticality Analysis Search** grid provides standard grid customization options that you can use to customize the layout of the query results.

The **Asset Criticality Analysis** workspace contains the following task menus:

- [Common Tasks menu](#)
- [Associated Pages menu](#)
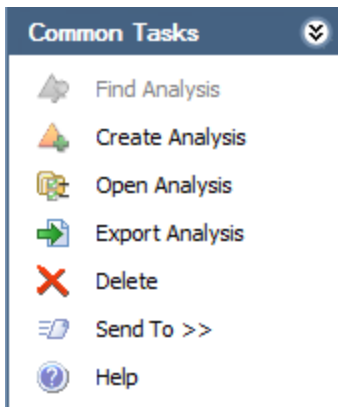
Common Tasks Menu

The **Common Tasks** menu on the **Asset Criticality Analysis Search** page contains the following links:

- **Find Analysis:**This link is disabled on the **Asset Criticality Analysis Search** page.
- **Create Analysis:** Displays the **Asset Criticality Analysis Definition** page, where you can create a new Asset Criticality Analysis record.
- **Export Analysis:** Displays the **Save As** dialog box, where you can export the risk values for the current ACA Analysis.
- **Open Analysis:** Displays the selected Asset Criticality Analysis record on the **Asset Criticality Analysis Definition** page. This link is enabled only when records appear in the grid. It is disabled, however, if multiple rows are selected.
- **Export Analysis:** Displays the **Save As** dialog box, where you can export the risk values for the selected ACA Analyses.
- **Delete:** Displays a confirmation message, and then deletes the selected Asset Criticality Analysis records. This link is enabled only when records appear in the grid.
- **Send To:** Displays a submenu with options that let you send a link to the current page on your desktop (create shortcut), an email message recipient, or on a Home Page.
- **Help:** Displays the context-sensitive help topic for the **Asset Criticality Analysis Search** page.

Accessing the Asset Criticality Analysis Definition Page

The **Asset Criticality Analysis Definition** page displays:

- A new blank Asset Criticality Analysis datasheet, which you can use to create a new Asset Criticality Analysis record.

  -or-

- The datasheet for the selected Asset Criticality Analysis record, which you can use to [modify the Asset Criticality Analysis record](#).

To access the Asset Criticality Analysis Definition page:

1. In the Meridium APM Framework, [access the **Asset Criticality Analysis Search** page](#).

2. On the **Common Tasks** menu, click the **Create Analysis** link.

   -or-

   Click the hyperlinked Analysis ID of an existing Asset Criticality Analysis record.

   The [**Asset Criticality Analysis Definition** page](#) appears.
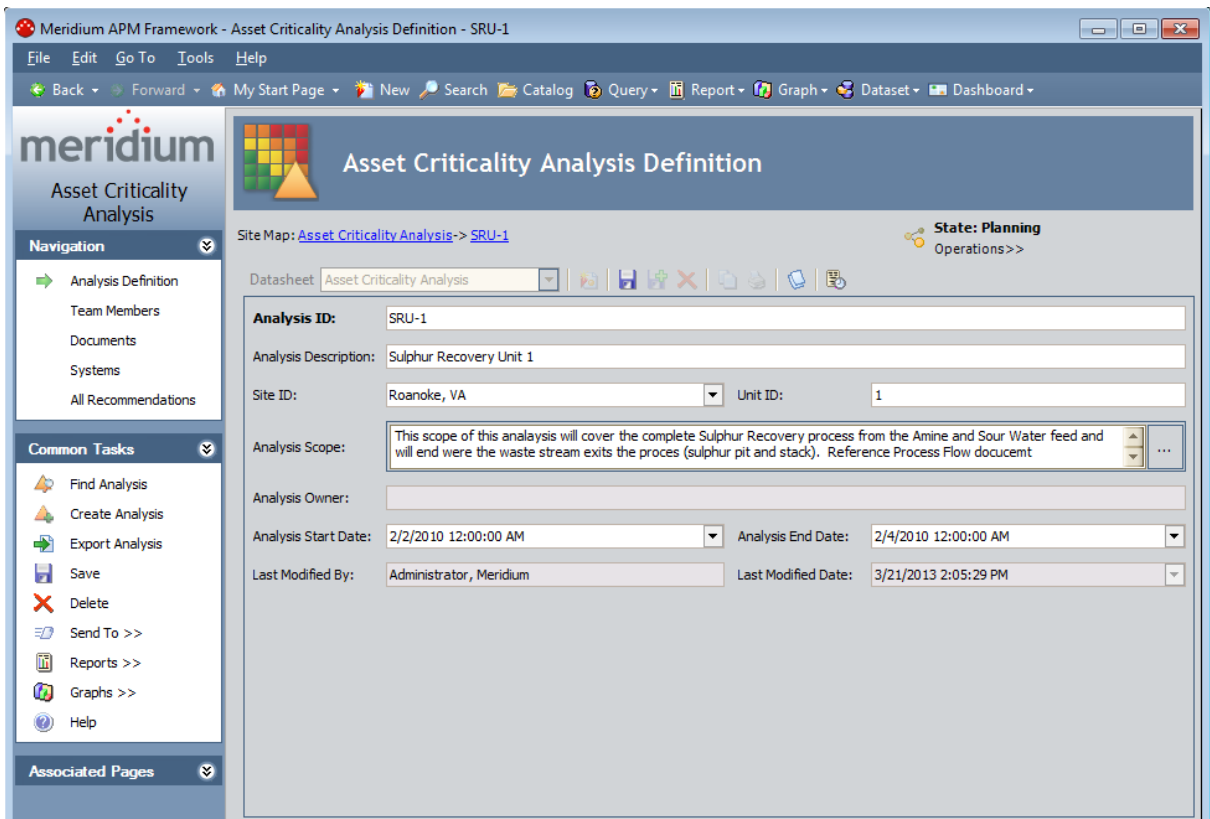
Aspects of the Asset Criticality Analysis Definition Page

The **Asset Criticality Analysis Definition** page contains an Asset Criticality Analysis record, where you can manage the properties of the ACA Analysis.

- If you accessed the **Asset Criticality Analysis Definition** page by clicking the **Create Analysis** link, a *new* Asset Criticality Analysis record appears.
- If you accessed the **Asset Criticality Analysis Definition** page by opening an existing Asset Criticality Analysis record, the datasheet for the selected Asset Criticality Analysis record appears.

Above the datasheet, to the right of the site map, the following options are enabled:

Saves the current Asset Criticality Analysis record.

Displays the **Reference Documents** window, where you can manage the Reference Document records that are linked to the current Asset Criticality Analysis record.

Displays the **Field Change History** dialog box, where you can view the revision history for all fields for which revision history exists.

> **Note:** If the revision history feature has not been enabled in the Configuration Manager for any fields, a message will appear, indicating that no revision history is available.

Displays the **State Assignments** dialog box, where you can manage the Security Users that are assigned to the states that are defined for the Asset Criticality Analysis family. To the right of the icon, the following options appear:

- **State:** Displays the current state of the Asset Criticality Analysis record.
- **Operations:** Displays the record states that are available for selection. You can use this option to change the state of the Asset Criticality Analysis record to a different state.

Additionally, the **Asset Criticality Analysis Definition** page contains the following task menus:

- Navigation menu
- Common Tasks menu
- Associated Pages menu

Using the **Asset Criticality Analysis Definition** page, you can:

- Create new Asset Criticality Analysis records.
- Modify existing Asset Criticality Analysis records.
- Assign a Security User to an Asset Criticality Analysis state. Doing so will allow this Security User to transition the Asset Criticality Analysis record from the assigned

state to a successor state. A Security User must also be assigned to the successor state before a Security User can transition a record to that state.

- Transition the Asset Criticality Analysis record state to a different state.

Common Tasks Menu
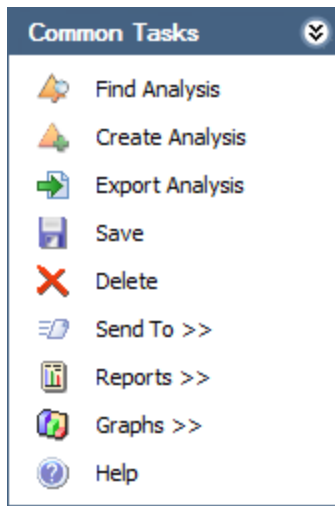
The **Common Tasks** menu on the **Asset Criticality Analysis Definition** page contains the following links:

- **Find Analysis:** Displays the **Asset Criticality Analysis Search** page.
- **Create Analysis:** Displays a new Asset Criticality Analysis record on the **Asset Criticality Analysis Definition** page.
- **Export Analysis:** Displays the **Save As** dialog box, where you can export the risk values for the current ACA Analysis.
- **Save:** Saves the current record.
- **Delete:** Displays a confirmation message, and then deletes the selected Asset Criticality Analysis record.
- **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.
- **Reports:** Displays a submenu with the names of the reports that exist in the Catalog folder \\Public\Meridium\Modules\Asset Criticality Analysis\Reports. By default, this menu displays the link **Asset Criticality Analysis Report**, which you can use to open the selected report. This link is enabled after you save a new Asset Criticality Analysis record or open an existing one.
- **Graphs:** Displays a submenu with the names of the graphs that exist in the Catalog folder \\Public\Meridium\Modules\Asset Criticality Analysis\Graphs. By default, this menu displays the link **Asset Criticality Analysis Unmitigated Risk Graph**, which you can use to open the selected graph. This link is enabled after you save a new Asset Criticality Analysis record or open an existing one.
- **Help:** Displays the context-sensitive help topic for the **Asset Criticality Analysis Definition** page.

Accessing the Asset Criticality Analysis Team Members Page

The **Asset Criticality Analysis Team Members** page lets you add team members to the ACA Analysis and assign team members the role of Process Owner or Facilitator.

To access the Asset Criticality Analysis Team Members page:

- In the Meridium APM Framework, anywhere within the Asset Criticality Analysis tool, on the **Navigation** menu, click the **Team Members** link.

  The Asset Criticality Analysis Team Members page appears.
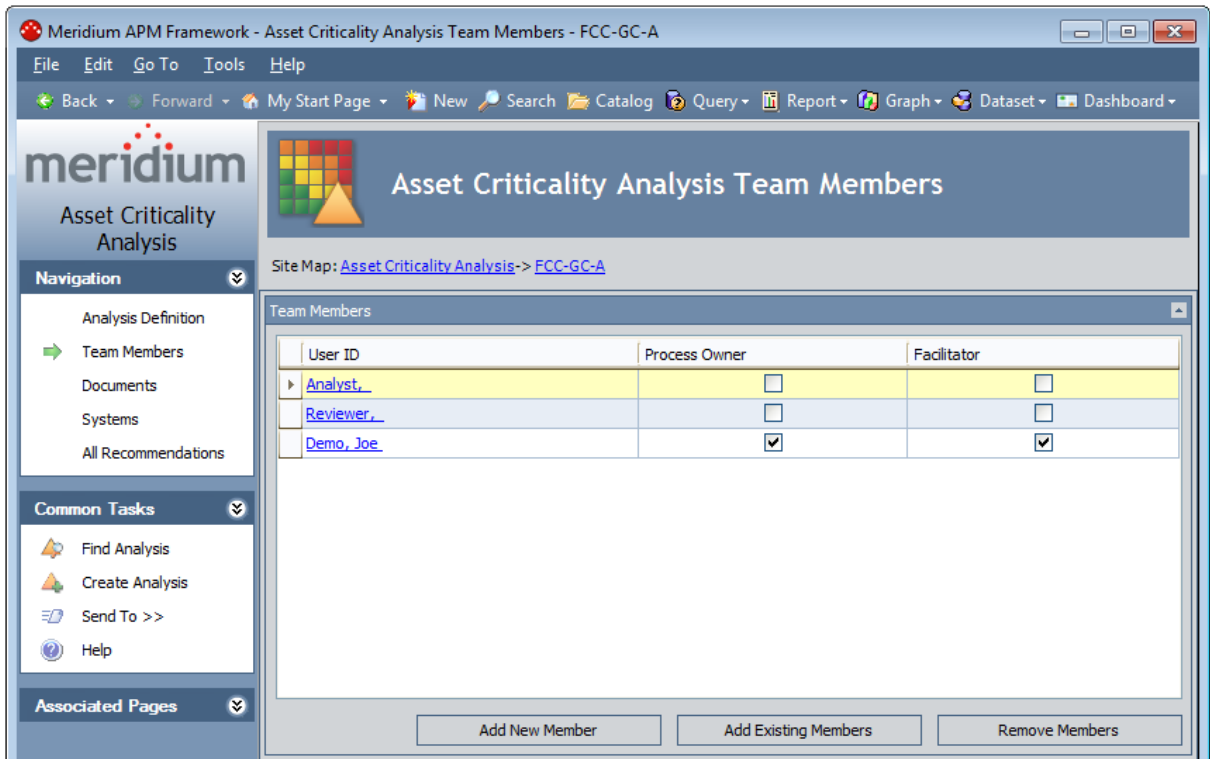
Aspects of the Asset Criticality Analysis Team Members Page

The **Asset Criticality Analysis Team Members** page displays the **Team Members** workspace, which consists of a grid that displays the names of the ACA Analysis team members. Each row in the grid represents one Human Resource record. For each Human Resource record that appears in the grid, the following information is displayed:

- **User ID:** The name of the team member as it appears in the Human Resource record for that user.
- **Process Owner:** Indicates that the team member has the role of Process Owner. This check box can be selected for only one team member per ACA Analysis team.
- **Facilitator:** Indicates that the team member has the role of Facilitator. This check box can be selected for only one team member per ACA Analysis team.

Below the grid, the following buttons appear:

- **Add New Member:** Displays a new Human Resource record that you can define and include in the ACA Analysis.
- **Add Existing Members:** Displays the **Find Items** window, where you can search for an existing Human Resource record to include in the ACA Analysis.
- **Remove Members:** Displays the **Confirm Remove** dialog box, asking if you really want to remove the selected team member from the ACA Analysis team.

The **Asset Criticality Analysis Team Members** page contains the following task menus:

- [Navigation menu](#)
- [Common Tasks menu](#)
- [Associated Pages menu](#)

Common Tasks Menu

The **Common Tasks** menu on the **Asset Criticality Analysis Team Members** page contains the following links:

- **Find Analysis:** Displays the **Asset Criticality Analysis Search** page.
- **Create Analysis:** Displays a new Asset Criticality Analysis record on the **Asset Criticality Analysis Definition** page.
- **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 **Asset Criticality Analysis Definition** page.

Accessing the Reference Documents Page

The **Reference Documents** page lets you create and mange Reference Document records that are linked to the Asset Criticality Analysis record for the current ACA Analysis.

To access the Reference Documents page:

- In the Meridium APM Framework, anywhere within the Asset Criticality Analysis tool, on the **Navigation** menu, click the **Documents** link.

  The **Reference Documents page** appears.
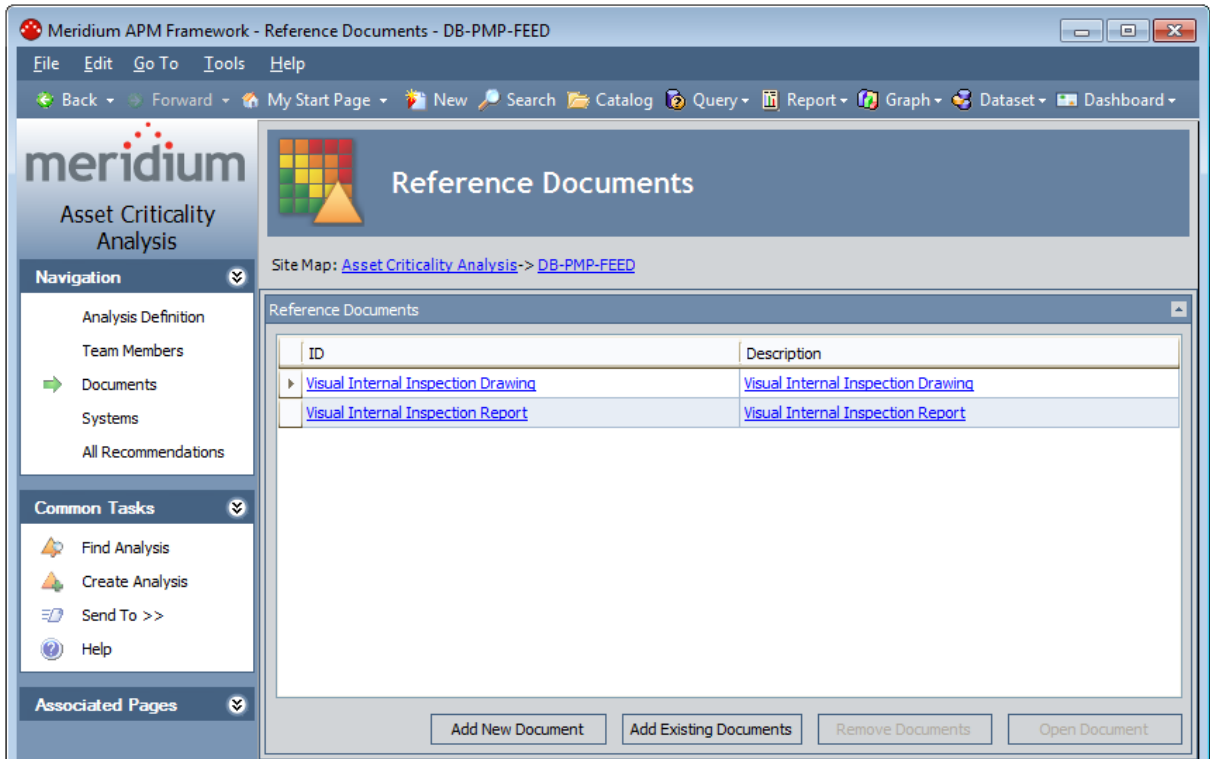
Aspects of the Reference Documents Page

The **Reference Documents** page contains the **Reference Documents** workspace, which consists of a grid that displays a list of Reference Document records that are linked to the current ACA Analysis. Each row in the grid represents one Reference Document record. For each Reference Document record that appears in the grid, the following information is displayed:

- **ID:** The ID of the reference document as it appears in the associated record.
- **Description:** A description of the reference document as it appears in the associated record.

Below the grid, the following buttons appear:

- **Add New Document:** Displays a new blank Reference Document record in the **<empty>(new Reference Document)** dialog box.
- **Add Existing Documents:** Displays the **Find Items** window, where you can search for an existing Reference Document record to link to the ACA Analysis.
- **Remove Documents:** Displays a confirmation message and then removes the Reference Document record from the ACA Analysis. This button is enabled only when a row in the gird is selected.
- **Open Document:** Opens the document associated with the selected Reference Document record. This button is enabled only when a row in the grid is selected.

Accessing the Asset Criticality Analysis Systems Page

The **Asset Criticality Analysis Systems** page lets you define the system for which you are conducting the ACA Analysis, assess the risk associated with that system, and define recommendations for actions that should be taken on that system to mitigate that risk.

To access the Asset Criticality Analysis Systems page:

- In the Meridium APM Framework, anywhere within the Asset Criticality Analysis tool, on the **Navigation** menu, click the **Systems** link.

  The **Asset Criticality Analysis Systems** page appears.

Aspects of the Asset Criticality Analysis Systems Page

The **Asset Criticality Analysis Systems** page displays the results of the query specified in the **Systems Page Search Query** text box on the **Asset Criticality Analysis Administration** page. Meridium APM provides the baseline query ACA System Search, which appears by default. This query contains a prompt for the System ID of an Asset Criticality Analysis System record. By default, the **ID** text box contains the value *%*, which returns *all* the Asset Criticality Analysis System records that are linked to the *current* ACA Analysis.

The query results appear below the prompt in the **Asset Criticality Analysis Systems grid**. Each row in the grid represents a level in the Asset Criticality Analysis System family hierarchy.

The **Asset Criticality Analysis Systems** grid provides some standard grid customization options that you can use customize the layout of the query results.

 The **Asset Criticality Analysis Systems** page contains the following task menus:

- **Navigation** menu
- **Actions** menu
- **Common Tasks** menu
- **Associated Pages** menu

Using the **Asset Criticality Analysis Systems** page, you can:

- Add systems to the ACA Analysis.
- Add locations and pieces of equipment to the ACA Analysis.
- Assess the risk associated with the systems, locations, and pieces of equipment.
- Create Meridium General Recommendation records to mitigate the risks.
- Promote a system to ASM.

Actions Menu
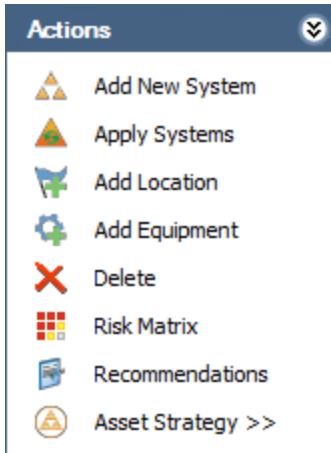
The **Actions** menu on the **Asset Criticality Analysis Systems** page contains the following links:

- **Add New System:** Displays a new Asset Criticality Analysis System record in the **Asset Criticality Analysis System** dialog box.

- **Apply Systems:** Displays the **Find Items** window, where you can search for an existing Hazards Analysis record, containing the System/Node record that you want to apply to the ACA Analysis. Using the **Apply Systems** link, you can copy data from an existing System record into an Asset Criticality Analysis System record and link it to the ACA Analysis. This link is enabled only if the Hazards Analysis module is active and if the user who is currently logged in is a member of the MI HA Member Security group.

- **Add Location:** Displays the **Find Items** window, which you can use to search for an existing Functional Location record that you want to link to the Asset Criticality Analysis System record. This link is enabled only if a row is selected that contains an Asset Criticality Analysis System record that participates as a predecessor in the *Has Functional Location* relationship.

- **Add Equipment:** Displays the **Find Items** window, which you can use to search for an existing Equipment record that you want to link to an Asset Criticality Analysis System record or Functional Location record. This link is enabled only if a row is selected that contains an Asset Criticality Analysis System record or Functional Location record that participates as a predecessor in the *Safety Analysis Has Equipment* relationship.

- **Delete:** Displays a confirmation message, and then deletes the link between the selected record and the Asset Criticality Analysis record. This link is enabled only when records appear in the grid.

- **Risk Matrix:** Displays the **Unmitigated Risk Assessment** dialog box, where you define the risk for the selected record and create a new Risk Assessment record. This link is enabled only when records appear in the grid.

- **Recommendations:** Displays the **Recommendations** dialog box, from which you can create and manage Meridium General Recommendation records that are linked to ANY of the records that appear in the grid. This link is enabled only when records appear in the grid.
- **Asset Strategy:** Displays a submenu with the following options:
  - **Promote:** Lets you [promote the ACA System record to ASM, RCM, or FMEA](). After an ACA System record has been promoted, the **Promote** option will update the existing item (i.e., the System Strategies or RCM or FMEA Analysis).
  - **View:** Opens the existing System Strategy or RCM or FMEA Analysis that was created from Asset Criticality Analysis System records. This link is enabled only if:
    - The selected system has been promoted.
    - You are a Super User or a member of the ACA Administrator, ACA Owner, or ACA Member Security group.

  The **Asset Strategy** link is enabled only if:

- The user who is currently logged in is a member of the ACA Administrator or ACA Owner Security group or is a Super User.
- The Asset Criticality Analysis System record is linked to at least one Equipment or Functional Location record.

Common Tasks Menu
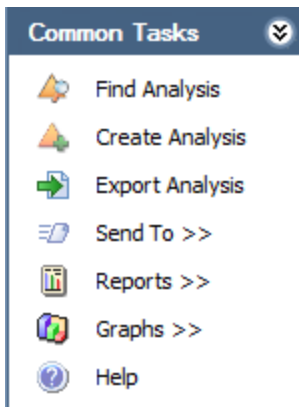
The **Common Tasks** menu on the **Asset Criticality Analysis Systems** page contains the following links:

- **Find Analysis:** Displays the **Asset Criticality Analysis Search** page, where you can search for an existing Asset Criticality Analysis record.

- **Create Analysis:** Displays the **Asset Criticality Analysis Definition** page, where you can create a new Asset Criticality Analysis record.

- **Export Analysis:** Displays the **Save As** dialog box, where you can export the risk values for the current ACA Analysis.

- **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.

- **Reports:** Displays a submenu with the names of the reports that exist in the Catalog folder \\Public\Meridium\Modules\Asset Criticality Analysis\Reports. By default, this menu displays the link **Asset Criticality Analysis Report**, which you can use to open the selected report. This link is enabled after you save a new Asset Criticality Analysis record or open an existing one.

- **Graphs:** Displays a submenu with the names of the graphs that exist in the Catalog folder \\Public\Meridium\Modules\Asset Criticality Analysis\Graphs. By default, this menu displays the link **Asset Criticality Analysis Unmitigated Risk Graph**, which you can use to open the selected graph. This link is enabled after you save a new Asset Criticality Analysis record or open an existing one.

- **Help:** Displays the context-sensitive help topic for the **Asset Criticality Analysis Systems** page.

Accessing the ACA Import Page

You can access the **ACA Import** page by completing either of the following steps:

- [Creating a new ACA Analysis by importing it from a Microsoft Excel file](#).
- [Updating risk values in an existing ACA Analysis by importing them from a Microsoft Excel file](#).

In either workflow, the **ACA Import** page displays the status of the import process.
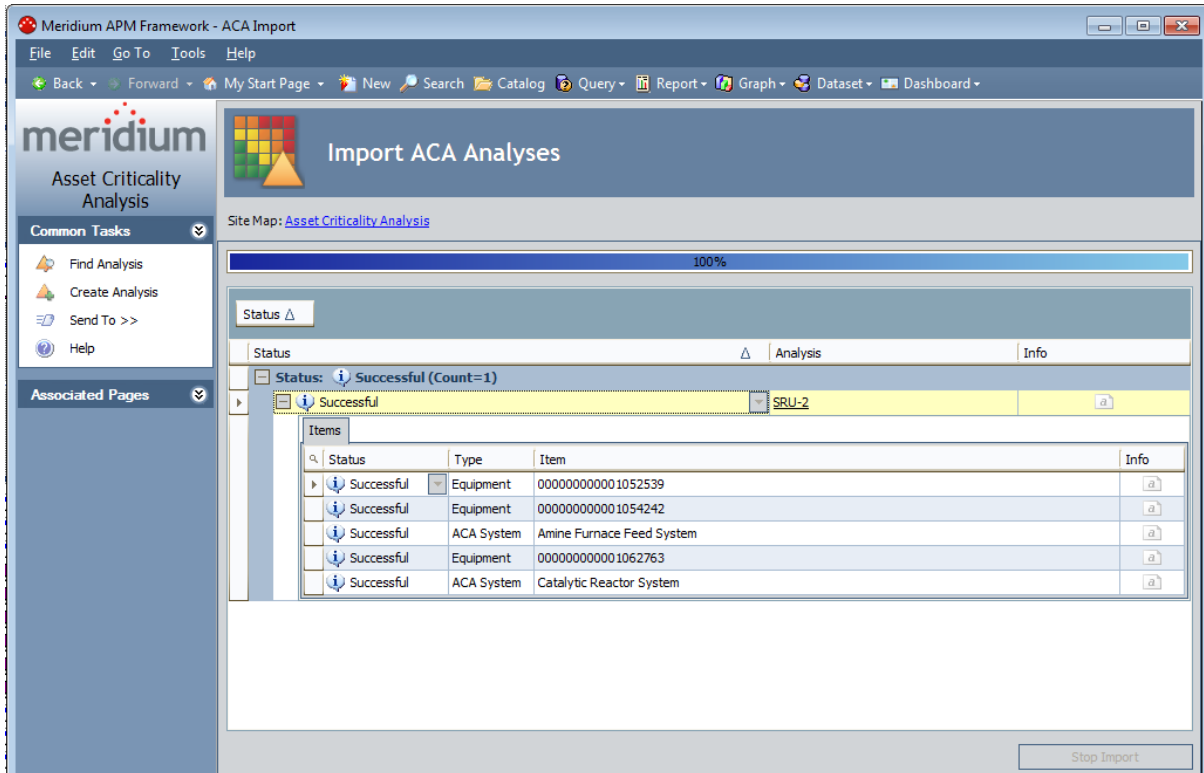
Aspects of the ACA Import Page

The **ACA Import** page appears when you create new ACA Analyses from a Microsoft Excel file or update risk values in existing ACA Analyses from a Microsoft Excel file. The following image illustrates the **ACA Import** page after creating two ACA Analyses: *Analysis A* and *Analysis B*.

While the import process is running, a progress bar appears at the top of the page to identify the progress of the import procedure. When the process is complete, a grid appears, displaying one row for each item that was processed during the import procedure. The rows are grouped by the value in the **Status** column for each analysis, where the status indicates whether or not the analysis was processed successfully. Initially, the groups are collapsed, but you can expand them to see the specific items, as illustrated in the previous image. The total number of analyses in each status group is displayed to the right of the status heading. In the following image, you can see that *two* analyses were successful.

For each analysis, the items within that group can have a mixture of statuses. In general, the status of each Equipment or Functional Location record will roll up to determine the status of the Asset Criticality Analysis System to which that record is linked. Likewise, the status of each Asset Criticality Analysis System record will roll up to the determine the status of the Asset Criticality Analysis record to which it is linked. For example, suppose that you try to create one analysis with two systems, *System A* and *System B*. If all Equipment and Functional Location records for System A show the status *Failed*, then System A will also show the status *Failed*.

In each row in the grid, the status will be set to one of the following values:

- **Successful:** The item was processed successfully.

    - If you were *creating new analyses*, this means that the item was created successfully (if the item is an Asset Criticality Analysis record or an Asset Criticality Analysis System record) or the risk values were assigned successfully (if the item is an existing Equipment or Functional Location record).

    - If you were *updating existing analyses with risk values*, this means that the updated risk values for that item were assigned successfully.

- **Failed:** The item was not processed successfully.

    - If you were *creating new analyses*, this means that the item was not created (if the item is an Asset Criticality Analysis record or an Asset Criticality Analysis System record) or the risk values were not assigned (if the item is an existing Equipment or Functional Location record).

    - If you were *updating existing analyses with risk values*, this means that the updated risk values for that item were not assigned.

- **Incomplete:** The item was processed *partially* successfully. This status applies only to Asset Criticality Analysis records and Asset Criticality Analysis System records. Per Asset Criticality Analysis record, the status will be *Incomplete* if its Asset Criticality Analysis System records have mixed statuses. Likewise, per Asset Criticality Analysis System record, the status will be *Incomplete* if its Equipment and Functional Location records have mixed statuses.
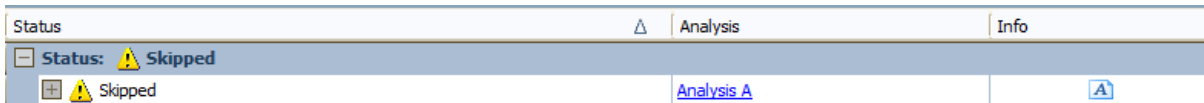
    For example, suppose that you try to create one analysis with two systems, *System A* and *System B*. If all Equipment and Functional Location records for System A show the status *Failed* but System B is *Successful*, then the analysis status will be *Incomplete*.

- **Skipped:** The item was skipped. This status applies only if you were *creating new analyses*, and it is used to indicate that an item could not be created or risk values could not be assigned because the Excel file does not meet the data model requirements. Specifically, the following issues will cause the status to be *Skipped*:

    - An Equipment or Functional Location record that is specified in the file does not exist in the database.

    - The site IDs that exist in the file (in the Analyses worksheet) do not match any of the values in the Name field in the existing Site Reference records in the database.

    - Although each site ID that exists in the file matches a value in the Name field in an existing Site Reference record in the database, that Site Reference record is not linked to the Equipment or Functional Location record with which the site ID it is associated in the file.

    - Although each Equipment and Functional Location record that exists in the file also exists in the database, those existing records already have risk assessments that came from a different Risk Matrix than the one that was used during the import process (as a result of the site ID that is specified in the file for those Equipment and Functional Location records).

    - The Systems worksheet in the file contains analysis IDs that do not exist in

the Analyses worksheet.

- The Assets worksheet in the file contains system IDs that do not exist in the Systems worksheet.

If the status is anything other than *Successful*, you can click the [A] icon in the **Info** column in that row to see a message indicating why the item was failed, incomplete, or skipped. For example, consider the following image, where you can see that *Analysis A* was skipped.

The message available from the **Info** column indicates that the Excel file specifies the site *Salem, VA*, but a Site Reference record with the name *Salem, VA* does not exist in the database.
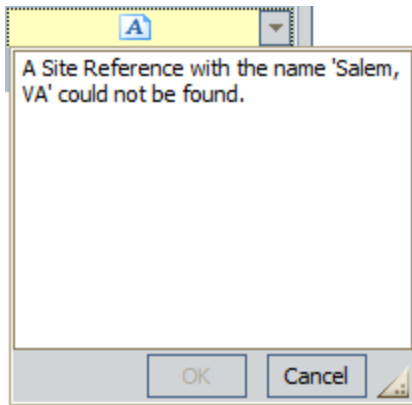
When you navigate away from the **ACA Import** page, a message will appear, asking if you want to save the results of the import process to a text file. If you want to save the results to a text file, you can click the **Yes** button. Otherwise, you can click the **No** button. The text file will contain the same information that is displayed in the grid, including any error messages that you can see by clicking the [A] icon.

The **ACA Import** page also contains the **Common Tasks menu**, which provides quick access to other common ACA functions.

Common Tasks Menu
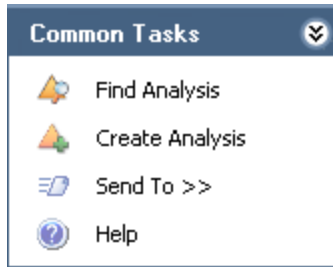
The **Common Tasks** menu on the **ACA Import** page contains the following links:

- **Find Analysis:** Displays the **Asset Criticality Analysis Search** page.
- **Create Analysis:** Displays a new Asset Criticality Analysis record on the **Asset Criticality Analysis Definition** page.
- **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 **ACA Import** page.

Navigation Menu

The **Navigation** menu appears on most pages in Asset Criticality Analysis and provides access to the Asset Criticality Analysis features.

> Note: The **Navigation** menu does NOT appear on the **Asset Criticality Analysis** page, the **Asset Criticality Analysis Search** page, or the **Asset Criticality Analysis Administration** page.

A green arrow to the left of an option indicates the feature that you are currently viewing. The following image shows the **Navigation** menu as it appears on the **Asset Criticality Analysis Definition** page.
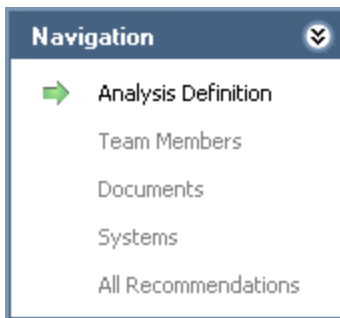
The **Navigation** menu in Asset Criticality Analysis contains the following links:

- **Analysis Definition:** Displays the **Asset Criticality Analysis Definition** page, where you can manage Asset Criticality Analysis records.
- **Team Members:** Displays the **Asset Criticality Analysis Team Members** page, where you can manage the ACA Analysis team.
- **Documents:** Displays the **Reference Documents** page, where you can manage Reference Document records that are associated with the ACA Analysis.
- **Systems:** Displays a new Asset Criticality Analysis System records, and then displays the **Asset Criticality Analysis Systems** page.
- **All Recommendations:** Displays the list of all the Meridium General Recommendation records that are linked to the current Asset Criticality Analysis record in Recommendations Management.

These links are enabled after you have created a new Asset Criticality Analysis record or opened an existing one (i.e., an Analysis ID appears in the title bar).

Associated Pages Menu in Asset Criticality Analysis

The **Associated Pages** menu appears throughout Asset Criticality Analysis and displays associated pages that have been configured for the families that participate in the [Asset Criticality Analysis data model](#). The baseline Meridium APM database does not contain Associated Pages links for ACA families by default. For details on configuring items to appear on the **Associated Pages** menu, see the URL Manager Help.

Asset Criticality Analysis Workflow

To create a complete ACA Analysis, you will need to complete the following steps in the following order:

1. Create an Asset Criticality Analysis record.

2. Define the system, which includes:

- Adding Asset Criticality Analysis System records to the analysis.
- Linking Equipment and Functional Location records to the Asset Criticality Analysis System records.

3. Assess risk, which includes assigning the unmitigated risk value to the Asset Criticality Analysis System records and individual Equipment and Functional Location record. To assign the unmitigated risk value to Asset Criticality Analysis System, Equipment, and Functional Location records, you can use either of the following methods:

- Assign the risk values in ACA using the Risk Matrix.

-or-

- Export the analysis, assign the risk values using a Microsoft Excel file, and then import the analysis, which imports the risk values.

> **Note:** Steps 1 through 3 can be completed one at a time in ACA *or* all at once by importing an ACA Analysis (including the Asset Criticality Analysis record, Asset Criticality Analysis System records, and Risk Assessment records that represent the risk). For the purpose of explaining the entire workflow, this topic identifies the individual steps, assuming that you will complete them one at a time in ACA.

4. Define the ACA Analysis team.

5. Manage Reference Document records.

6. Create Meridium General Recommendation records.

When you want to view a summary of the information that is related to an ACA Analysis, you can view the reports and graphs that are associated with that analysis via links on the **Common Tasks** menu that appears on the following pages:

- Asset Criticality Analysis Definition page
- Asset Criticality Analysis Systems page

About Importing ACA Analyses from Microsoft Excel

When you create an ACA Analysis from a Microsoft Excel file, the Meridium APM system will create:

- An Asset Criticality Analysis record.
- One ore more Asset Criticality Analysis System records, which are linked to the Asset Criticality Analysis record.
- One or more Risk Assessment records, which are linked to the Asset Criticality Analysis System records.

In addition, for each Equipment and Functional Location record that is specified in the file, the Meridium APM system will include those *existing* records in the Asset Criticality Analysis that is created during the import process. It will also create Risk Assessment records, which will be linked to those Equipment and Functional Location records.

During the import process, you can map values in the Excel file to fields in the Meridium APM records that will be created (i.e., Asset Criticality Analysis, Asset Criticality Analysis System, and Risk Assessment records). To make sure that the mappings work correctly, the data in the Excel file must meet certain minimum requirements.

The Meridium APM distribution DVD contains an [example Excel file](#) that you can use as a starting point for importing ACA Analyses. The example file contains all of the worksheets and columns that are required for the import process to work correctly. If you use the example file, you will just need to populate the cells with the appropriate data. The baseline ACA product also contains a default mapping that you can use to indicate how columns should be mapped from the file to the Meridium APM system. This default mapping is configured assuming that you are using the example Excel file.

> **Note:** Throughout this documentation, we assume that you are using the example Excel file as a starting point, so we do not explain the requirements of the *file structure*. We explain only the requirements of the *data* that you will add to the file. We also assume that you are using the default mapping.

In addition to the fields that are populated with the values in the Excel file, to help you track the import status, the following fields are also populated automatically in the Asset Criticality Analysis and Asset Criticality Analysis System records that are created during the import process:

- Import Status
- Imported By
- Import Date

You can import an ACA Analysis only if you are a Super User or a member of the MI ACA Administrator Security Group.

About the Example Excel File

The Meridium APM Framework and Server Setup distribution DVD contains an example Excel file that you can use as a starting point for importing ACA Analyses. The file, *ACA_ Baseline_Example.xls*, is located in the following folder on the DVD: \\Configuration\ACA Import.

The example file contains all of the worksheets and columns that are required for the import process to work correctly. It also contains some columns that are optional but that you might want to use during the import procedure. If you use the example file, you will need to populate the cells with the appropriate data, but you will not need to create any of the required worksheets or columns.

> Œ**Hint:** You can *add* columns or worksheets, but you should *not remove* any of the existing worksheets or required columns.

The example Excel file contains the following worksheets:

- **Analyses:** Determines which ACA Analysis records will be created. Each row in the Analyses worksheet represents a separate ACA Analysis record.

- **Systems:** Determines which Asset Criticality Analysis System records will be created and included in the analyses that will be created during the import process. Each row in the Systems worksheet represents a separate combination of ACA Analysis and Asset Criticality Analysis System record. For example, if you want to create Analysis A, which includes three Asset Criticality Analysis System records, the Systems worksheet would need to contain *three* separate rows.

- **Assets:** Determines which *existing* Equipment and Functional Location records will be included in the analyses that will be created during the import process. Each row in the Assets worksheet represents a separate combination of Asset Criticality Analysis System record and Equipment or Functional Location record. For example, if you want to create an analysis that includes three Asset Criticality Analysis System records, where each of those Asset Criticality Analysis System record contains two Equipment records, the Assets worksheet would need to contain *six* separate rows.

The following table provides information about the worksheets and columns that are provided in the example file, the Meridium APM family and field to which the values in those columns are mapped by default, and any additional notes about the data.

Column	Meridium APM Record	Meridium APM Field	Notes
Analyses Worksheet			
Analysis ID	Asset Criticality Analysis	Analysis ID	This column must contain a value.

Column	Meridium APM Record	Meridium APM Field	Notes
Analysis Description	Asset Criticality Analysis	Analysis Description	None
Site ID	Asset Criticality Analysis	Site ID	This column must contain a valid site ID from an existing Site Reference record, where the site ID is stored in the Name field.
Analysis Owner	Asset Criticality Analysis	Analysis Owner	None
Analysis Type	Asset Criticality Analysis	Analysis Type	The Analysis Type field does not appear on the baseline Asset Criticality Analysis datasheet.
Systems Worksheet			

Column	Meridium APM Record	Meridium APM Field	Notes
Analysis ID	None	None	The values in this column are used to determine which Asset Criticality Analysis records will be linked to the Asset Criticality Analysis System records that are created during the import process. The Systems worksheet must contain at least one row for each analysis ID that exists in the Analyses worksheet. In addition, the value in each **Analysis ID** cell in the Systems worksheet must match one of the values in the **Analysis ID** column in the Analyses worksheet. For example, if the Analyses worksheet contains the value *Analysis 1* in the **Analysis ID** column, at least one row in the Systems worksheet should contain the value *Analysis 1* in the **Analysis ID** column.
System ID	Asset Criticality Analysis System	System ID	This column must contain a value.
System Description	Asset Criticality Analysis System	System Description	None

Column	Meridium APM Record	Meridium APM Field	Notes
Site ID	Asset Criticality Analysis System	Site ID	This column must contain a valid site ID from an existing Site Reference record, where the site ID is stored in the Name field. In addition, the value in each **Site ID** cell in the Systems worksheet must match one of the values in the **Site ID** column in the Analyses worksheet.
System Equipment Type	Asset Criticality Analysis System	System Equipment Type	None
System Process Type	Asset Criticality Analysis System	System Process Type	None
(ENVIRONMENT) Consequence	Risk Rank	Consequence	This value will be mapped to the Consequence field in the Risk Rank record whose Category field contains the value *Environment*.
(ENVIRONMENT) Probability	Risk Rank	Probability	This value will be mapped to the Probability field in the Risk Rank record whose Category field contains the value *Environment*.

Column	Meridium APM Record	Meridium APM Field	Notes
(ENVIRONMENT) Protection Level	Risk Rank	Protection Level	This value will be mapped to the Protection Level field in the Risk Rank record whose Category field contains the value *Environment*.
(FINANCIAL) Consequence	Risk Rank	Consequence	This value will be mapped to the Consequence field in the Risk Rank record whose Category field contains the value *Financial*.
(FINANCIAL) Maintenance Cost	Risk Rank	Maintenance Cost	This value will be mapped to the Maintenance Cost field in the Risk Rank record whose Category field contains the value *Financial*. Note that the Maintenance Cost field is not displayed on the Risk Rank datasheet by default. It is, however, displayed on the **Financial** tab of the Risk Matrix.
(FINANCIAL) Probability	Risk Rank	Probability	This value will be mapped to the Probability field in the Risk Rank record whose Category field contains the value *Financial*.

Column	Meridium APM Record	Meridium APM Field	Notes
(FINANCIAL) Production Loss	Risk Rank	Production Loss	This value will be mapped to the Production Loss field in the Risk Rank record whose Category field contains the value *Financial*. Note that the Production Loss field is not displayed on the Risk Rank datasheet by default. It is, however, displayed on the **Financial** tab of the Risk Matrix.
(OPERATIONS) Consequence	Risk Rank	Consequence	This value will be mapped to the Consequence field in the Risk Rank record whose Category field contains the value *Operations*.
(OPERATIONS) Probability	Risk Rank	Probability	This value will be mapped to the Probability field in the Risk Rank record whose Category field contains the value *Operations*.
(OPERATIONS) Protection Level	Risk Rank	Protection Level	This value will be mapped to the Protection Level field in the Risk Rank record whose Category field contains the value *Operations*.

Column	Meridium APM Record	Meridium APM Field	Notes
(SAFETY) Con-sequence	Risk Rank	Consequence	This value will be mapped to the Con-sequence field in the Risk Rank record whose Category field contains the value *Safety*.
(SAFETY) Probability	Risk Rank	Probability	This value will be mapped to the Prob-ability field in the Risk Rank record whose Category field contains the value *Safety*.
(SAFETY) Protection Level	Risk Rank	Protection Level	This value will be mapped to the Pro-tection Level field in the Risk Rank record whose Category field contains the value *Safety*.
Assets Worksheet			

Column	Meridium APM Record	Meridium APM Field	Notes
System ID	None	None	In each row in the Assets worksheet, the value in the **System ID** cell is used to determine which Asset Criticality Analysis System record will be linked to the Equipment or Functional Location record identified in that row.
			The Assets worksheet must contain at least one row for each system ID that exists in the Systems worksheet. In addition, the value in each **System ID** cell in the Assets worksheet must match one of the values in the **System ID** column in the Systems worksheet.
			For example, if the Systems worksheet contains the value *System 1* in the **System ID** column, at least one row in the Assets worksheet should contain the value *System 1* in the **System ID** column.

Column	Meridium APM Record	Meridium APM Field	Notes
Asset ID	Equipment -or- Functional Location	If the row represents an Equipment record (determined by the value in the **Asset Family ID** cell), the value in the **Asset ID** cell maps to the value in the Equipment ID field in the Equipment record. -or- If the row represents a Functional Location record, (determined by the value in the **Asset Family ID** cell), the value in the **Asset ID** cell maps to the Functional Location field in the Functional Location record.	The import process does not *create* an Equipment or Functional Location record. Instead, it uses the specified Asset ID to determine which *existing* Equipment or Functional Location to link to the Asset Criticality Analysis System record that will be created (identified by the value in the **System ID** cell in the same row) during the import process. This column must contain a value.
Asset Family ID	None	None	In each row in the Assets worksheet, the value in the **Asset Family ID** cell is used to determine whether the Asset Criticality Analysis System identified in that row will be linked to an Equipment record or a Functional Location record. This column must contain a value.

Column	Meridium APM Record	Meridium APM Field	Notes
Asset CMMS ID	Equipment -or- Functional Location	CMMS System	In each row in the Assets worksheet, the value in this cell must match the value in the CMMS System field in the Equipment or Functional Location record identified in that row (in the **Asset ID** cell). For example, suppose you specify the Equipment record with the Equipment ID *000000000001026082*. If that Equipment record contains the value *Roanoke, VA* in the CMMS System field, the **Asset CMMS ID** cell in the Excel file must also contain the value *Roanoke, VA*.
(ENVIRONMENT) Consequence	Risk Rank	Consequence	This value will be mapped to the Consequence field in the Risk Rank record whose Category field contains the value *Environment*.
(ENVIRONMENT) Probability	Risk Rank	Probability	This value will be mapped to the Probability field in the Risk Rank record whose Category field contains the value *Environment*.

Column	Meridium APM Record	Meridium APM Field	Notes
(ENVIRONMENT) Protection Level	Risk Rank	Protection Level	This value will be mapped to the Protection Level field in the Risk Rank record whose Category field contains the value *Environment*.
(FINANCIAL) Consequence	Risk Rank	Consequence	This value will be mapped to the Consequence field in the Risk Rank record whose Category field contains the value *Financial*.
(FINANCIAL) Maintenance Cost	Risk Rank	Maintenance Cost	This value will be mapped to the Maintenance Cost field in the Risk Rank record whose Category field contains the value *Financial*. Note that the Maintenance Cost field is not displayed on the Risk Rank datasheet by default. It is, however, displayed on the **Financial** tab of the Risk Matrix.
(FINANCIAL) Probability	Risk Rank	Probability	This value will be mapped to the Probability field in the Risk Rank record whose Category field contains the value *Financial*.

Column	Meridium APM Record	Meridium APM Field	Notes
(FINANCIAL) Production Loss	Risk Rank	Production Loss	This value will be mapped to the Production Loss field in the Risk Rank record whose Category field contains the value *Financial*. Note that the Production Loss field is not displayed on the Risk Rank datasheet by default. It is, however, displayed on the **Financial** tab of the Risk Matrix.
(OPERATIONS) Consequence	Risk Rank	Consequence	This value will be mapped to the Consequence field in the Risk Rank record whose Category field contains the value *Operations*.
(OPERATIONS) Probability	Risk Rank	Probability	This value will be mapped to the Probability field in the Risk Rank record whose Category field contains the value *Operations*.
(OPERATIONS) Protection Level	Risk Rank	Protection Level	This value will be mapped to the Protection Level field in the Risk Rank record whose Category field contains the value *Operations*.

Column	Meridium APM Record	Meridium APM Field	Notes
(SAFETY) Con-sequence	Risk Rank	Consequence	This value will be mapped to the Con-sequence field in the Risk Rank record whose Category field contains the value *Safety*.
(SAFETY) Probability	Risk Rank	Probability	This value will be mapped to the Prob-ability field in the Risk Rank record whose Category field contains the value *Safety*.
(SAFETY) Protection Level	Risk Rank	Protection Level	This value will be mapped to the Pro-tection Level field in the Risk Rank record whose Category field contains the value *Safety*.

Note that during the import process, multiple Risk Rank records are created:

- Some of those Risk Rank records are linked to the Risk Assessment records that are created and linked to the *Asset Criticality Analysis System* records. The values on the *Systems* worksheet are mapped to the Risk Rank records that are asso-ciated with the *Asset Criticality Analysis System* records.
- Some of those Risk Rank records are linked to the Risk Assessment records that are created and linked to the *Equipment or Functional Location* records. The val-ues on the *Assets* worksheet are mapped to the Risk Rank records that are asso-ciated with the *Equipment and Functional Location* records.

Performing the Import Procedure

> **Note:** The following instructions assume that you are using the example Excel file and the baseline mapping. Instructions for using a different mapping are provided elsewhere in this documentation.

You can import an ACA Analysis only if you are a Super User or a member of the MI ACA Administrator Security Group.

To import an ACA Analysis:

1. In the Meridium APM Framework, access the **Asset Criticality Analysis Start Page**.

2. On the **Asset Criticality Analysis Start Page**, click the **Import Criticality Data** link.

   The **Open** dialog box appears.
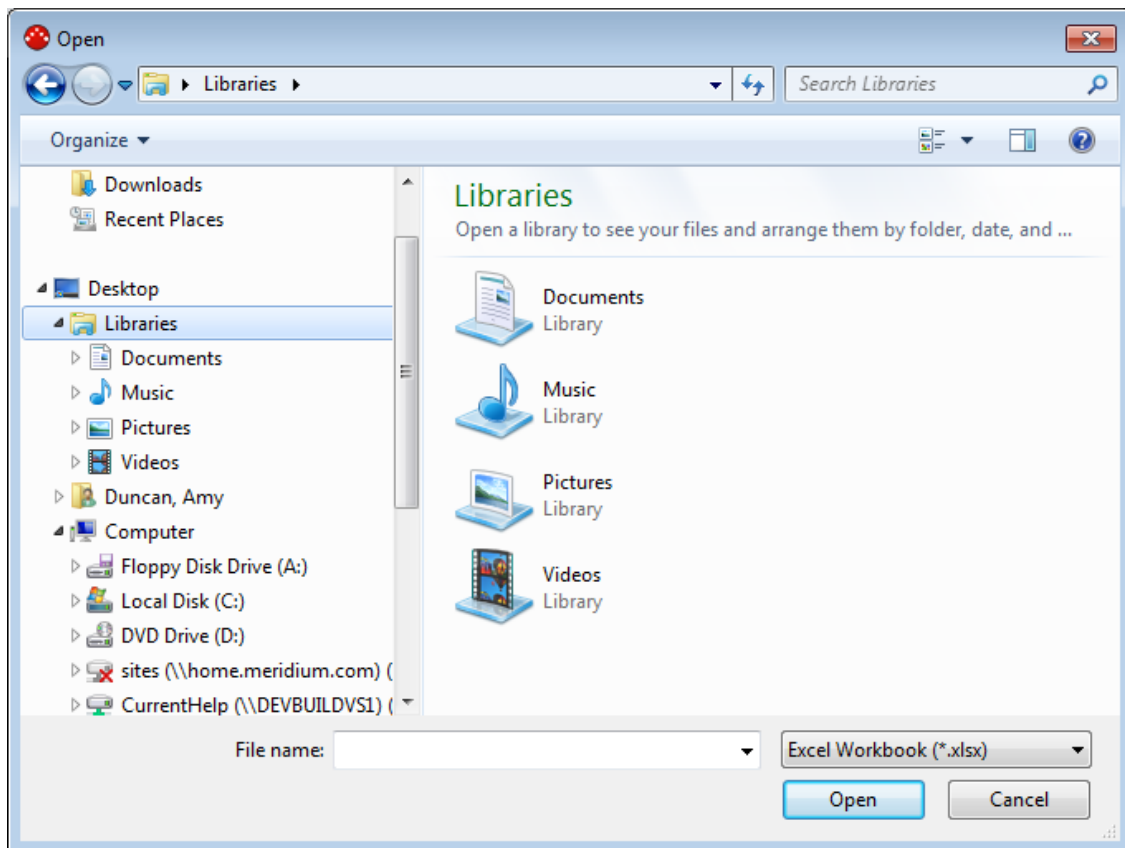
> **Note:** You might encounter a slight delay before the **Open** dialog box appears. This delay is expected and occurs only the first time that you access the **Open** dialog box within a given Meridium APM session.

3. Navigate to the folder containing the Excel file that you want to import, select the Excel file, and click the **Open** button.

   The **Select Data to Import** window appears.

4. In the **Mapping Name** list, select *ACA Default Mapping*.

   The remaining lists are populated automatically.

5. In the **Risk Matrix** list, select the Risk Matrix that you want to use within the ACA Analyses that will be created during the import process.

   > **Note:** The selected Risk Matrix must be represented by a Risk Matrix record that is linked to a Site Reference record whose name matches the Site IDs that are specified in the selected Excel file. For example, suppose you select the value

> *Custom Risk Matrix* in the **Risk Matrix** list. If the Excel file contains the value *Roanoke, VA* in the **Site ID** cell (in the Analyses and Systems worksheets), the Risk Matrix record with the name *Custom Risk Matrix* must be linked to the Site Reference record with the name *Roanoke, VA*. Otherwise, the analyses that are associated with the site *Roanoke, VA* will be skipped during the import process.

6. Click **OK**.

   The **ACA Import** page appears, displaying a progress bar that identifies the progress of the import procedure. When the process is complete, a grid appears, displaying one row for each item that was processed during the import procedure.

Microsoft Excel File Structure

Consider the following example, which explains how to create two ACA Analyses, where:

- One analysis, *Analysis A*, contains one system with three Equipment records.
- The other analysis, *Analysis B*, contains one system with two Equipment records and one Functional Location record.

The following information explains how the Excel file would be structured to produce these results.

> **Note:** The yellow and blue shading has been added to the images for clarity. The shading is not available in the example Excel file.

Analyses Worksheet

The Microsoft Excel file contains an Analyses worksheet, similar to the one shown in the following image.

	A	B	C	D	E	F
1	Analysis ID	Analysis Description	Site ID	Analysis Owner	Analysis Type	
2	Analysis A	Analysis A description	Roanoke, VA	Demo, Joe	Type A	
3	Analysis B	Analysis B description	Houston, TX	Demo, Joe	Type B	
4						
5						
6						
7						
8						
9						
10						
11						

Analyses / Systems / Assets

From this worksheet, you can see that two Analysis IDs are listed: *Analysis A* and *Analysis B*.

You can also see the following values in the **Site ID** column:

- Roanoke, VA
- Houston, TX

You can assume, therefore, that the database into which this file will be imported contains two Site Reference records whose Name field contains the value *Roanoke, VA* and *Houston, TX*. These records are illustrated in the following images.

Roanoke, VA Site Reference record
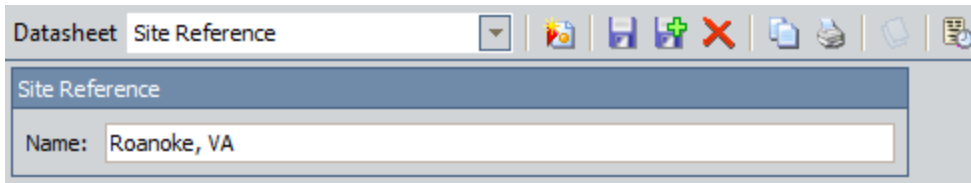
Houston, TX Site Reference record
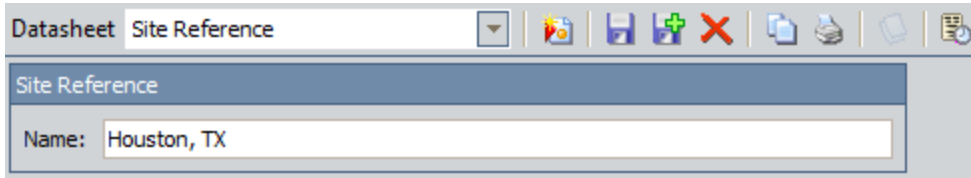
Systems worksheet

The Microsoft Excel file also contains a Systems worksheet, similar to the one shown in the following images (separate image are provided to make the columns easier to see).

	A	B	C	D	E	F
1	Analysis ID	System ID	System Description	Site ID	System Equipment Type	System Process Type
2	Analysis A	System 101	System 101 description	Roanoke, VA	System Equipment Type A	System Process Type A
3	Analysis B	System 102	System 102 description	Houston, TX	System Equipment Type B	System Process Type B

	G	H	I	J	K
1	(ENVIRONMENT) Consequence	(ENVIRONMENT) Probability	(ENVIRONMENT) Protection Level	(FINANCIAL) Consequence	(FINANCIAL) Maintenance Cost
2	1000	5		50	30
3	500	1		40	20

	L	M	N	O	P
1	(FINANCIAL) Probability	(FINANCIAL) Production Loss	(OPERATIONS) Consequence	(OPERATIONS) Probability	(OPERATIONS) Protection Level
2	5	15	10	1	
3	1	10	100	5	
4					
5					
6					
7					
8					
9					
10					
11					

Analyses　**Systems**　Assets

	Q	R	S
1	(SAFETY) Consequence	(SAFETY) Probability	(SAFETY) Protection Level
2	1	0.3	
3	100	0.1	
4			
5			
6			
7			
8			
9			
10			
11			

Analyses　**Systems**　Assets

In the Microsoft Excel file:

- The yellow row represents the Asset Criticality Analysis System record *System 101*, which will be included in Analysis A.

- The blue row represents the Asset Criticality Analysis System record *System 102*, which will be included in Analysis B.

Starting in column G, **(ENVIRONMENT) Consequence**, you can see the risk rank values that will be mapped to the Risk Matrix (stored in Risk Rank records) that will be displayed when you access it from the context of the Asset Criticality Analysis System record (on the **Asset Criticality Analysis Systems** page).

Assets Worksheet

The Microsoft Excel file also contains the Assets worksheet, similar to the one shown in the following image (separate images are provided to make the columns easier to see).

Microsoft Excel File Structure

	A	B	C	D
1	System ID	Asset ID	Asset Family ID	Asset CMMS ID
2	System 101	HXST 105	MI_EQUIP000	MDM-800
3	System 101	HXST 106	MI_EQUIP000	MDM-800
4	System 101	HXST 16	MI_EQUIP000	MDM-800
5	System 102	HXST 65	MI_EQUIP000	D04-810
6	System 102	HXST 66	MI_EQUIP000	D04-810
7	System 102	MRD-ROA-REFN-RF104-GE	MI_FNCLOC00	D04-810
8				
9				
10				
11				

Analyses / Systems / **Assets**

	E	F	G	H	I
1	(ENVIRONMENT) Consequence	(ENVIRONMENT) Probability	(ENVIRONMENT) Protection Level	(FINANCIAL) Consequence	(FINANCIAL) Maintenance Cost
2	1	0.05		100	600
3	10	0.1		200	700
4	100	0.3		300	800
5	500	1		400	900
6	1000	5		500	1000
7	1000	5		500	1000
8					
9					
10					
11					

Analyses / Systems / **Assets**

	J	K	L	M	N
1	(FINANCIAL) Probability	(FINANCIAL) Production Loss	(OPERATIONS) Consequence	(OPERATIONS) Probability	(OPERATIONS) Protection Level
2	0.05	10	1	0.05	
3	0.1	20	10	0.1	
4	0.3	30	100	0.3	
5	1	40	500	1	
6	5	50	1000	5	
7	5	50	1000	5	
8					
9					
10					
11					

Analyses / Systems / **Assets**

	O	P	Q
1	(SAFETY) Consequence	(SAFETY) Probability	(SAFETY) Protection Level
2	1	0.05	
3	10	0.1	
4	100	0.3	
5	500	1	
6	1000	5	
7	1000	5	
8			
9			
10			
11			

Analyses / Systems / **Assets**

In the Microsoft Excel file:

- The yellow rows represent the Equipment or Functional Location records that will be linked to the Asset Criticality Analysis System record *System 101*. Because all of the yellow rows contain the value *MI_EQIUP000* in the **Asset Family ID** cell, you can determine that the values in the **Asset ID** cells in those rows represent existing Equipment records.

- The blue rows represent the Equipment or Functional Location records that will be linked to the Asset Criticality Analysis System record *System 102*. You can see that two of the blue rows contain the value *MI_EQIUP000* in the **Asset Family ID** cell, and one of the blue rows contains the value *MI_FNCLOC00* in the **Asset Family ID** cell. The rows with the value *MI_EQIUP000* represent existing Equipment records, and the row with the value *MI_FNCLOC00* represents an existing Functional Location record.

Starting in column G, **(ENVIRONMENT) Consequence**, you can see the risk rank values that will be mapped to the Risk Matrix (stored in Risk Rank records) that will be displayed when you access it from the context of the Equipment or Functional Location records (on the **Asset Criticality Analysis Systems** page).

Mappings

Based on the [example Microsoft Excel file structure](#), when performing the import procedure, if you were to select the baseline mapping, *ACA Default Mapping*, the mappings would appear as in the following images.

Analysis tab

Systems tab

Mappings

Assets tab

Mappings

Result

Using the example Microsoft Excel file structure and mappings, when the import procedure is complete, the ACA Analyses would be created and look similar to the following image.

Analysis ID	△	Analysis Description	Site ID	Analysis Owner	Analysis Type
Analysis A		Analysis A description	Roanoke, VA	Demo, Joe	Type A
Analysis B		Analysis B description	Houston, TX	Demo, Joe	Type B

The following information further explains the results of *Analysis A*. You can also apply this explanation to the results of Analysis B.

For Analysis A, the Asset Criticality Analysis datasheet would look similar to the following image.

> **Note:** The Analysis Start Date field and Last Modified Date field are populated automatically with the date on which the record was created. If you were to modify the Excel file and reimport the analysis, the value in the Last Modified Date field would be updated with the date on which you reimported the analysis.

The **Asset Criticality Analysis Systems** page would look similar to the following image.

System ID:	Location/Equipment ID:	Equipment ID:	Unmitigated Risk:	Recommendations:
⚠ System 101			5010.3	
	~ C-488 LUBE/SEAL OIL COOLER ~ HXST 105		0.15	
	~ C-488 LUBE/SEAL OIL COOLER ~ HXST 106		3	
	~ C-488 LUBE/SEAL OIL COOLER ~ HXST 16		90	

You can see that the system contains three Equipment records (shown in the following image), which match the Equipment records that were specified in the Systems worksheet in the Excel file.

Result

System ID	Asset ID	Asset Family ID
System 101	HXST 105	MI_EQUIP000
System 101	HXST 106	MI_EQUIP000
System 101	HXST 16	MI_EQUIP000

The Asset Criticality Analysis System datasheet would look similar to the following image.

If you were to access the Risk Matrix for the Asset Criticality Analysis System record, the **Safety** tab would look similar to the following image.

Result

	Consequence				
	Very Low 1	Low 10	Medium 100	High 500	Very High 1000
Frequent 5	5	50	500	2500	5000
Probable 1	1	10	100	500	1000
Possible 0.3	0.3 ⚠	3	30	150	300
Remote 0.1	0.1	1	10	50	100
Improbable 0.05	0.05	0.5	5	25	50

If you remember from the example Excel file, in the Systems worksheet, in the yellow row representing System 101, the values were specified in the **(SAFETY) Consequence** cell and **(SAFETY) Probability** cell, as shown in the following image.

(SAFETY) Consequence	(SAFETY) Probability
1	0.3

Looking again at the **Safety** tab of the Risk Matrix, you can see in the following image that the selected probability is *0.3*, and the selected consequence is *1* (making the value at the intersection *0.3*).

Result
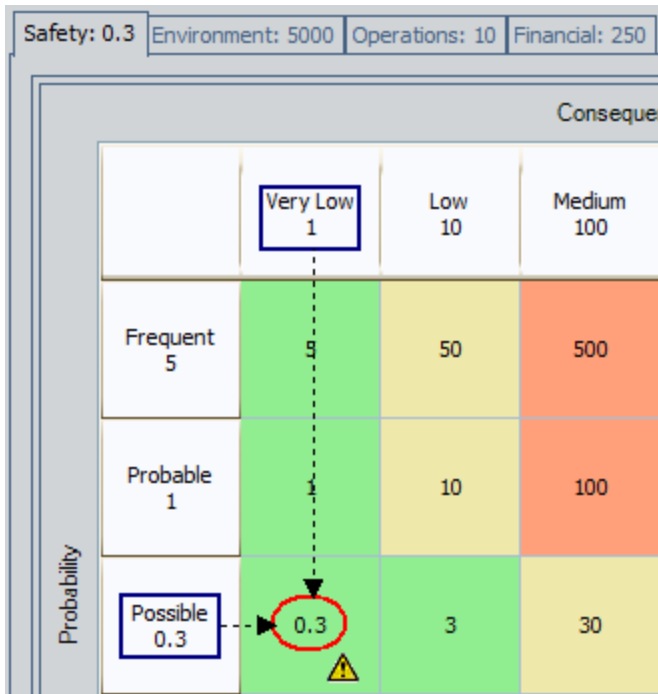
If you were to access the Risk Matrix for the Equipment record containing the text *HXST 105*, the **Safety** tab would look similar to the following image.

Result

Safety: 0.05	Environment: 0.05	Operations: 0.05	Financial: 5

Consequence					
	Very Low 1	Low 10	Medium 100	High 500	Very High 1000
Frequent 5	5	50	500	2500	5000
Probable 1	1	10	100	500	1000
Possible 0.3	0.3	3	30	150	300
Remote 0.1	0.1	1	10	50	100
Improbable 0.05	0.05 ⚠	0.5	5	25	50

(Probability axis shown on the left side)

If you remember from the example Excel file, in the Assets worksheet, in the yellow row representing this Equipment record, the values were specified in the **(SAFETY) Consequence** cell and **(SAFETY) Probability** cell, as shown in the following image.

(SAFETY) Consequence	(SAFETY) Probability
1	0.05

Looking again at the **Safety** tab of the Risk Matrix, you can see in the following image that the selected probability is *0.05*, and the selected consequence is *1* (making the value at the intersection *0.05*).

Result

About Using Custom Mappings

The baseline ACA product contains a default mapping that you can use to indicate how columns should be mapped from the Excel file to the Meridium APM system. This baseline mapping is configured assuming that you are using the example Microsoft Excel file as the starting point for importing ACA Analyses.

If you are using the example Microsoft Excel file exactly as it is delivered, meaning that you type values in the available cells but do not create new columns, modify the existing columns, or create new worksheets, you will *not* need to create a custom mapping. You can use the baseline mapping to import ay ACA Analyses that are specified in the Excel file.

If, however, you add columns to the example Excel file, modify the column headings in the example Excel file, or create your own Excel file, you will need to create a custom mapping to map columns from the file to the Meridium APM product. You can create a custom mapping by modifying the baseline mapping and saving it with a different name.

Creating Custom Mappings

The following instructions assume that you have access to the Microsoft Excel file that contains the worksheets and columns for which you want to create a custom mapping. You will need to navigate to this file to complete these instructions. These instructions also assume that you will use the baseline mapping as the starting point for creating your own custom mapping.

To create a custom mapping:

1. In the Meridium APM Framework, access the Asset Criticality Analysis Start Page.

2. On the **Asset Criticality Analysis Start Page**, click the **Import Criticality Data** link.

   The **Open** dialog box appears.
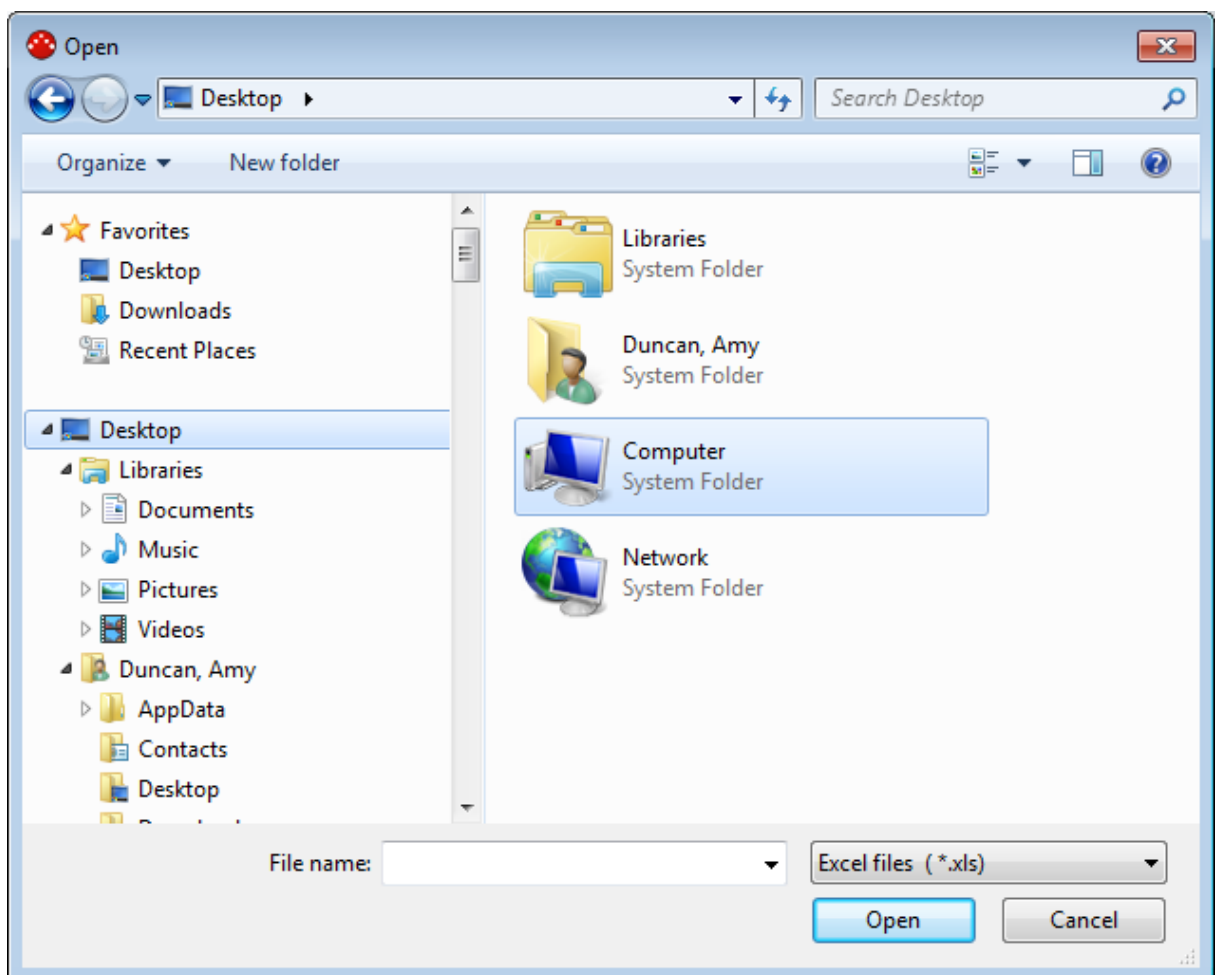
3. Navigate to the folder containing the Excel file that you want to use for creating a new mapping, select the Excel file, and click the **Open** button.

   The **Select Data to Import** window appears.

4. In the **Mapping Name** list, select *ACA Default Mapping*.

    The remaining lists are populated automatically.

> Œ**Hint:** The remaining instructions in this topic explain how to select values in each list on each tab. If you make a mistake and want to clear your selections at any time, you can do so by clicking the **Reset** button.

5. In the **Risk Matrix** list, select the Risk Matrix that you want to use in the new mapping.

6. In the **Required Mappings** section, in the **Analysis Worksheet** list, select the worksheet in the selected Microsoft Excel file that contains a column whose value will

be mapped to the Analysis ID field in new Asset Criticality Analysis records that are created using this mapping.

7. In the **Analysis Name Column** list, select the column (from the worksheet that you selected in the **Analysis Worksheet** list) whose value you want to map to the Analysis Name field in new Asset Criticality Analysis records that are created using this mapping.

8. If you want the Asset Criticality Analysis records that are created using this mapping to be linked to a Site Reference record, in the **Optional Mappings** section, in the **Site Reference Column** list, select the column (from the worksheet that you selected in the **Analysis Worksheet** list) whose value you want to map to the Site ID field in new Asset Criticality Analysis records that are created using this mapping.

9. To populate other fields in the Asset Criticality Analysis records that are created using this mapping, in the **Additional Mappings** section, to the right of each **Excel Column** cell, select a value in the **Meridium Field** column that represents a field that you want to populate from that Microsoft Excel file column. For example, if the Microsoft Excel file contains the column *Analysis Scope*, to the right of the **Analysis Scope** cell, you would want to select *Analysis Scope*.

10. Click the **Systems** tab.

    The **Systems** tab appears.

11. In the **Required Mappings** section, in the **System Worksheet** list, select the work-sheet in the selected Microsoft Excel file that contains a column whose values will be mapped to the System ID field in new Asset Criticality Analysis System records that are created using this mapping.

12. In the **System ID Column** list, select the column (from the worksheet that you selected in the **System Worksheet** list) whose value you want to map to the System ID field in new Asset Criticality Analysis System records that are created using this mapping.

13. In the **Analysis Reference Column** list, select the column (from the worksheet that you selected in the **System Worksheet** list) that contains values that identify the ACA Analysis that will contain the Asset Criticality Analysis System records that are created using this mapping.

14. To populate cells in the Risk Matrix that is associated with Asset Criticality Analysis System records that are created using this mapping, in the **Additional Mappings** section, to the right of each **Excel Column** cell representing a cell in the Risk Matrix, select a value in the **Meridium Field** column that represents the Risk Matrix cell that you want to populate from that Microsoft Excel column.

15. To populate other fields in the Asset Criticality Analysis System records that are

created using this mapping, in the **Additional Mappings** section, to the right of each **Excel Column** cell, select a value in the **Meridium Field** column that represents a field that you want to populate from that Microsoft Excel file column.

16. Click the **Assets** tab.

The **Assets** tab appears.

17. In the **Required Mappings** section, in the **Asset Worksheet** list, select the worksheet in the selected Microsoft Excel file that contains a column whose values identify existing Equipment and Functional Location records that exist in the database.

18. In the **System Reference Column** list, select the column (from the worksheet that you selected in the **Asset Worksheet** list) that contains values that identify Asset Criticality Analysis System records to which the existing Equipment and Functional Location records will be linked.

19. In the **Asset Family Column** list, select the column (from the worksheet that you selected in the **Asset Worksheet** list) that contains values that identify the family to which the existing Equipment or Functional Location records belong (i.e., the

column containing the value *MI_EQUIP000* or *MI_FNCLOC00*).

20. In the **Asset ID Column** list, select the column (from the worksheet that you selected in the **Asset Worksheet** list) that contains values that identify the existing Equipment or Functional Location records (i.e., the column containing the value in the Equipment ID field in the existing Equipment records or the value in the Functional Location field in the existing Functional Location records).

21. In the **Optional Mappings** section, in the **Asset CMMS Column** list, select the column (from the worksheet that you selected in the **Asset Worksheet** list) that contains values that are stored in the CMMS System field in the existing Equipment or Functional Location records.

22. To populate cells in the Risk Matrix that is associated with the Equipment and Functional records that will be linked to the Asset Criticality Analysis System records that will be created using this mapping, in the **Additional Mappings** section, to the right of each **Excel Column** cell representing a cell in the Risk Matrix, select a value in the **Meridium Field** column that represents the Risk Matrix cell that you want to populate from that Microsoft Excel column.

23. Click the **Save** button.
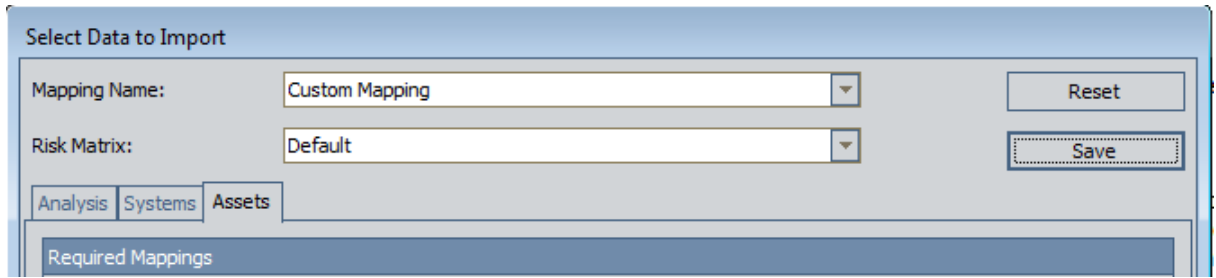
    The **Save Mapping** window appears.
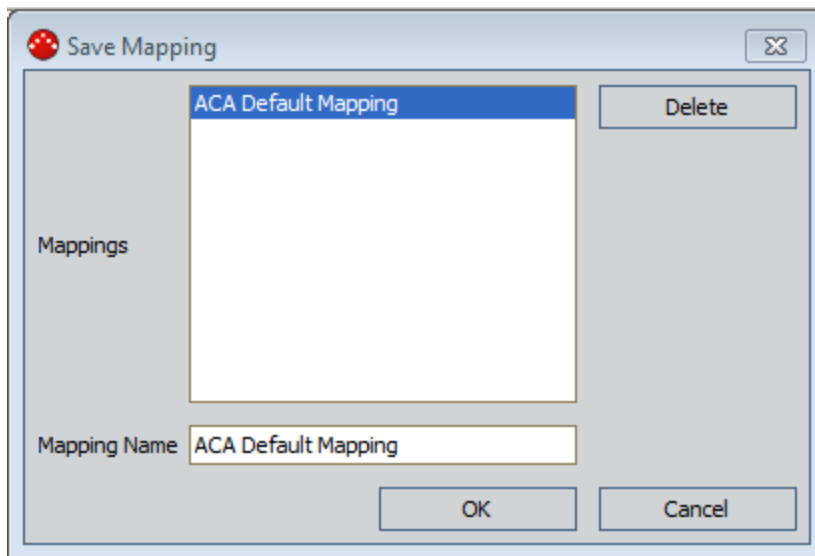
24. In the **Mapping Name** text box, type a new name for the mapping.

25. Click **OK**.

    The mapping is saved, and the **Save Mapping** window closes. The **Mapping Name** list at the top of the **Select Data to Import** window is populated with the new mapping name. For example, in the following image, the new name *Custom Mapping* appears in the **Mapping Name** list.

Other users that access the **Select Data to Import** window will now be able to select this mapping and use it to create new ACA Analyses.

Creating Asset Criticality Analysis Records

After you save an Asset Criticality Analysis record, the value that you typed in the Analysis ID field is appended to the page title in the title bar. As you access different pages within ACA, this value will continue to appear to indicate the ACA Analysis with which you are currently working.

To create an Asset Criticality Analysis from scratch:

1. In the Meridium APM Framework, access the **Asset Criticality Analysis Definition page**.

2. On the Asset Criticality Analysis datasheet, enter values into the fields as desired. Note that the Analysis ID field is required.

3. At the top of the datasheet, click the **Save** icon.

   The Asset Criticality Analysis record is saved.

Modifying Asset Criticality Analysis Records

To modify an Asset Criticality Analysis record:

1. In the Meridium APM Framework, open the desired Asset Criticality Analysis record on the **Asset Criticality Analysis Definition** page.

2. Modify the desired fields on the datasheet.

3. At the top of the datasheet, click the **Save** icon.

   Your changes are saved.

Opening Asset Criticality Analyses

The following instructions provide details on searching for an existing Asset Criticality Analysis record using the baseline *ACA Search* query that appears on the **Asset Criticality Analysis Search** page by default.

To open an existing Asset Criticality Analysis record:

1. In the Meridium APM Framework, [access the **Asset Criticality Analysis Search page**](#).

   The query runs, using the default prompt value *All*, and the list of all the existing Asset Criticality Analysis records appear.

2. In the **State** list, select the desired state. You can choose from:

   - Active
   - Complete
   - Pending Approval
   - Planning
   - Review

3. Click the **Run Query** button.

   The query runs, using the prompt value that you selected, and the results appear. At this point, you can open an Asset Criticality Analysis record.

4. In the search results, select the row containing the Asset Criticality Analysis record that you want to open.

5. On the **Common Tasks** menu, click the **Open Analysis** link.

   The selected record appears on the **Asset Criticality Analysis Definition** page.

About Defining the System

Defining the system includes:

- [Creating Asset Criticality Analysis System records](#).
- [Linking Equipment and Functional Location records to the Asset Criticality Analysis System records](#).
- [Linking Equipment records to Functional Location records](#).

Asset Criticality Analysis System records store details on the systems within your facility whose criticality you want to analyze. Equipment and Functional Location records store information on the assets in your facility that are part of that system.

When you create an Asset Criticality Analysis System record, it is linked automatically to the Asset Criticality Analysis record for the current ACA Analysis. Likewise, when you link an Equipment or Functional Location record to an Asset Criticality Analysis System record, the Equipment or Functional Location record becomes part of the ACA Analysis. In addition, if you link an Equipment record to a Functional Location record that already belongs to the analysis, that Equipment record becomes part of the ACA Analysis.

After you have defined the system, you can:

- [Assess the risk](#) associated with the individual piece of equipment and locations and the system as a whole.
- [Create Meridium General Recommendation records](#) that store recommendations for actions that should be take to mitigate the risk associated with individual pieces of equipment and locations and the entire system.

Aspects of the Asset Criticality Analysis Systems Grid

The **Asset Criticality Analysis Systems** grid appears on the **Asset Criticality Analysis Systems** page. The grid displays in hierarchical format a list of Asset Criticality Analysis System records and the records to which they are linked. The grid can contain records in the following families:

- Asset Criticality Analysis System
- Equipment
- Functional Location
- Risk Assessment
- Meridium General Recommendation

The **Asset Criticality Analysis Systems** grid contains the following columns:

- **System ID:** The ID of the system as it appears in the Asset Criticality Analysis System record. Each Asset Criticality Analysis System record that you add to the ACA Analysis will appear in the grid at the root level.

- **Location/Equipment ID:** The ID of the Equipment or Functional Location record that is linked directly to the Asset Criticality Analysis System record through the *Has Functional Location* or *Safety Analysis Has Equipment* relationship. For each Equipment or Functional Location record that you link directly to the Asset Criticality Analysis System record, the Record ID of that record will appear in a new row below the root level.

- If a Functional Location record appears in this column and is linked to an Equipment record through the *Safety Analysis Has Equipment* relationship, the ID of the successor Equipment record will appear in the **Equipment ID** column in a new row below the predecessor Functional Location record.

- If an Equipment record appears in this column, even if it is linked to another Equipment record, the ID of the successor Equipment record will NOT appear in the **Equipment ID** column. You cannot link successor Equipment records to a predecessor Equipment records via Asset Criticality Analysis.

- **Equipment ID:** The ID of the Equipment record that is linked to the Functional Location record that appears in the **Location/Equipment ID** column. This column will contain an ID only if it is linked to a Functional Location record through the *Safety Analysis Has Equipment* relationship. For each Equipment record that is linked to another Functional Location record, the ID of the successor records will appear in the **Equipment ID** column in its own row on a subsequent level of the hierarchy.

- **Unmitigated Risk:** Displays the total unmitigated risk value for the Asset Criticality Analysis System, Equipment, or Functional Location record that appears at the same level in that row. The total unmitigated risk value is the sum of all the specified unmitigated risk values for each risk category except *Financial*. This field is color-coded based on the colors that appear on the risk matrix in the

corresponding Risk Assessment record.

> **Note:** An administrative user may have specified an alternate label for the Unmitigated Risk column. Throughout this documentation, however, we assume that the label has *not* been modified.

- **Recommendations:** Displays the value **<number> recommendations**, where **<number>** is a numeric value, indicating the number of Meridium General Recommendation records that are linked to the Asset Criticality Analysis System or Asset record that appears in that row.

- **Financial Risk:** Displays the unmitigated financial risk value as it appears in the associated Risk Assessment record. This columns is NOT displayed in the grid by default. You can display this column via the grid option **Show Available Fields**.

As you link Equipment or Functional Location records to Asset Criticality Analysis System records and Equipment records to Functional Location records, a plus (+) or minus (-) sign appears to the left of the predecessor record. You can expand a level of the hierarchy by clicking the plus sign, or you can collapse a level of the hierarchy by clicking the minus sign (-). Note that when you expand the root level of the hierarchy (i.e., the **System ID** column), all levels of the hierarchy will be expanded by default.

The Hierarchy in the Asset Criticality Analysis Systems Grid

The **Asset Criticality Analysis Systems** grid provides a hierarchical view of the records that are linked to a given Asset Criticality Analysis System record for the current ACA Analysis. In other words, the grid provides another view of the record hierarchy for the Asset Criticality Analysis System family. The following image shows an example of how the **Asset Criticality Analysis Systems** grid appears after you have defined an Asset Criticality Analysis system for an ACA Analysis.

System ID:	Location/Equipment ID:	Equipment ID:	Unmitigated Risk:	Recommendations:
🔺 System 2- Site 123				
	⚙ Boiler 12-S Site 123			2 recommendations
	🏷 Site 123 (Boiler)		500	1 recommendation
		⚙ Boiler 11-S Site 123	150	

In this image, you can see that the Asset Criticality Analysis System record *System2- Site 123* is linked to:

- Equipment record *Boiler 12-S Boiler 12-S Site 123*, which is linked to two Meridium General Recommendation records.
- Functional Location record *Site 123 Site 123 (Boiler)*, which is linked to the following records:
  - Risk Assessment with the unmitigated risk value of *500*.
  - Meridium General Recommendation.
  - Equipment record *Boiler 11-S Boiler 11-S Site 123*, which is linked to a Risk Assessment record with an unmitigated risk value of *150*.

If you were to view the record hierarchy for the Asset Criticality Analysis System record *System2- Site 123* in the Record Manager, it would look similar to the following image.

In the previous image, you can see the same relationships in a similar format in which you see them in the **Asset Criticality Analysis Systems** grid. For example, Boiler record *Boiler 12-S Boiler 12-S Site 123* is linked to TWO Meridium General Recommendation records: *REC-123* and *REC-125*.

About Adding Asset Criticality Analysis System Records to the ACA Analysis

When you add an Asset Criticality Analysis System record to an ACA Analysis, the Asset Criticality Analysis System record:

- Is linked to the Asset Criticality Analysis record for the current ACA Analysis.
- Appears in the **System ID** column at the root level in the grid on the **Asset Criticality Analysis Systems** page.

You can add Asset Criticality Analysis System records to an ACA Analysis using the following methods:

- [Create a new Asset Criticality Analysis System record](#).
- [Apply an existing Hazards Analysis System/Node record](#).

Creating New Asset Criticality Analysis System Records

The following instructions provide details on creating a new Asset Criticality Analysis System record via the **Actions** menu on the **Asset Criticality Analysis Systems** page.

These instructions assume that you have already accessed the **Asset Criticality Analysis Systems** page.

To create a new Asset Criticality Analysis System record:

1. In the Meridium APM Framework, on the **Asset Criticality Analysis Systems** page, on the **Actions** menu, click the **Add New System** link.

   The **Asset Criticality Analysis System** dialog box appears, displaying a new Asset Criticality Analysis System record.

2. In the System ID field, type an ID for the Asset Criticality Analysis System. This value is used to identify the record.

3. Enter values into the fields on the datasheet as desired, and then click **OK**.

   The **Asset Criticality Analysis System** dialog box closed, the record is saved and appears in the **System ID** column in the grid.

About Applying Existing Hazards Analysis System/Node Records to ACA Analyses

Instead of creating new Asset Criticality Analysis System records from scratch and manually linking Asset records and Risk Assessment records to that ACA Analysis, you can apply existing Hazards Analysis System/Node records to the ACA Analysis.

When you apply an existing Hazards Analysis System/Node record to an ACA Analysis:

- A new Asset Criticality Analysis System record is created automatically.
- The new Asset Criticality Analysis System record is populated automatically with information from the Hazards Analysis System/Node record.
- The new Asset Criticality Analysis System record is linked it to the Asset Criticality Analysis record for the current ACA Analysis.
- If the Hazards Analysis System/Node record is linked to an Equipment or Functional Location record, the Equipment or Functional Location record is linked automatically to the Asset Criticality Analysis System record, and the ID for the Equipment or Functional Location record appears on a subsequent row in the **Location/Equipment ID** column.

  > **Note:** If the Hazards Analysis System/Node record is linked to a Functional Location record that is linked to an Equipment record through the *Safety Analysis Has Equipment* relationship, the ID of the Equipment record will appear in the **Equipment ID** column.

- If the Hazards Analysis System/Node record is linked to an Equipment or Functional Location record that is linked to a Meridium General Recommendation record, the Meridium General Recommendation record is added to the ACA Analysis and included in the recommendation count in the **Recommendations** column in the same row as the Equipment or Functional Location record.
- If the Hazards Analysis System/Node record is linked to an Equipment or Functional Location record that is associated with one or more Risk Assessment records (via Consequence records, Safeguard records, or direct links), note the following information about how Risk Assessment records are added to the ACA Analysis:
  - The Asset Criticality Analysis System record is linked to the Risk Assessment record with the highest unmitigated risk value of all the Risk Assessment records that are linked to a Consequence record that is linked to the Asset record that is linked to that system.
  - Equipment or Functional Location records that are linked to a Hazards Analysis Cause record are linked to the Risk Assessment record with the highest unmitigated risk value of all the Risk Assessment records that are linked to the Consequence record that is linked to that Hazards Analysis Cause record.
  - The Equipment or Functional Location records that are linked to a Hazards

Analysis Safeguard record are linked to the Risk Assessment record with the highest unmitigated risk value of all the Risk Assessment records that are linked to the Consequence record that is linked to that Hazards Analysis Safeguard record.

You can apply Hazards Analysis System/Node records only if the Hazards Analysis record to which the system/node belongs is in the Complete state. If you try to apply a Hazards Analysis System/Node from a Hazards Analysis that is not in the Complete state, a message will appear, indicating that the Hazards Analysis must be in the Complete state before you can apply records from that analysis to the ACA Analysis. Additionally, you can apply records from a Hazards Analysis only if the Hazards Analysis module is active.

Applying Existing Hazards Analysis System/Node Records to ACA Analyses

The following instructions provide details on searching for the existing Hazards Analysis record that is linked to the Hazards Analysis System/Node record that you want to copy to create a new Asset Criticality Analysis System record that is linked to the current ACA Analysis.

In addition to the family-level privileges assigned to you for ACA, you must also be a member of the MI HA Member Security Group to apply an existing Hazards Analysis System/Node record to an ACA Analysis.

To apply an existing Hazards Analysis System/Node record to the current ACA Analysis:

1. In the Meridium APM Framework, access the **Asset Criticality Analysis Systems page**.

2. On the **Actions** menu, click the **Apply Systems** link.

   The **Find Items** window appears. The Hazards Analysis family appears in the **Search In** list by default.

3. Click the **Find Now** button.

   The search results appear.

4. Select the row containing the desired Hazards Analysis record, and click the **Open** button.

   The **Select Systems** dialog box appears, displaying the list of Hazards Analysis System/Node records that are linked to the selected Hazards Analysis record. All the Hazards Analysis System/Node records are selected by default.

5. Clear the check box to the left of the Hazards Analysis System/Node records that you do *not* want to copy to an Asset Criticality Analysis System record and link to the ACA Analysis. Only the selected records will be copied.

6. Click **OK**.

   A new Asset Criticality Analysis System record is created, populated automatically with information from the Hazards Analysis System/Node record, and linked it to the Asset Criticality Analysis record for the current ACA Analysis. If additional relationships exist, the additional records are also added to the ACA Analysis.

Example of Adding an Existing System to the ACA Analysis

Suppose you have an ACA Analysis record with the Analysis ID *Boiler 123,* and the existing system that you want to apply to the ACA Analysis is defined in a Hazards Analysis System/Node record with the field values shown in the following table.

Field	Value
System/Node ID	HAZOP System 06
System/Node Description	HAZOP System 06 Ethylene Oxide Storage (EO Storage)
System/Node Process Type	Ethylene Oxide Storage (EO Storage)
System/Node Equipment Type	Boiler Separator

Now, assume that the Hazards Analysis System/Node record *HAZOP System 06* is linked to the following records, which will also be applied to the ACA Analysis:

- Equipment record with the ID *~ #1 STEAM REHEATER ~ HXST 36*, which is linked to a Risk Assessment record with a risk rank of 140.

- Functional Location record with the ID *MRD-ROA-REFN-RF097-ZL0032-097 ~ NORTH BOILER ISOLATION VALVE*, which is linked to a Risk Assessment record with a risk rank of 135.

- Risk Assessment record with a risk rank of 280.

In this case, after you apply the Hazards Analysis System/Node record with the ID *HAZOP System 06* to the ACA Analysis *Boiler 123*, the **Asset Criticality Analysis Systems** grid will look similar to the following image.

As you can see from the image:

- The **System ID** column displays the value *HAZOP System 06*. If you were to view the Asset Criticality Analysis System record the fields would contain the following values, which were copied from the Hazards Analysis System/Node record *HAZOP System 06*.

Field	Value
System ID	HAZOP System 06

Field	Value
System Description	HAZOP System 06 Ethylene Oxide Storage (EO Storage)
System Process Type	Ethylene Oxide Storage (EO Storage)
System Equipment Type	Boiler Separator

- The **Location/Equipment ID** column contains the following values:
    - *~ #1 STEAM REHEATER ~ HXST 36.*
    - *MRD-ROA-REFN-RF097-ZL0032-097 ~ NORTh BOILER ISOLATION VALVE.*
- The **Unmitigated Risk** column contains the following values in the same row as the record to which they are directly linked:
    - 280
    - 140
    - 135

About Adding Equipment and Functional Location Records to an ACA Analysis

Equipment and Functional Location records can be added to an ACA Analysis by linking:

- A Functional Location record to an Asset Criticality Analysis System record that is linked directly to the Asset Criticality Analysis record.

  Only families that participate in the *Has Functional Location* relationship as successors to the Asset Criticality Analysis System family can be linked directly to an Asset Criticality Analysis System record. You will know if a Functional Location record is linked directly to an Asset Criticality Analysis System record if the ID of that record appears in the **Location/Equipment ID** column in a subsequent row below the root level.

  > **Note:** You can add a Functional Location record to only *one* Asset Criticality Analysis. If you try to add to an Asset Criticality Analysis a Functional Location record that already belongs to another Asset Criticality Analysis, a message will appear, indicating that you cannot add the record because it already belongs to another analysis.

- A Functional Location record that is linked to an Equipment record through the *Safety Analysis Has Equipment* relationship and directly to an Asset Criticality Analysis System record. If such a relationship exists, when you add the Functional Location record to the analysis, the Equipment record will be added automatically.

  Only records for a family that participates in the *Safety Analysis Has Equipment* relationship as a successor to the Functional Location family will be added to the ACA Analysis automatically.

  > **Note:** You can add an Equipment or Functional Location record to only *one* Asset Criticality Analysis. If you try to add to an Asset Criticality Analysis an Equipment or Functional Location record that already belongs to another Asset Criticality Analysis, a message will appear, indicating that you cannot add the record because it already belongs to another analysis.

- An Equipment record to an Asset Criticality Analysis System record that is linked directly to the Asset Criticality Analysis record.

  Only families that participate in the *Safety Analysis Has Equipment* relationship as a successor to the Asset Criticality Analysis System family can be linked directly to an Asset Criticality Analysis System record. You will know if an Equipment record is linked directly to an Asset Criticality Analysis System record if the ID of that record appears in the **Location/Equipment ID** column in a subsequent row below the root level.

  > **Note:** You can add an Equipment record to only *one* Asset Criticality Analysis. If you try to add to an Asset Criticality Analysis an Equipment record that already

> belongs to another Asset Criticality Analysis, a message will appear, indicating that you cannot add the record because it already belongs to another analysis.

- An Equipment record manually to a Functional Location record that is linked directly to the Asset Criticality Analysis System record.

  Only families that participate in the *Safety Analysis Has Equipment* relationship as successors to a predecessor Functional Location family can be linked to a Functional Location record. You cannot link an Equipment record to another Equipment record via Asset Criticality Analysis. You will know if an Equipment record is linked to a Functional Location record if the ID of that record appears in the **Equipment ID** column in a subsequent row below the row containing the predecessor record that appears in the **Location/Equipment ID** column.

  > **Note:** You can link an Equipment record to only *one* Functional Location record. If you try to link to a Functional Location record an Equipment record that is already linked to another Functional Location record, a message will appear, indicating that you cannot link the record because it is already linked to another Functional Location record.

For example, the following image shows the **Asset Criticality Analysis Systems** grid. The Equipment record ~ *C -489 LUBE/SEAL OIL COOLER ~ HXST 68* and Functional Location record *01-B02-1 ~ Compressor* are linked directly to the Asset Criticality Analysis System record *System 123- Pump123*. The Equipment record *~#1 DEPROP. O.H. COND. ~ HXST112* is also linked to the Functional Location record *01-B02-1 ~ Compressor*.

System ID:	Location/Equipment ID:	Equipment ID:
System 123- Pump123		
	~ C-489 LUBE/SEAL OIL COOLER ~ HXST 68	
	01-B02-1 ~ Compressor	
		~ #1 DEPROP. O.H. COND. ~ HXST 112

After you link an Equipment or Functional Location record to the ACA Analysis, if the Equipment or Functional Location record is linked to records in the following families, those records will also be added to the ACA Analysis:

- Risk Assessment
- Meridium General Recommendation

Linking Equipment and Functional Location Records to Asset Criticality Analysis System Records

To link an Equipment or Functional Location record to an Asset Criticality Analysis System record:

1. In the Meridium APM Framework, access the **Asset Criticality Analysis Systems page**.

2. In the **Asset Criticality Analysis Systems** grid, select the row containing the Asset Criticality Analysis Systems record to which you want to link the Equipment or Functional Location record.

3. On the **Actions** menu:

   - To link a Functional Location record, click the **Add Location** link.

   - To link an Equipment record, click the **Add Equipment** link.

     The **Find Items** window appears, and the **Search In** list is populated with the families that participate as the successor in either the *Has Functional Location* relationship (for the **Add Location** option) or *Safety Analysis Has Equipment* relationship (for the **Add Equipment** option).

4. Provide the desired search criteria, and then click the **Find Now** button.

   The search results appear.

5. Select the Equipment or Functional Location record, and click the **Open** button.

   - The selected record is linked to the Asset Criticality Analysis System record.

   - The Record ID of the selected record appears in the **Location/Equipment ID** column in the grid.

   - If a Risk Assessment record is linked to the selected Equipment or Functional Location record, the **Unmitigated Risk** column is populated with the unmitigated risk value as it appears in the Risk Assessment record.

   - If a Meridium General Recommendation record is linked to the selected Equipment or Functional Location record, the Meridium General Recommendation record is included in the count in the **Recommendations** column and the Meridium General Recommendation record appears in the **Recommendations** dialog box.

   - If the selected record is a Functional Location record that is linked to an Equipment record, the Record ID of that Equipment record appears in the **Equipment ID** column on a subsequent row in the grid.

Manually Linking Equipment Records to Functional Location Records

Only families that participate in the *Safety Analysis Has Equipment* relationship as successors to a predecessor Functional Location family can be linked to a Functional Location record via Asset Criticality Analysis. You cannot link an Equipment record to another Equipment record via Asset Criticality Analysis.

The following instructions provide details on manually linking an Equipment record to a Functional Location record that appears in the grid on the **Asset Criticality Analysis Systems** page.

To manually link an Equipment Record to a Functional Location record:

1. In the Meridium APM Framework, [access the **Asset Criticality Analysis Systems page**](#).

2. In the **Asset Criticality Analysis Systems** grid, select the row containing the Functional Location record to which you want to link an Equipment record.

3. On the **Actions** menu, click the **Add Equipment** link.

    The **Find Items** window appears. The **Search In** list is populated with the families that participate as successors in the *Safety Analysis Has Equipment* relationship.

4. Provide the desired search criteria, and then click the **Find Now** button.

    The search results appear.

5. In the search results grid, select the desired Equipment record, and click the **Open** button.

    The selected record is linked to the Functional Location record and appears in the **Equipment ID** column in the grid.

Opening Records from the Asset Criticality Analysis Systems Grid

To open a record from the Asset Criticality Analysis Systems grid:

1. In the Meridium APM Framework, access the **Asset Criticality Analysis Systems page**.

2. In the **Asset Criticality Analysis Systems** grid, locate the row containing the record that you want to view.

3. In the column containing the Record ID for that record, click the hyperlinked Record ID.

   The selected record appears in a new window. At this point, you can modify the record, if desired.

4. When you are finished working with the record, click **OK**.

   Your changes are saved, and the record closes.

About Evaluating Risk in an ACA Analysis

Within an Asset Criticality Analysis, you can evaluate the unmitigated risk associated with a failure of the following items:

- The systems that are represented by the Asset Criticality Analysis System records that belong to the analysis.
- The equipment and locations that are represented by the Equipment and Functional Location records that belong to the analysis.

To assign the unmitigated risk value to Asset Criticality Analysis System, Equipment, and Functional Location records, you can use any of the following methods:

- Assign the risk values in ACA using the Risk Matrix that is configured for the site that is associated with the ACA Analysis.

  -or-

- Assign the risk values in ACA using fields in the Asset Criticality Analysis System record. This option will cause the Risk Matrix to be locked for the Asset Criticality Analysis System record and the individual Equipment and Functional Location records to which it is linked.

  -or-

- Export the analysis, assign the risk values using a Microsoft Excel file, and then import the analysis, which imports the risk values.

When you evaluate the unmitigated risk in ACA, a Risk Assessment record is created and linked to the corresponding record (e.g., the Asset Criticality Analysis System record).

If a Risk Assessment record is already linked to a record when it is added to the ACA Analysis, that Risk Assessment record is also added to the ACA Analysis.

Note that *after* you evaluate the unmitigated risk for an Asset Criticality Analysis System record, any Equipment or Functional Location records that you link to the Asset Criticality Analysis System record will inherit the unmitigated risk of that Asset Criticality Analysis System record. Also, as long as the Risk Matrix has *not* been locked by an administrative user, any Equipment or Functional Location records that were *already* linked to that Asset Criticality Analysis System record will *not* inherit the updated unmitigated risk. They will retain their own individual unmitigated risk. If the Risk Matrix *has* been locked by an administrative user, however, any Equipment or Functional Location records that were already linked to the Asset Criticality Analysis System record will continue to inherit the updated unmitigated risk.

> **Note:** This section of the documentation assumes that a Risk Matrix has been configured by an administrative user.

Accessing the Risk Matrix

The following instructions provide details on accessing the Risk Matrix via the **Asset Criticality Analysis Systems** page.

To access the Risk Matrix:

1. In the Meridium APM Framework, on the **Asset Criticality Analysis Systems** page, locate the record to which you want to link a Risk Assessment record.

2. On the **Actions** menu, click the **Risk Matrix** link.

    The Risk Matrix appears. At this point, you can evaluate the unmitigated risk associated with a failure of the selected item.
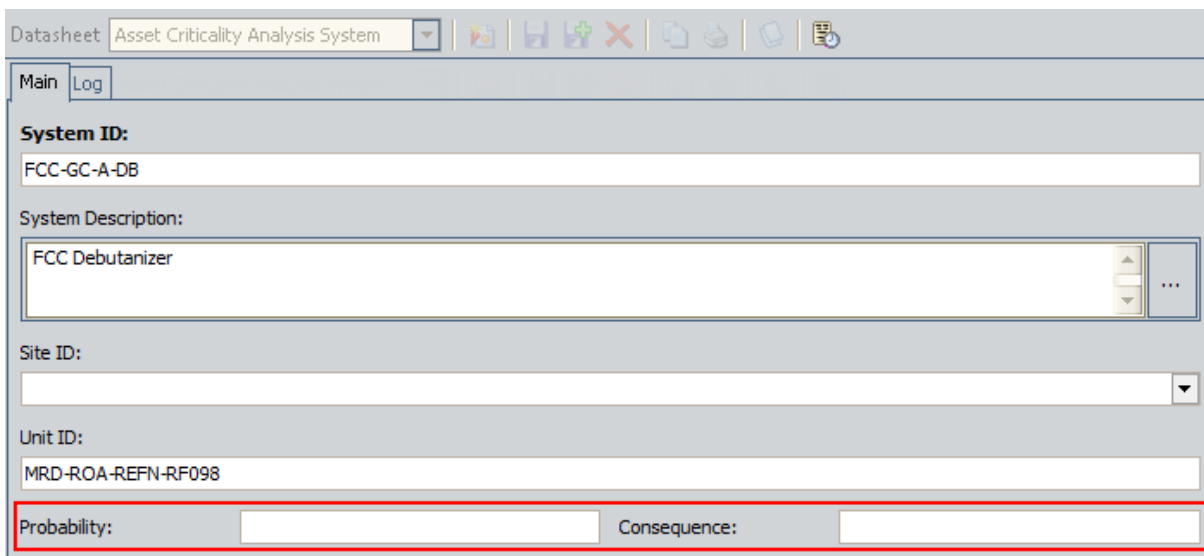
About Assigning Risk Values Using the Asset Criticality Analysis Datasheet

An administrative user can [lock the Risk Matrix in ACA](#), which requires you to assign risk values to Asset Criticality Analysis System records using fields in the Asset Criticality Analysis System record. After he determines which fields will store the probability, consequence, and protection level values, he can also add them to the Asset Criticality Analysis System datasheet. Then, using the datasheet, you can type manually the probability, consequence, and protection level values that apply to that system.

When you save the Asset Criticality Analysis System record, the appropriate Risk Assessment and Risk Rank records will be created automatically using the values that you typed on the datasheet. In the Risk Matrix, each tab will contain the specified probability, consequence, and protection level. In addition, you will not be able to select a different probability, consequence, or protection level using the Risk Matrix.

> **Note:** The baseline Asset Criticality Analysis System family does not contain any fields that are intended to be used in this way. If you are using this functionality, the fields will need to be added to the family and datasheet manually.

For example, suppose that an administrative user has created the fields Probability and Consequence in the Asset Criticality Analysis System family and has added those fields to the Asset Criticality Analysis System datasheet, as shown in the following image.
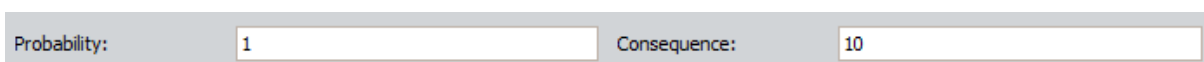
If he has configured ACA to use these fields to store the probability and consequence values that will be mapped to the Risk Matrix, you could type the values in them as shown in the following image.

After saving the record, the values would then be mapped to each tab of the Risk Matrix.

All other cells on the Risk Matrix will be disabled, meaning that you cannot use the Risk Matrix to select different risk values. Instead, to change the risk values, you will need to modify the values on the Asset Criticality Analysis System datasheet.

Assigning Risk Values Using the Asset Criticality Analysis Datasheet

> **Note:** The following instructions assume that an administrative user has locked the Risk Matrix, meaning that you must specify unmitigated risk using fields in the Asset Criticality Analysis System family. It also assumes that those fields have been added to the Asset Criticality Analysis System datasheet. If you are unsure if this functionality has been configured, on the Asset Criticality Analysis Administration page, check to see if any fields have been selected in the **Probability Field**, **Consequence Field**, or **Protection Level Field** list. If you do not have access to this page, consult an ACA administrative user.

To assign risk values using the Asset Criticality Analysis datasheet:

1. In the Meridium APM Framework, on the **Asset Criticality Analysis Systems** page, click the hyperlinked System ID the Asset Criticality Analysis System record to which you want to assign risk values.

   The Asset Criticality Analysis System datasheet appears.

2. If a field has been configured to store the probability value, in that field, type the probability value.

3. If a field has been configured to store the consequence value, in that field, type the consequence value.

4. If a field has been configured to store the protection level value, in that field, type the protection level value.

5. Click **OK**.

   The datasheet closes, and new Risk Assessment and Risk Rank records are created to store the risk values. In addition, in the row representing that system, the value in the **Unmitigated Risk** column is updated to reflect the specified values. When you open the Risk Matrix, the values that you typed manually will be displayed on each tab of the Risk Matrix.

> **Note:** If you typed risk values that do not match *exactly* one of the possible values in the Risk Matrix (e.g., you are using the baseline Risk Matrix, and you typed a probability value of *2*), the value will be rounded down to the next lowest possible risk value. Using the previous example, if you typed a probability value of *2*, it will be rounded down to *1*. Likewise, if you typed a probability value *greater than the highest possible probability value* (5), it will be rounded down to 5. If you typed a probability value lower than the lowest possible probability on the Risk Matrix (0.05), it will not be mapped to the Risk Matrix at all.

About Exporting Analyses

Part of the workflow for completing an ACA Analysis includes assessing risk, which includes assigning the unmitigated risk value to the Asset Criticality Analysis System records and individual Equipment and Functional Location records. To assign the unmitigated risk value to Asset Criticality Analysis System, Equipment, and Functional Location records, you can use either of the following methods:

- Assign the risk values in ACA using the Risk Matrix.

  -or-

- Export the analysis, assign the risk values using a Microsoft Excel file, and then import the analysis, which transfers the risk values from the file to the Meridium APM system.

This section of the documentation explains how to export the analysis, assign the risk values in Excel, and then import them back into the Meridium APM system.

You can export a single analysis or multiple analyses at a time. Each time you perform the export procedure, a *single* file will be created, regardless of whether it contains one analysis *or* multiple analyses. The Analyses worksheet will indicate how many analyses were exported to the file.

When you export an analysis, the Microsoft Excel file that is created will meet certain requirements that allow it to be imported back into the Meridium APM system after you have modified the risk values. If you modify the Excel file in any way *other than* assigning risk values in the Systems and Assets worksheets, you will need to make sure that the file meets the import requirements before importing it. This documentation assumes that you are exporting analyses only for the purpose of assigning risk values (not for the purpose of modifying anything else in the file), and it does not explain how to make further modifications and import them back into ACA.

Performing the Export Procedure

You can export ACA Analyses via the **Export Analysis** link on the **Common Tasks** menu. The **Export Analysis** link appears on the following pages in ACA:

- [Asset Criticality Analysis Search page](#)
- [Asset Criticality Analysis Definition page](#)
- [Asset Criticality Analysis Systems page](#)

The following instructions assume that you are viewing one of the pages in this list.

Note that when you export one or more ACA Analyses, the Meridium APM systems checks to see how many mappings have been saved on the **Select Data to Import** window, which is used when you [create ACA Analyses by importing them from Microsoft Excel](#). Most customers will have multiple mappings only if they are using different Risk Matrices with different ACA Analyses. If more than one mapping is found, during the export procedure, you will be prompted to select the mapping that you want to use for exporting the analyses. In order for the export process to work successfully, you must select a mapping that uses the same Risk Matrix as the ACA Analyses that you are exporting.

In addition, if you try to export ACA Analyses that are *not* associated with a site and multiple mappings have been saved, the export process will work successfully only if you select the mapping that uses the Risk Matrix that is set as the *default* Risk Matrix.

Because most customers will be using only *one* Risk Matrix for *all* ACA Analyses, however, the instructions in this topic assume that only one mapping has been saved. In other words, they assume that you will *not* be prompted to select a mapping when completing the steps.

To export an ACA Analysis:

1. On the **Common Tasks** menu, click the **Export Analysis** link.

   > **Note:** If you are viewing the **Asset Criticality Analysis Search** page, you can export multiple analyses at one time by selecting multiple rows in the grid and then clicking the **Export Analysis** link. On the other pages, however, the **Export Analysis** link will export only the current analysis.

   The **Save As** dialog box appears.
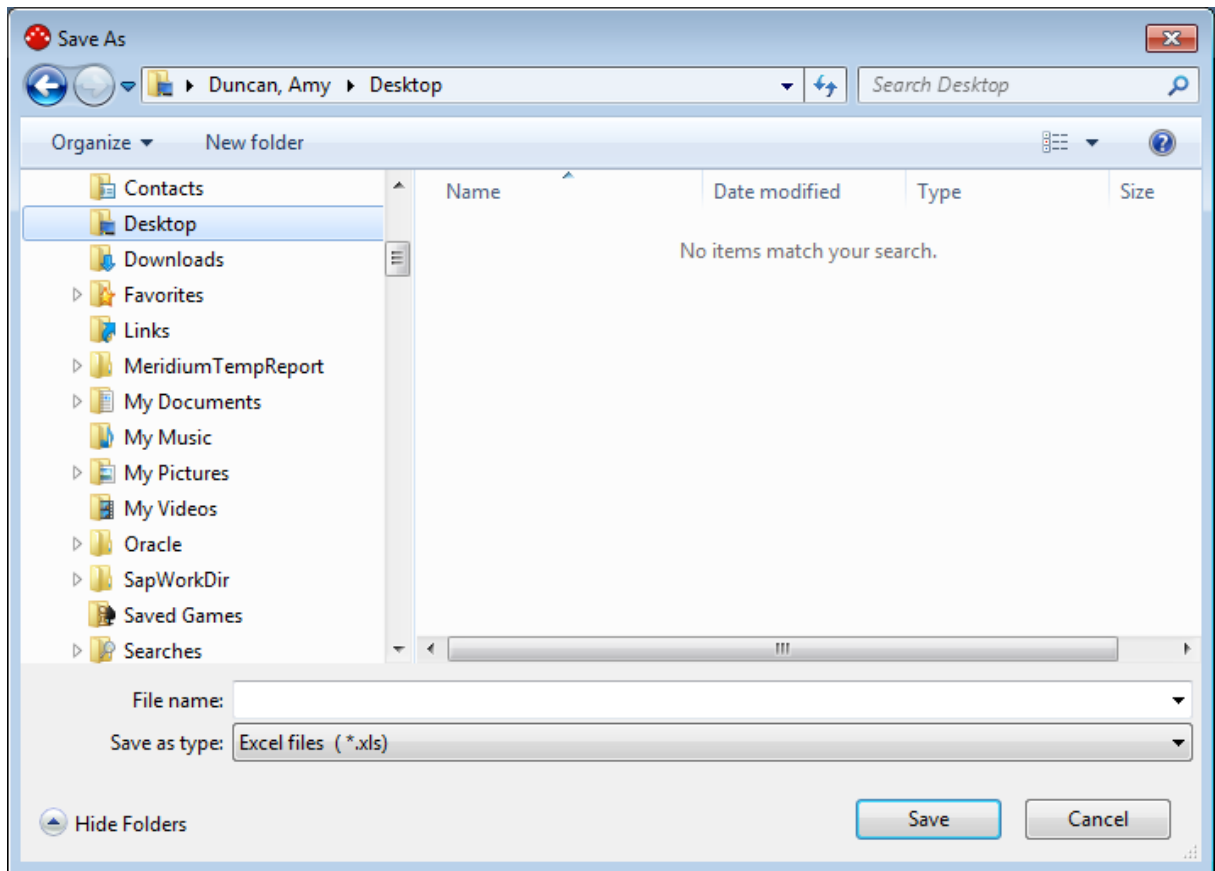
2. Navigate to the folder to which you want to save the export file.

3. In the **File name** text box, type a name for the file.

4. Click the **Save** button.

   The file is saved to the selected location, and a message appears, asking if you want to view the file.

5. If you want to view the file, click the **Yes** button. Otherwise, click the **No** button.

Assigning Risk Values in Exported Excel Files

After you have exported one or more ACA Analyses to a Microsoft Excel file, you can use the file to assign risk values to the Asset Criticality Analysis System, Equipment, and Functional Location records belonging to those ACA Analyses. After you save the file, you can import it to transfer the risk values from the Excel file to the Meridium APM records.

To assign risk values using an exported Excel file:

1. Open the Microsoft Excel file to which you exported one or more ACA Analyses.

   The file appears.
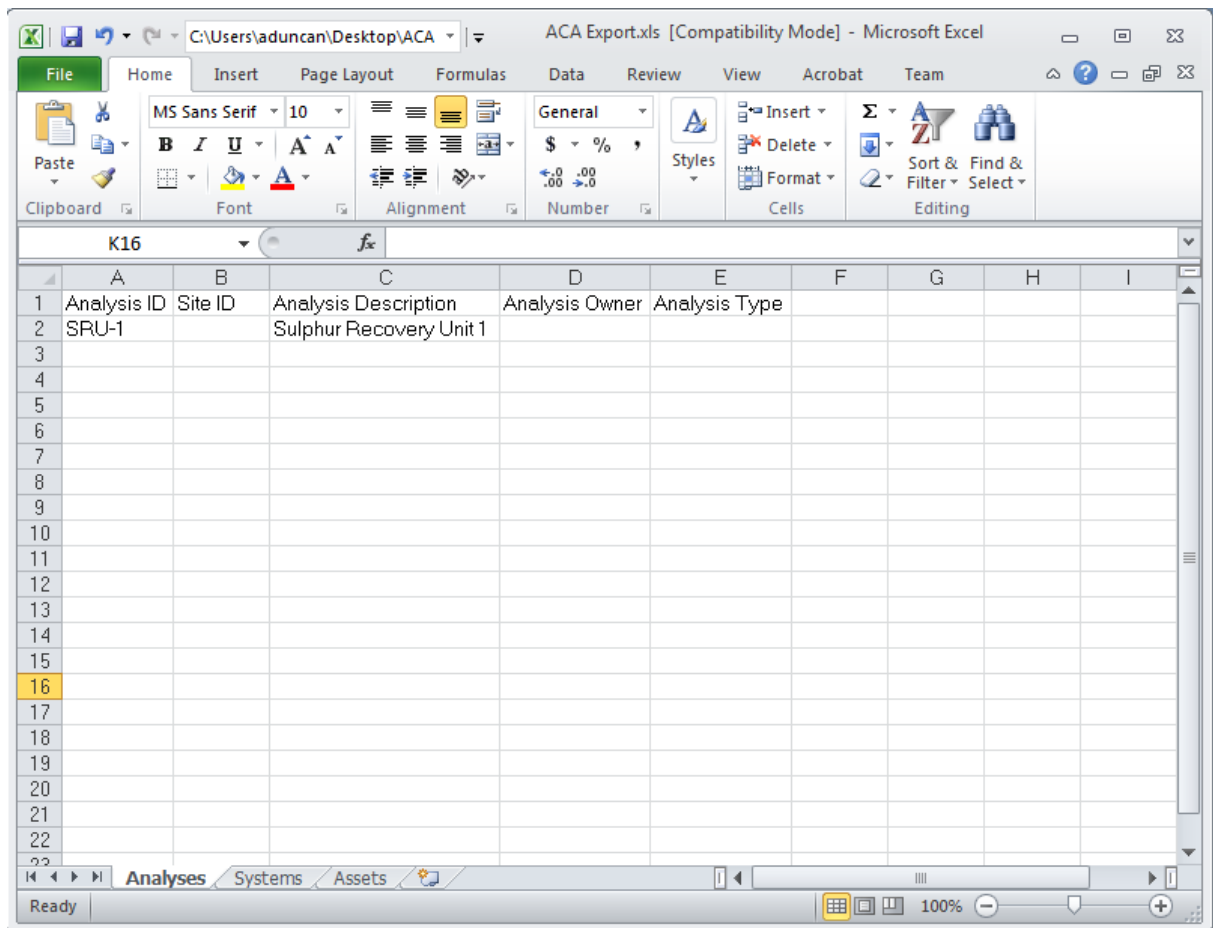
The file contains the following worksheets:

- **Analyses:** Identifies the ACA Analyses that you exported. Each row in the Analyses worksheet represents a separate ACA Analysis record.

- **Systems:** Identifies the Asset Criticality Analysis System records that belong to the ACA Analyses that you exported. Each row in the Systems worksheet represents a separate combination of ACA Analysis and Asset Criticality

Analysis System record. For example, if you exported an ACA Analysis that contains three Asset Criticality Analysis System records, the Systems worksheet would contain *three* separate rows.

- **Assets:** Identifies the Equipment and Functional Location records that belong to the ACA Analyses that you exported. Each row in the Assets worksheet represents a separate combination of Asset Criticality Analysis System record and Equipment or Functional Location record. For example, if you exported an ACA Analysis that includes three Asset Criticality Analysis System records, where each of those Asset Criticality Analysis System record contains two Equipment records, the Assets worksheet would contain *six* separate rows.

2. If you want to assign risk values to the Asset Criticality Analysis System records, click the **Systems** tab. Otherwise, skip to step 4 of these instructions.

The **Systems** tab appears.

	A	B	C	D	E	F	G
1	Analysis ID	System ID	Site ID	System Description	System Equipment Type	System Process Type	(ENVIRONMENT) Consequence
2	SRU-1	Sour Water Furnace Feed System	Roanoke, VA				
3	SRU-1	Amine Furnace Feed System	Roanoke, VA				
4	SRU-1	Reaction Furnace System	Roanoke, VA				
5	SRU-1	Waste Heat Boiler System	Roanoke, VA				
6	SRU-1	Catalytic Reactor System	Roanoke, VA				
7	SRU-1	Condensing System 1	Roanoke, VA				
8	SRU-1	Condensing System 2	Roanoke, VA				
9	SRU-1	Sulphur Degassing Pit System	Roanoke, VA				
10							
11							
12							
13							
14							
15							
16							

Analyses **Systems** Assets

3. In each column representing a risk value (column G through T), type the appropriate risk value.

4. If you want to assign risk values to the Equipment and Functional Location records, click the **Assets** tab.

The **Assets** tab appears.

	A	B	C	D	E	F
1	System ID	Asset ID	Asset Family ID	Asset CMMS ID	(ENVIRONMENT) Consequence	(ENVIRONMENT) Probability
2	Sour Water Furnace Feed System	000000000001054725	MI_EQUIP000			
3	Sour Water Furnace Feed System	000000000001054726	MI_EQUIP000			
4	Sour Water Furnace Feed System	000000000001102207	MI_EQUIP000			
5	Sour Water Furnace Feed System	000000000001057989	MI_EQUIP000			
6	Amine Furnace Feed System	000000000001104493	MI_EQUIP000			
7	Amine Furnace Feed System	000000000001105168	MI_EQUIP000			
8	Reaction Furnace System	000000000001054273	MI_EQUIP000			
9	Reaction Furnace System	000000000001033311	MI_EQUIP000			
10	Reaction Furnace System	000000000001033312	MI_EQUIP000			
11	Waste Heat Boiler System	000000000001055765	MI_EQUIP000			
12	Waste Heat Boiler System	000000000001055825	MI_EQUIP000			
13	Waste Heat Boiler System	000000000001055826	MI_EQUIP000			
14	Waste Heat Boiler System	000000000001055944	MI_EQUIP000			
15	Waste Heat Boiler System	000000000001056061	MI_EQUIP000			
16	Catalytic Reactor System	000000000001054399	MI_EQUIP000			

Analyses Systems **Assets**

5. In each column representing a risk value (column E through Q), type the appropriate risk value.

6. Save the file.

   At this point, to transfer the risk values to the Meridium APM records, you will need to import the Excel file.

Importing Risk Values

After you have exported an ACA Analysis and assigned risk values in the Excel file, you can transfer those risk values back into the Meridium APM system by importing the Excel file. You can import an Excel file only if you are a Super User or a member of the MI ACA Administrator Security Group.

To import risk values from a Microsoft Excel file:

1. In the Meridium APM Framework, access the Asset Criticality Analysis Start Page.

2. On the **Asset Criticality Analysis Start Page**, click the **Import Criticality Data** link.

   The **Open** dialog box appears.
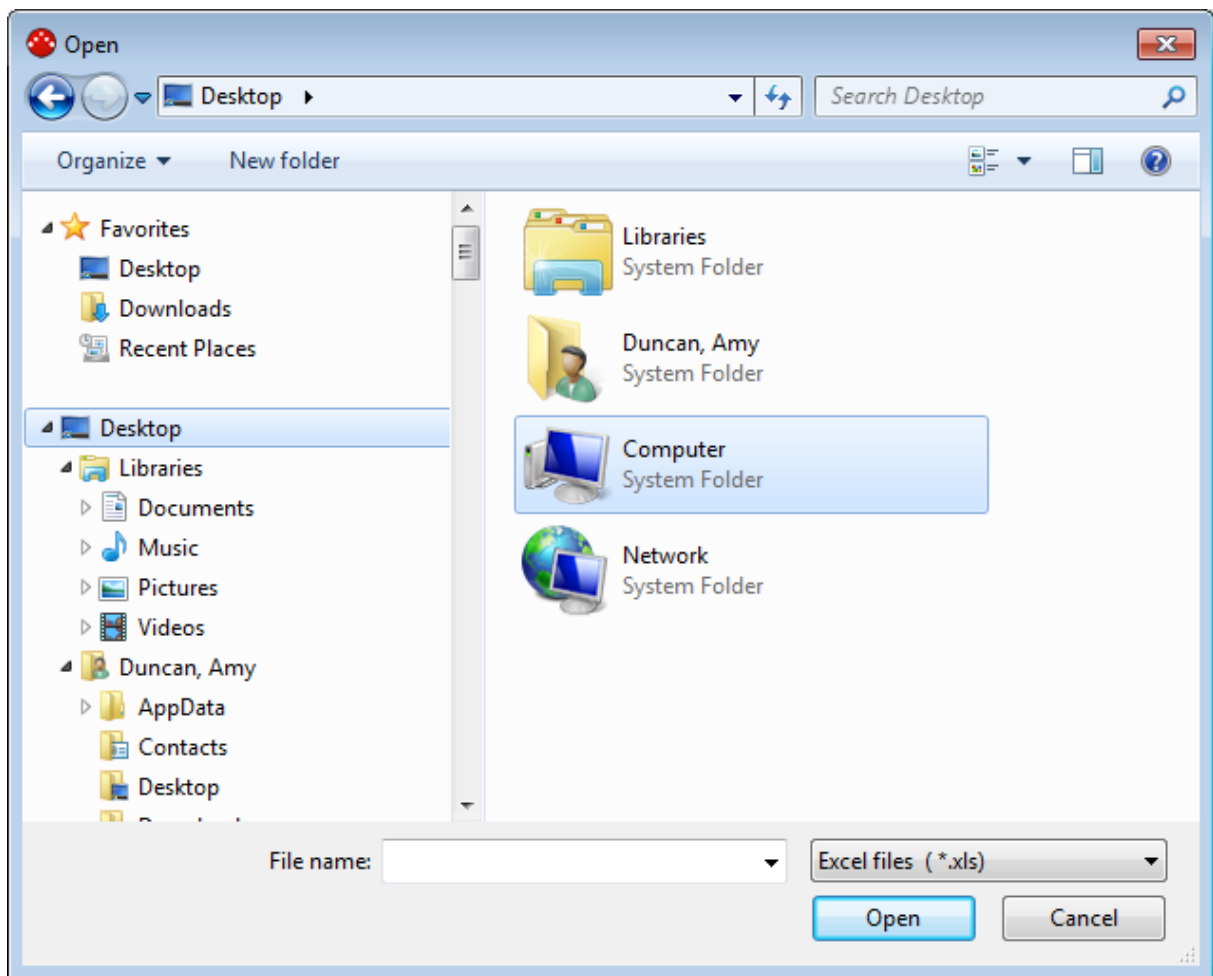
> **Note:** You might encounter a slight delay before the **Open** dialog box appears. This delay is expected and occurs only the first time that you access the **Open** dialog box within a given Meridium APM session.

3. Navigate to the folder containing the Excel file that contains the risk values, select the Excel file, and click the **Open** button.

The **Select Data to Import** window appears.

4. In the **Mapping Name** list, select the mapping that you want to use for importing the risk values. The baseline mapping is named *ACA Default Mapping*. If other mappings have been saved, you will see other mapping names in the list.

> **Note:** Additional mappings may have been saved by users creating ACA Analyses by importing them from Microsoft Excel files.

The remaining lists are populated automatically according to the selected mapping.

5. In the **Risk Matrix** list, select the Risk Matrix that is being used within the ACA Analyses that are included in the selected Excel file.

6. Click **OK**.

   The **ACA Import** page appears, displaying a progress bar that identifies the progress of the import procedure. When the process is complete, a grid appears, displaying one row for each item that was processed during the import procedure.

The Connection Between Risk in ACA and AMS Asset Records

When you evaluate the risk associated with an Equipment or Functional Location record in ACA (either by using the Risk Matrix or importing the risk values), if that Equipment or Functional Location is linked to an AMS Asset record though the Has Tag relationship, the Criticality field in the AMS Asset record will be populated automatically with the highest value from all non-financial Risk Rank records that are associated with the Equipment or Functional Location record.

For example, suppose that for the Equipment record with the equipment ID *000000000001052539*, the overall risk rank is *16*, and the individual risk ranks across the non-financial tabs are *1*, *10*, and *5*, as shown in the following image.
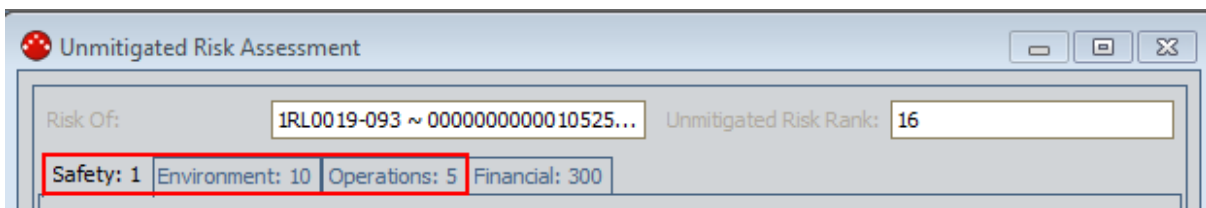
> **Note:** These values (1, 10, and 5) are stored in Risk Rank records that are linked to the Risk Assessment record to which the Equipment record is linked.

You can see that across these three tabs, the highest risk rank is *10*.

As a result, in the AMS Asset record that is linked to this Equipment record, the value in the Criticality field is set automatically to *10*, as shown in the following image.
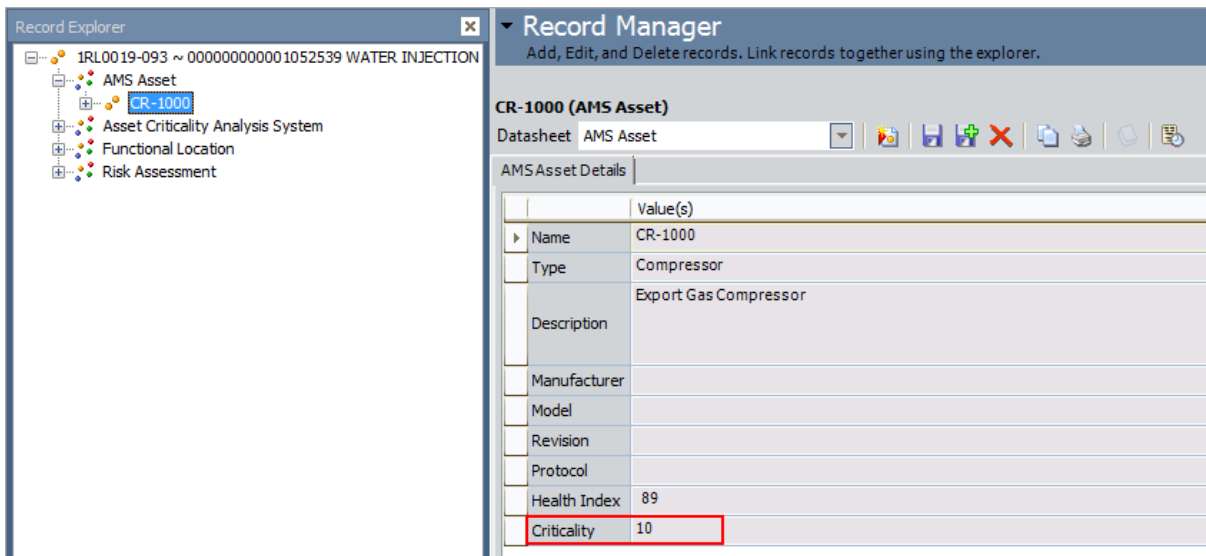
Any time that you update the values in the underlying Risk Ranks records that are associated with a piece of equipment's or location's risk assessment, the value in the Criticality field will be updated accordingly.

Updating Criticality Indicator Values in SAP

After you have evaluated the unmitigated risk for an Asset Criticality Analysis record, you can update the criticality indicator values in SAP to reflect the criticality value that you determined in Meridium APM. The criticality indicator value for your SAP Equipment and Functional Locations will be updated according to the Criticality Mapping records that are linked to Risk Threshold records.

These instructions assume that you are viewing the Asset Criticality Analysis record on the **Asset Criticality Analysis Definition** page and that your analysis is in the *Planning* state. If it is in another state, you should start with the step that corresponds to the current state of your analysis.

In each step that performs a state transition, the result of the state will differ depending upon the State Configuration settings.

- If the State Configuration is defined in a way that does not require a Security User to be assigned to the successor state, or if a Security User is already assigned, the record's state changes, and the new state is reflected above the **Operations** link.

- If the State Configuration is defined in a way that requires a Security User to be assigned to the successor state but a Security User is not currently assigned to the successor state, the **State Assignee** dialog box appears, where you can select the Security User that you want to assign to the successor state. After you click OK, the record's state changes, and the new state is reflected above the **Operations** link.

To simplify the instructions, we assume that a Security User is not required to be assigned to the successor state or a Security User is already assigned. In other words, we assume that the record's state changes automatically after you change the state. We also assume that you click the **Yes** button between each state transition, so that step is excluded from these instructions.

To update criticality indicator values in SAP:

1. At the top-right of the **Asset Criticality Analysis Definition** page, click the **Operations** link, and then click **Begin**.
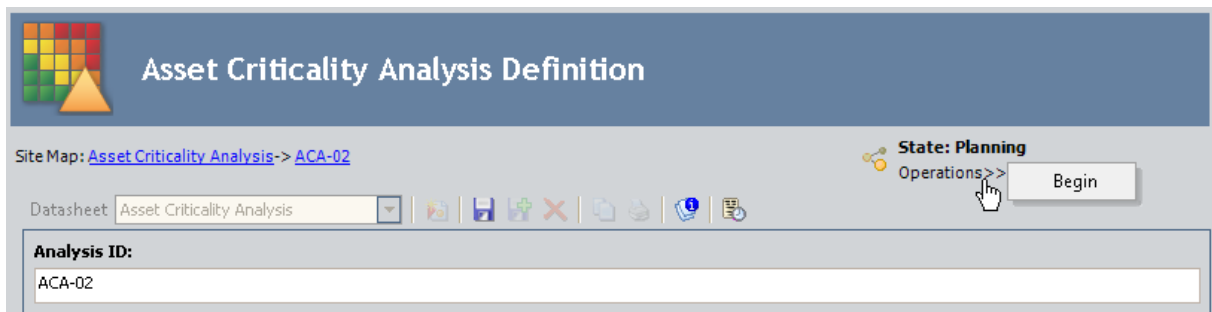
2. Click the **Operations** link again, and then click **Propose**.

3. Click the **Operations** link again, and then click **Submit**.

4. Click the **Operations** link again, and then click **Accept**.

The record's state changes, and the new state is reflected above the **Operations** link. In addition, the **CMMS Criticality Indicator Update** dialog box appears.
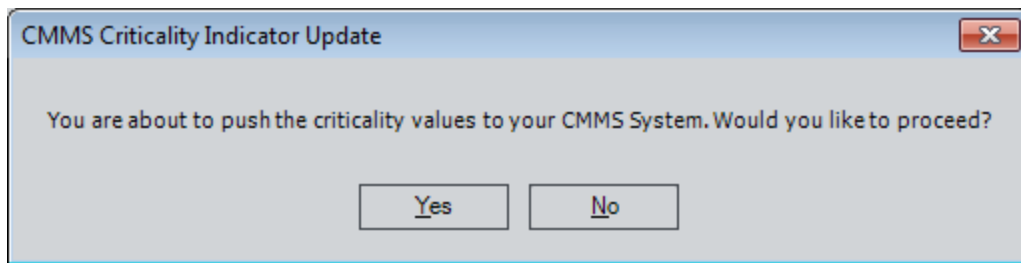
5. Click the **Yes** button.

   Note: Any existing criticality indicator values in SAP will be overwritten.

   A progress bar appears. When the operation is complete, a dialog box appears, which indicates that the values have been successfully sent to your SAP system.

6. Click **OK.**

About the ACA Analysis Team

The *ACA Analysis Team* is a group of individuals who will complete the ACA Analysis. You can add Meridium APM users and non-Meridium APM users to the ACA Analysis Team.

- Meridium APM users will have an existing Meridium APM Security User account and an associated Human Resource record that was created automatically when the Security User account was created.

- Non-Meridium APM users will NOT have a Meridium APM Security User account. To add a non-Meridium APM user to the ACA Analysis Team, you first need to create a Human Resource record for that user. You can do so via the **Asset Criticality Analysis Team Members** page or using the Configuration Manager.

> **Note:** A Meridium APM Security User record is required for logging in to the Meridium APM Framework application and using Asset Criticality Analysis. ACA Analysis team members who do *not* have a Security User account may participate in and contribute to the analysis but will *not* be able to use the application. While non-Meridium APM users can be assigned a role within the analysis, the security privileges described in this documentation apply only to Meridium APM users.

Any member of the ACA Analysis Team can be [assigned a role within the ACA Analysis team](), which provides a reference of the tasks for which that team member is responsible.

Creating New Users and Adding Them to the ACA Analysis Team

When you create new users and add them to the ACA Analysis team, you are creating new *Human Resource records* in the Meridium APM database and linking them to the Asset Criticality Analysis record. This option should be used for team members who are NOT Meridium APM users. If you want to add a team member who is already a Meridium APM user, see the topic for adding new team members who already have Human Resource records.

To create a new user and add that user to the ACA Analysis team:

1. In the Meridium APM Framework, access the **Asset Criticality Analysis Team Members** page.

2. At the bottom of the **Team Members** workspace, click the **Add New Member** button.

   A new Human Resource record appears.

3. Enter values in the fields on the datasheet as desired. Note that the Last Name field is required.

4. Click **OK**.

   The Human Resource record is saved, and the new ACA Analysis team member appears in the **Team Members** workspace.

Adding New Team Members Who Already Have Human Resource Records

When you add a new ACA Analysis Team Member who already has a Human Resource record, you are linking an existing Human Resource record to the Asset Criticality Analysis record. This option should be used for team members who are already Meridium APM users. If you want to add a new ACA Analysis team member who does not already have a Human Resource record, see the topic for creating a new user to add to the ACA Analysis team.

To add a new team member who already has a Human Resource record:

1. In the Meridium APM Framework, access the **Asset Criticality Analysis Team Members** page.

2. At the bottom of the **Team Members** workspace, click the **Add Existing Members** button.

   The **Find Items** window appears, and the Human Resource family is selected in the **Search In** list by default.

3. If desired, type your search criteria in the **Look For** text box, and click the **Find Now** button.

   The search results appears.

4. Locate the desired Human Resource record, and click the **Open** button.

   The new ACA Analysis team member appears in the **Team Members** workspace.

About ACA Analysis Team Member Roles

ACA Analysis Team Member roles serve as a reference of which ACA Analysis Team member is responsible for a given task related to the ACA Analysis. The following roles are available for an ACA Analysis:

- **Process Owner:** The team member who is responsible for the ACA Analysis. After you assign a team member the role of Process Owner, that team member's name will appear in the *Analysis Owner* field in the Asset Criticality Analysis record.
- **Facilitator:** The team member who is in charge of conducting the ACA Analysis and organizing the ACA Analysis team.

There can be only one Process Owner and one Facilitator per ACA Analysis. However, a team member can be designated as both the Process Owner and Facilitator.

Assigning Roles to ACA Analysis Team Members

The following instructions provide details on designating a team members as the Process Owner or Facilitator. Assigning a team member to a role serves as a reference for the team.

Keep in mind that there can only be one Process Owner and one Facilitator per ACA Analysis. However, one team member can be assigned *both* roles.

To assign a role to an ACA Analysis team member:

1. In the Meridium APM Framework, access the **Asset Criticality Analysis Team Members page**.

2. In the **Team Members** workspace, locate the row containing the team member that you want to assign the role of Process Owner or Facilitator.

3. In either the **Process Owner** or **Facilitator** column, select the check box to indicate that the team member is assigned the corresponding role.

   The check box is selected, the team member is assigned the specified role, and the Process Owner field on the Asset Criticality Analysis datasheet is populated with the team member's name.

   To assign a role to a different team member, select the **Process Owner** or **Facilitator** check box in the row containing that team member.

Viewing Human Resource Records for Existing Team Members

To view the Human Resource record for an existing ACA Analysis team member:

1. In the Meridium APM Framework, access the **Asset Criticality Analysis Team Members page**.

2. In the **Team Members** workspace, locate the row containing the team member whose Human Resource record you want to view.

3. In the **User ID** column, click the team member's hyperlinked User ID.

   The Human Resource record for that team member appears. At this point you can modify the fields if desired.

4. Click **OK**.

   Your changes are saved.

Removing Team Members from the ACA Analysis Team

When you remove a team member from an ACA Analysis team, you are deleting the link between the Human Resource record and the Asset Criticality Analysis record.

If you remove from the ACA Analysis Team a team member who is assigned the role of Process Owner or Facilitator, the Process Owner or Facilitator field in the Asset Criticality Analysis record will be cleared.

To remove team members from the ACA Analysis Team:

1. In the Meridium APM Framework, in the **Team Members** workspace on the **Asset Criticality Analysis Team Members** page, locate the row containing the team member that you want to remove from the ACA Analysis team.

2. At the bottom of the **Team Members** workspace, click the **Remove Members** button.

   A confirmation message appears, asking if you really want to remove the selected team member.

3. Click the **Yes** button.

   The selected team member is removed from the ACA Analysis team.

Creating New Reference Document Records and Adding Them to the ACA Analysis

When you create a new Reference Document record and add it to the ACA Analysis, you are linking the new Reference Document record to the Asset Criticality Analysis record.

To create a new Reference Document record and add it to the ACA Analysis:

1. In the Meridium APM Framework, access the **Reference Documents** page.

2. Below the grid, click the **Add New Document** button.

    A new Reference Document record appears.

3. In the ID field, type an ID for the reference document.

4. In the Description field, type a description of the reference document.

5. In the Document Path field, click the ⋯ button.

    The **Reference Document Path** dialog box appears.
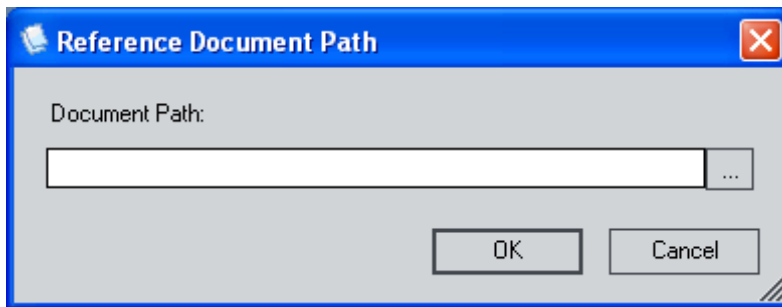
6. In the **Document Path** text box, type the path to the desired reference document, or click the ... button to locate the file on your computer. These instructions assume that you want to locate the file on your computer.

    The **Open** dialog box appears.

7. Navigate to the desired file, and click the **Open** button.

    The path to the selected file appears in the **Document Path** text box on the **Reference Document Path** dialog box.

8. Click **OK**.

9. The path to the selected file appears in the Document Path field in the Reference Document record.

10. Click **OK**.

    The new Reference Document record is saved and linked to the Asset Criticality Analysis record, and the record appears in the **Reference Documents** workspace.

Adding Existing Reference Document Records to the ACA Analysis

When you add an existing Reference Document record to the ACA Analysis, you are linking the Reference Document record to the Asset Criticality Analysis record.

To add an existing reference document to the ACA Analysis:

1. In the Meridium APM Framework, access the **Reference Documents** page.

2. Below the grid, click the **Add Existing Documents** button.

   The **Find Items** window appears, and the Reference Document family appears in the **Search In** list by default.

3. Provide additional search criteria if desired, and then click the **Find Now** button.

   The search results appear.

4. In the search results grid, select the row containing the Reference Document record that you want to link to the Asset Criticality Analysis record.

5. Click the **Open** button.

   The selected record(s) appear in the **Reference Documents** workspace.

Viewing Reference Documents

When you view a reference document, you are opening the file specified in the Reference Document record. To be able to view a reference document on your computer:

- The file must be saved to a location that can be accessed from your computer.
- The application required to open the document must be installed on your computer.

To view a reference document:

1. In the Meridium APM Framework, access the **Reference Documents** page.

2. In the **Reference Documents** workspace, select the row containing the reference document that you want to view.

3. Click the **Open Document** button.

   The reference document file appears in the application required to display it. For example, if the reference document is a word document, it will appear in the Microsoft Word application.

Opening Reference Document Records

To open a Reference Document record:

1. In the Meridium APM Framework, [access the **Reference Documents** page](#).

2. In the **Reference Documents** workspace, locate the row containing the Reference Document record that you want to open.

3. In the **ID** column, click the hyperlinked Record ID of the record.

   The Reference Document record appears in a new window.

   To close the Reference Document record and return to the **Reference Documents** page, click **OK** or **Cancel**.

Modifying Reference Document Records

To modify a Reference Document record:

1. In the Meridium APM Framework, [access the **Reference Documents** page](#).

2. In the **Reference Documents** workspace, locate the row containing the Reference Document record that you want to open.

3. In the **ID** column, click the hyperlinked Record ID of the record.

   The Reference Document record appears in a new window.

4. Modify the fields as desired.

5. Click **OK**.

   Your changes are saved.

Removing Reference Documents from the ACA Analysis

When you remove a reference document from the ACA Analysis, you are deleting the link between the Reference Document record and the Asset Criticality Analysis record.

To remove a reference document from the ACA Analysis:

1. In the Meridium APM Framework, [access the **Reference Documents** page](#).

2. In the **Reference Documents** workspace, select the row(s) containing the reference document(s) that you want to remove from the ACA Analysis.

3. Click the **Remove Documents** button.

   A confirmation message appears, asking if you really want to remove the selected records.

4. Click the **Yes** button.

   The selected records are removed from the ACA Analysis and are no longer displayed in the grid.

About Meridium General Recommendation Records and the ACA Analysis
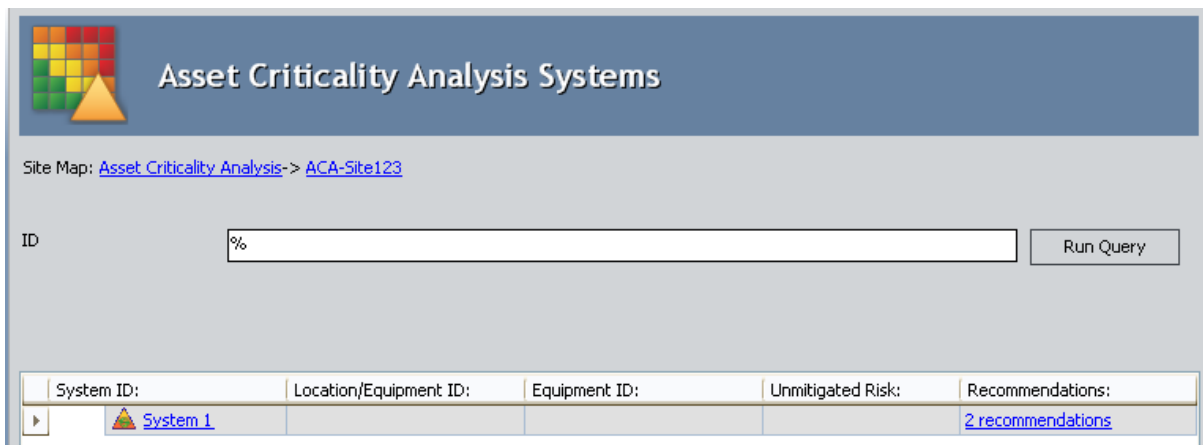
Via the **Asset Criticality Analysis Systems** page, you can add Meridium General Recommendation records to the ACA Analysis by linking them to:

- Asset Criticality Analysis System records
- Equipment or Functional Location records

If you add to the ACA Analysis a record that is already linked to a Meridium General Recommendation record, that Meridium General Recommendation record will also be added to the ACA Analysis automatically.

You will know that a Meridium General Recommendation record is linked to an Asset Criticality Analysis System, Equipment, or Functional Location record if the value **<#> recommendations** appears in the **Recommendations** column in the same row, where **<#>** is a number indicating the number of Meridium General Recommendation records that are linked to that record.

For example, the following image shows the grid on the **Asset Criticality Analysis Systems** page. In the **Recommendations** column, the text **2 recommendations** appears, indicating that the Asset Criticality Analysis System record that appears in that row is linked to two Meridium General Recommendation records.

You can manage the Meridium General Recommendation records for individual records within an ACA Analysis via the Recommendations dialog box, or you can view a list of ALL the Meridium General Recommendation records for an ACA Analysis via Recommendation Management.

Accessing the Recommendations Dialog Box

The **Recommendations** dialog box lets you manage the Meridium General Recommendation records that are associated with the ACA Analysis. Using the **Recommendations** dialog box, you can:

- View the Meridium General Recommendation records that are currently associated with the ACA Analysis.
- Create new Meridium General Recommendation records.
- Add existing Meridium General Recommendation records.
- Remove Meridium General Recommendation records from the ACA Analysis.

To access the Recommendations dialog box:

1. In the Meridium APM Framework, on the **Asset Criticality Analysis Systems** page, select the row containing the record whose Meridium General Recommendation records you want to manage.

2. On the **Actions** menu, click the **Recommendations** link.

   The **Recommendations** dialog box appears.
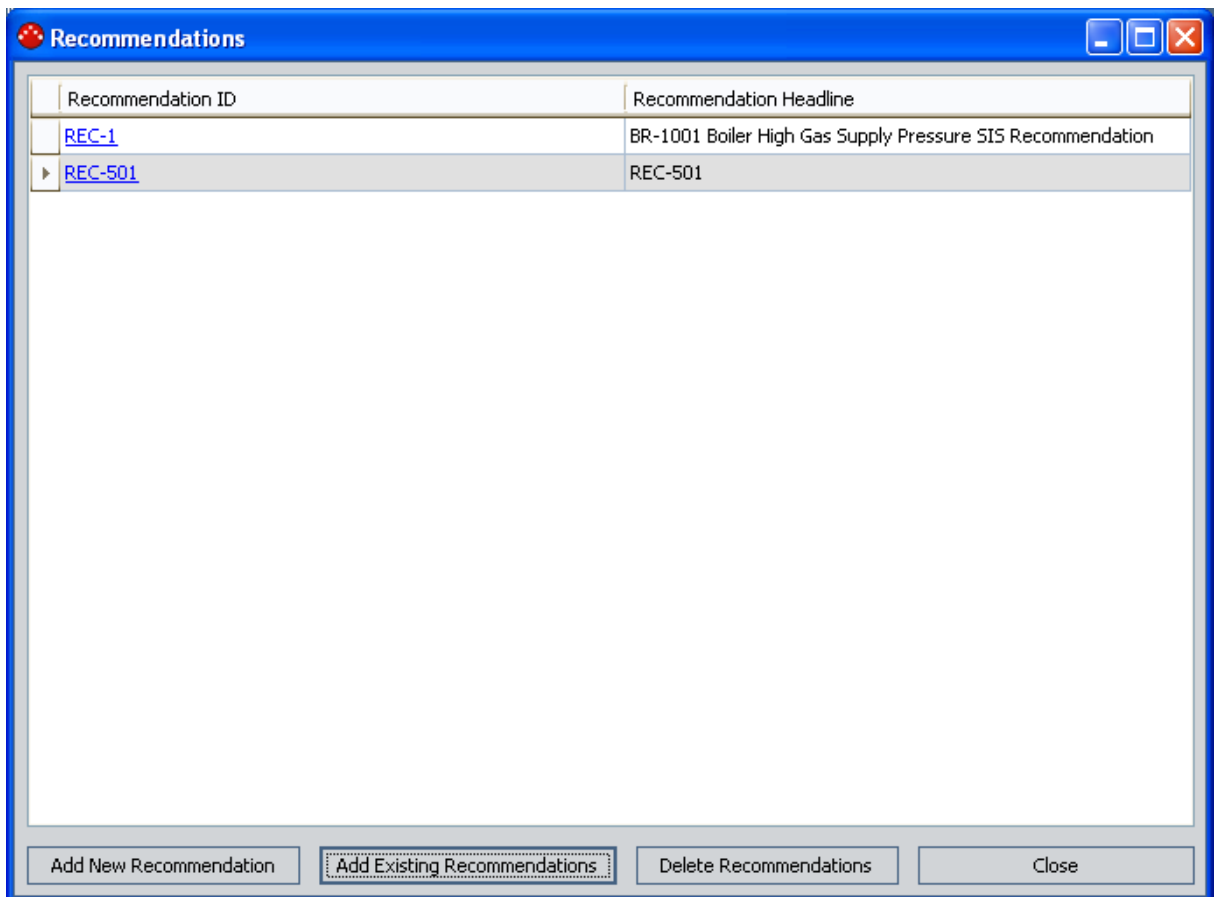
Aspects of the Recommendations Dialog Box

The **Recommendations** dialog box displays a list of Meridium General Recommendation records that are linked to the record that appears in the currently selected row in the **Asset Criticality Analysis Systems** grid. Each row in the list represents one Meridium General Recommendation record. For each Meridium General Recommendation record that appears in the list, the following information is displayed:

- Recommendation ID
- Recommendation Headline

Below the list, the following buttons appear:

- **Add New Recommendation:** Displays a new Meridium General Recommendation record in a new window, where you can create a new Meridium General Recommendation record. After you save the new Meridium General Recommendation record, the record appears in the list on the **Recommendations** dialog box.

- **Add Existing Recommendations:** Displays the **Find Items** window, where you can search for an existing Meridium General Recommendation record to add to the ACA Analysis.

- **Delete Recommendations:** Displays a confirmation message, asking if you really want to remove the link between the selected Meridium General Recommendation record and the record to which it is currently linked, and then removes the Meridium General Recommendation record from the ACA Analysis. This link is enabled only if a Meridium General Recommendation record appears in the list.

- **Close:** Closes the **Recommendations** dialog box, revealing the **Asset Criticality Analysis Systems** page.

Creating New Meridium General Recommendation Records

The following instructions provide details on creating a new Meridium General Recommendation record to add to the ACA Analysis.

To create a new Meridium General Recommendation record:

1. In the Meridium APM Framework, access the **Recommendations** dialog box.

2. Click the **Add New Recommendation** link.

   A new Meridium General Recommendation record appears in a new window.

3. In the **Target completion Date** list, select the desired date on the Calendar feature.

4. Enter values in the remaining fields on the datasheet as desired, and then click **OK**.

   The record that you created appears in the list on the **Recommendations** dialog box, and the Meridium General Recommendation record is linked to the record that appears in the currently selected row on the **Asset Criticality Analysis Systems** page.

Adding Existing Meridium General Recommendation Records to an ACA Analysis

The following instructions provide details on searching for an existing Meridium General Recommendation record to add to the ACA Analysis.

To add an existing Meridium General Recommendation record to an ACA Analysis:

1. In the Meridium APM Framework, access the **Recommendations** dialog box.

2. Click the **Add Existing Recommendations** button.

   The **Find Items** window appears.
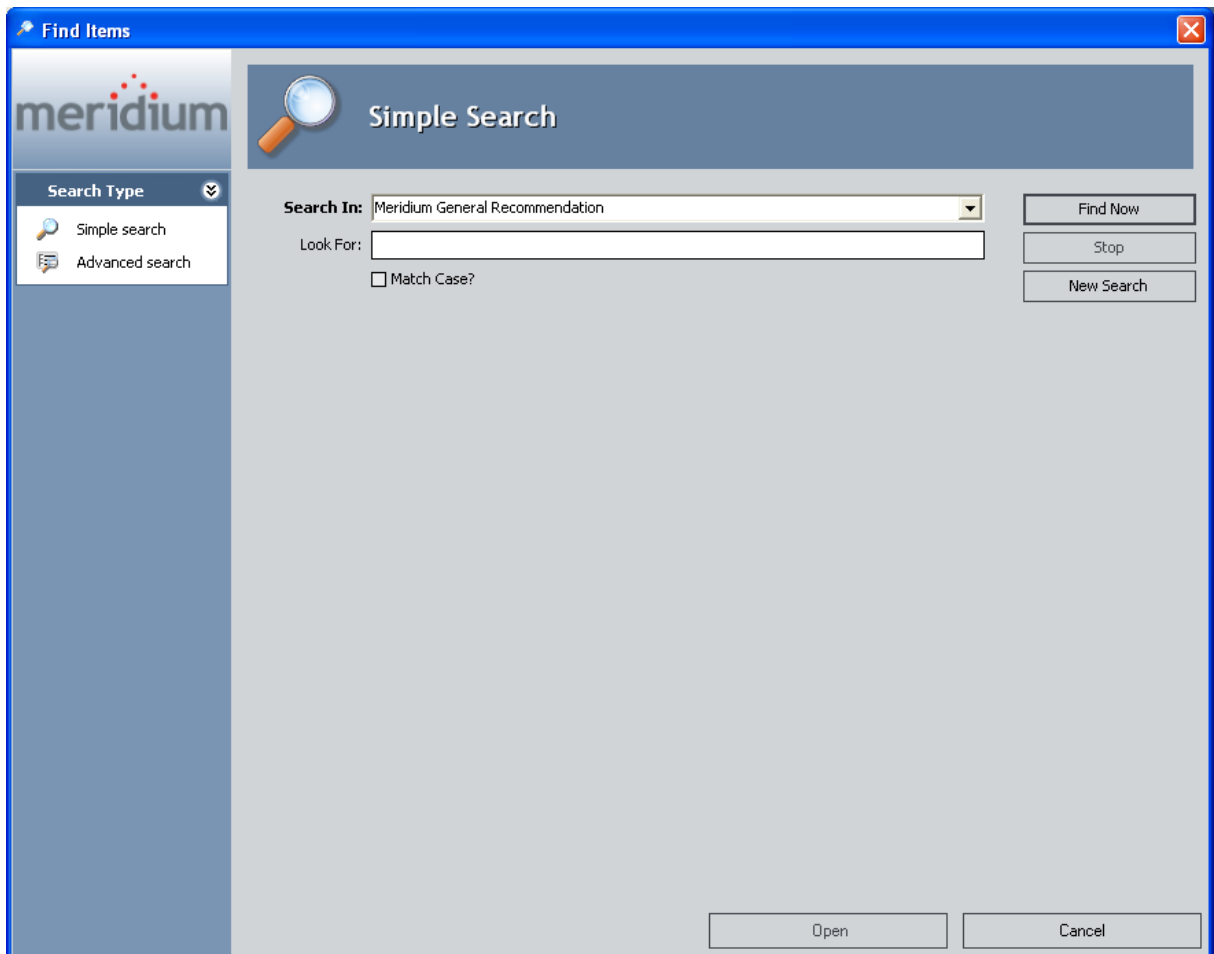
3. Click the **Find Now** button.

   The search results appear.

4. In the search results list, select the desired record, and click the **Open** button.

The selected record appears in the list on the **Recommendations** dialog box, and is linked to the record that appears in the currently selected row on the **Asset Criticality Analysis Systems** page.

Viewing the List of All Meridium General Recommendation Records for an ACA Analysis

The following instructions provide details on viewing a list of ALL the Meridium General Recommendation records that exist for an ACA Analysis. This list will contain *all* the Meridium General Recommendation records that are linked to records that make up an ACA Analysis.

You can access this list via any page in Asset Criticality Analysis where the **Navigation** menu appears.

To view the list of all Meridium General Recommendation records for an ACA Analysis:

- In the Meridium APM Framework, anywhere within the Asset Criticality Analysis tool, on the **Navigation menu**, click the **All Recommendations** link.

  The **Recommendation Management** page appears, displaying the results of the baseline query ACA Recommendation.

About the ACA Recommendation Query

The results of the ACA Recommendation query are displayed when you access Recommendation Management via the **All Recommendations** link on the **Navigation** menu in Asset Criticality Analysis.

This query contains a prompt for the Entity Key of the Asset Criticality Analysis record whose associated Meridium General Recommendation records you want to view. When you access Recommendation Management from an Asset Criticality Analysis, the Entity Key of the root Asset Criticality Analysis record is passed into the query prompt automatically, and the query results appear, displaying all the Meridium General Recommendation records that are linked directly or indirectly to that Asset Criticality Analysis record.

For each Meridium General Recommendation record that appears in the results, the following columns are displayed:

- **Current State:** Contains the state of the record.
- **Recommendation ID:** Contains the value that exists in the Recommendation ID field in the Meridium General Recommendation record.
- **Recommendation Type:** Contains the value that exists in the Recommendation Type field in the Meridium General Recommendation record.
- **Recommendation Headline:** Contains the value that exists in the Recommendation Headline field in the Meridium General Recommendation record.
- **Recommendation Description:** Contains the value that exists in the Recommendation Description field in the Meridium General Recommendation record.
- **Asset ID:** Contains the value that exists in the Asset ID field in the Meridium General Recommendation record.

Removing Meridium General Recommendation Records from an ACA Analysis

The following instructions provide details on removing a Meridium General Recommendation records from an ACA Analysis. When you remove a Meridium General Recommendation record from an ACA Analysis, you are deleting the link between the Meridium General Recommendation record and the Asset Criticality Analysis System record or Asset record to which the Meridium General Recommendation record is linked.

To remove a Meridium General Recommendation record from an ACA Analysis:

1. In the Meridium APM Framework, [access the **Recommendations** dialog box](#).

2. In the list of Meridium General Recommendation records, select the row containing the record that you want to remove from the ACA Analysis.

3. Click the **Delete Recommendations** link.

   A confirmation message appears, asking if you really want to remove the selected record from the ACA Analysis.

4. Click the **Yes** button.

   The selected Meridium General Recommendation record is removed from the list of Meridium General Recommendations.

About Promoting Systems to Asset Strategy (ASM, RCM, or FMEA)

After you define a system in ACA and you have determined that the system is critical, you can promote that system to one of the following modules in the Asset Strategy work process to develop an asset management plan to mitigate the risks associated with the assets in that system:

- Asset Strategy Management (ASM)
- Reliability Centered Maintenance (RCM)
- Failure Modes and Effects Analysis (FMEA)

You can promote an ACA System to *one* of these modules. After an ACA System has been promoted to one module, it cannot be promoted to a different module. You can promote an ACA System only if:

- You are a Super User or a member of the ACA Administrator or ACA Owner Security group.
- The Asset Criticality Analysis System record is linked to at least one Equipment or Functional Location record.

You can promote ACA Systems via the **Asset Strategy** link on the Actions menu on the **Asset Criticality Analysis Systems** page. The following options appear on the submenu when you click the **Asset Strategy** link:

- **Promote:** Lets you promote Asset Criticality Analysis System records to ASM, RCM, or FMEA. If the system has been promoted already, this link will update the existing strategy or analysis, and then you will be navigated to that item in the appropriate module. For example, if the system was previously promoted to a System Strategy, you will be navigated to that System Strategy in ASM.
- **View:** Displays in the appropriate module the analysis or strategy to which the system was promoted. This link is enabled only if the system has been promoted already. For example, if the system was previously promoted to an RCM Analysis, you will be navigated to that RCM Analysis in RCM.

About Promoting Systems to ASM

After you define a system in ACA and you have determined that the system is critical, you can promote that system to the Asset Strategy Management (ASM) module to develop a plan to optimize the performance of that system and its associated locations and pieces of equipment. You can do so using Asset Strategies and System Strategies, which let you define ways in which locations and pieces of equipment can fail and the actions that you want to perform to prevent those failures and reduce their consequences.

When you promote systems from ACA to ASM, the following items are created:

- One System Strategy record for each Asset Criticality Analysis System record. The System Strategy record will be linked to the source Asset Criticality Analysis System record.
- One Asset Strategy record for each Equipment or Functional Location record that is linked to the Asset Criticality Analysis System record. The Asset Strategy records will be linked automatically to the corresponding Equipment or Functional Location record.

When the System Strategy and Asset Strategy records are created:

- The ID of the associated Equipment, Functional Location, or Asset Criticality Analysis System record becomes the ID of the Strategy.
- The description of the Asset Strategy and System Strategy becomes *This strategy was automatically generated by Asset Criticality Analysis.*
- If the Equipment, Functional Location, or Asset Criticality Analysis System record is linked to a Risk Assessment record, the unmitigated risk value that is stored in that Risk Assessment record is used as the default risk value when you define the risk for that Strategy in ASM.
- If the Equipment, Functional Location, or Asset Criticality Analysis System record is NOT linked to a Risk Assessment record, you will need to define the risk value for that Strategy from scratch.
- The value in the Basis for Assessment field is copied to the Basis for Assessment field in the Risk Assessment record linked to the System and Asset Strategies.

After you promote an ACA System to ASM, if you delete via ACA the Asset Criticality Analysis System, Equipment, or Functional Location record that has been promoted to ASM, the associated Asset Strategy or System Strategy will *not* be deleted. However, the link between the Risk Assessment records and the strategies will be removed, and you will need to define the risk for those strategies from scratch.

Promoting Systems from ACA to ASM

The following instructions provide details on promoting a system from ACA to ASM so that you can develop strategies for mitigating the risks associated with the system and its associated locations and equipment.

To promote a system from ACA to ASM, you must be a Super User or a member of the ACA Administrator or ACA Member Security group and the ASM Analyst Security group.

To promote systems to ASM:

1. Access the **Asset Criticality Analysis Systems** page for the Asset Criticality Analysis whose system you want to promote to ASM.

2. In the grid, select the row containing the Asset Criticality Analysis System record that you want to promote to ASM.

3. On the **Actions** menu, click the **Asset Strategy** link.

   A submenu appears with the following options:

   - **Promote**
   - **View**

4. Click the **Promote** link.

   - If the selected Asset Criticality Analysis System record is already linked to a System Strategy, the **System Strategy management** page appears, where you can work with your System Strategy in ASM.

     -or-

   - The **Promotion Options** dialog box appears.
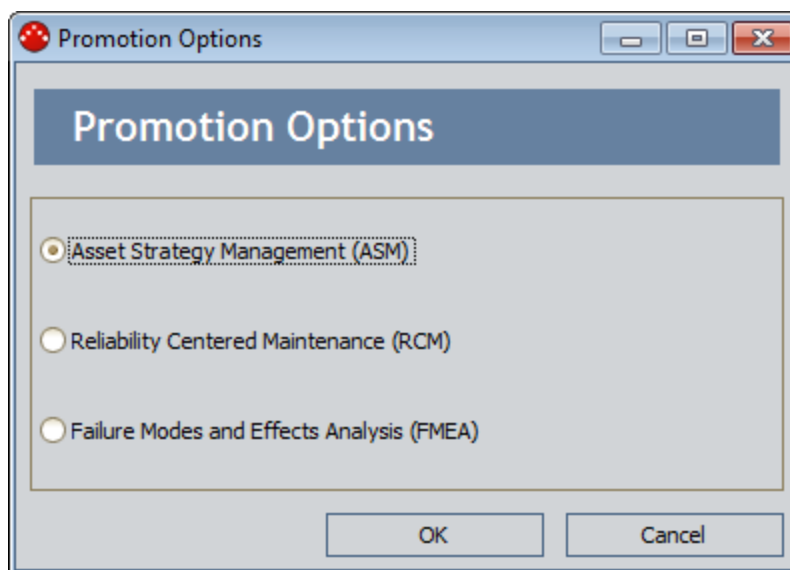
> **Note:** If the RCM and FMEA modules are NOT active, the **Promotion Options** dialog box will not appear. Instead, the Meridium APM system will automatically promote the system to ASM.

This documentation assumes that you have not yet promoted the ACA System record to ASM.

5. On the **Promotion Options** dialog box, accept the default selection, **Asset Strategy Management (ASM)**, and click **OK**.

- If the selected system is not yet linked to a System Strategy, a confirmation message appears, indicating that a NEW System Strategy will be created and asking you if you want to continue:
  - If you click the **Yes** button, the new strategy is created.
  - If you click the **No** button, the **Find Items** window appears, where you can search for an existing strategy to which you want to link the Asset Criticality Analysis System record.
  - If you click **Cancel**, the confirmation message closes, and the **Asset Criticality Analysis Systems** page is revealed.
- If the selected system is already linked to a System Strategy, that System Strategy is updated with any changes from the system and displayed on the **System Strategy Management** page.

These instructions assume that the selected system is *not* yet linked to a System Strategy and that you want to create a NEW one in ASM.

6. On the confirmation message, click the **Yes** button.

The System Strategy and Asset Strategy records are created and displayed on the **System Strategy Management** page, where you can begin working with your strategies using ASM features.

> **Note:** If an Equipment or Functional Location record that is linked to the Asset Criticality Analysis System record is already linked to an existing Asset Strategy for a different system, a message appears, indicating that the system cannot be promoted to ASM because an Equipment or Functional Location record is already associated with a System Strategy. You will need to resolve this issue before you can promote the system to ASM.

Viewing Existing System Strategies Created from Systems in ACA

The following instructions provide details on viewing System Strategies and Asset Strategies that were created from systems in ACA. You can view only one System Strategy at a time. The **View** link is enabled only if the system that is currently selected in the grid on the **Asset Criticality Analysis Systems** page has previously been promoted to ASM.

To view an existing System Strategy that was created from a system in ACA, you must be a Super User or a member of the ACA Administrator, ACA Owner, or ACA Member Security group and the ASM Viewer Security group.

To view an existing System Strategy that was created from an ACA system:

1. Access the **Asset Criticality Analysis Systems** page for the Asset Criticality Analysis whose system was promoted to ASM.

2. In the grid, select the row containing the Asset Criticality Analysis System record whose System Strategy you want to view in ASM.

3. On the **Actions** menu, click the **Asset Strategy** link.

   A submenu appears with the following options:

   - **Promote**
   - **View**

4. Click the **View** link.

   The **System Strategy Management** page appears, displaying the System Strategy that is associated with the selected system. At this point you can work with the System Strategy using ASM features.

About Promoting Systems to RCM

After you define a system in ACA and you have determined that the system is critical, you can promote that system to the Reliability Centered Maintenance (RCM) module to create maintenance and operational strategies based on the probability and consequence of the analyzed failure modes for the piece of equipment or location.

When you promote systems from ACA to RCM, the following records are created:

- One RCM FMEA Analysis record to represent the RCM Analysis. The RCM FMEA Analysis record will be linked to the source Asset Criticality Analysis System record. When the RCM Analysis record is created:
  - The Analysis Short Description field is populated automatically with the value stored in the System ID field in the Asset Criticality Analysis System record.
  - The Analysis Long Description field is populated automatically with the following value: *This RCM FMEA Analysis was automatically generated by Asset Criticality Analysis.*
- One RCM FMEA Asset record for each Equipment or Functional Location record. The RCM FMEA Asset records will be linked to the corresponding Equipment or Functional Location records.

After you [promote a system to RCM](#), when you assess risk for a Failure Effect whose parent Failure Mode is associated with the Equipment or Functional Location record from ACA, the Meridium APM system will use the risk matrix that is associated with the Equipment or Functional Location record through a site reference. Also, if an unmitigated risk rank has been defined for the Equipment or Functional Location record, the Risk Assessment will use that unmitigated risk rank by default. Note that the value stored in the Basis for Assessment field from the Risk Assessment record in ACA will be copied to the Risk Assessment record that belongs to the RCM Analysis.

When you are working with RCM and ACA integration, you may find it helpful to visualize [the data model](#).

Promoting Systems from ACA to RCM

The following instructions provide details on promoting a system from ACA to RCM. To promote a system to RCM, you must be a Super User or a member of the MI RCM User Security Group.

To promote an ACA system to RCM:

1. Access the **Asset Criticality Analysis Systems** page for the Asset Criticality Analysis whose system you want to promote to RCM.

2. In the grid, select the row containing the Asset Criticality Analysis System record that you want to promote to RCM.

3. On the **Actions** menu, click the **Asset Strategy** link.

   A submenu appears with the following options:

   - **Promote**
   - **View**

4. Click the **Promote** link.

   - If the selected Asset Criticality Analysis System record is already linked to an RCM FMEA Analysis record, the **RCM Explorer** page appears, where you can work with your RCM Analysis in RCM.

     -or-

   - The **Promotion Options** dialog box appears.
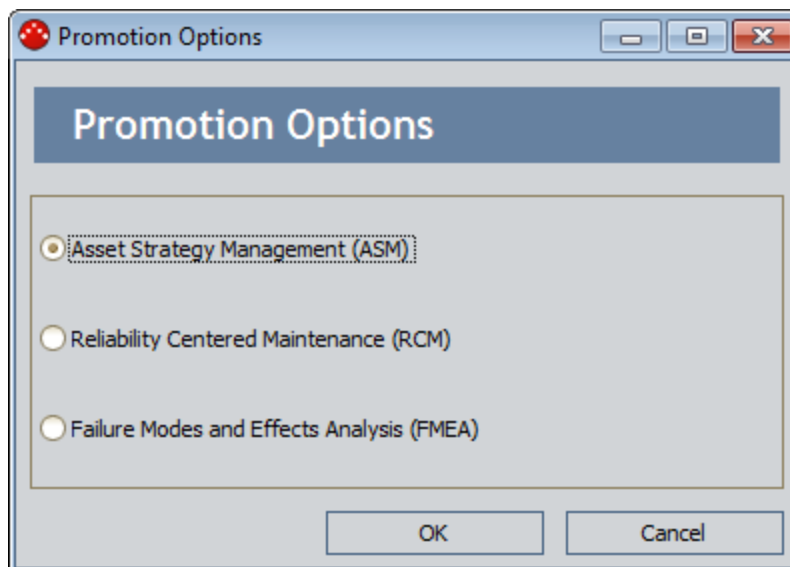
   This documentation assumes that you have not yet promoted the ACA System record to RCM.

5. On the **Promotion Options** dialog box, s elect the **Reliability Centered Maintenance (RCM)** option.

6. Click **OK.**

- If the selected system is not yet linked to an RCM Analysis, a confirmation message appears, indicating that a NEW RCM Analysis will be created and asking you if you want to continue:
    - If you click the **Yes** button, the new RCM Analysis is created.
    - If you click the **No** button, the **Find Items** window appears, where you can search for an existing RCM Analysis to which you want to link the Asset Criticality Analysis System record.
    - If you click **Cancel**, the confirmation message closes, and the **Asset Criticality Analysis Systems** page is revealed.
- If the selected system is already linked to an RCM Analysis, that RCM Analysis is updated and displayed in the RCM Explorer on the **RCM Explorer** page.

These instructions assume that the selected system is NOT yet linked to an RCM Analysis and that you want to create a NEW one in RCM.

7. On the confirmation message, click the **Yes** button.

The RCM Analysis is created and displayed in the RCM Explorer on the **RCM Explorer** page.

Viewing Existing RCM Analyses Created from ACA Systems

The following instructions provide details on viewing an RCM Analysis that was created from a system in ACA. The **View** link is enabled only if the system that is currently selected in the grid on the Asset Criticality Analysis Systems page has previously been promoted to RCM.

To view an RCM Analysis that was promoted from an ACA system, you must be a Super User or a member of the RCM User Security Group.

To view an existing RCM Analysis created from an ACA system:

1. Access the **Asset Criticality Analysis Systems** page for the Asset Criticality Analysis whose system was promoted to RCM.

2. In the grid, select the row containing the Asset Criticality Analysis System record whose RCM Analysis you want to view in RCM.

3. On the **Actions** menu, click the **Asset Strategy** link.

   A submenu appears with the following options:

   - **Promote**
   - **View**

4. Click the **View** link.

   The **RCM Explorer** page appears, and the RCM Analysis is displayed.

About Promoting Systems to FMEA

After you define a system in ACA and you have determined that the system is critical, you can promote that system to the Failure Modes and Effects Analysis (FMEA) module to determine the potential failures of the pieces of equipment and locations in that system, describe the possible effect of each failure, and make recommendations for actions that can be taken to prevent the failures from occurring.

When you promote systems from ACA to FMEA, the following records are created:

- One RCM FMEA Analysis record to represent the FMEA Analysis. The RCM FMEA Analysis record will be linked to the source Asset Criticality Analysis System record. When the FMEA Analysis record is created:

  - The Analysis Short Description field is populated automatically with the value stored in the System ID field in the Asset Criticality Analysis System record.

  - The Analysis Long Description field is populated automatically with the following value: *This RCM FMEA Analysis was automatically generated by Asset Criticality Analysis.*

- One RCM FMEA Asset record for each Equipment or Functional Location record. The RCM FMEA Asset records will be linked to the corresponding Equipment or Functional Location records.

After you promote a system to FMEA, when you assess risk for a Failure Effect whose parent Failure Mode is associated with the Equipment or Functional Location record from ACA, the Meridium APM system will use the risk matrix that is associated with the Equipment or Functional Location record through a site reference. Also, if an unmitigated risk rank has been defined for the Equipment or Functional Location record, the Risk Assessment will use that unmitigated risk rank by default. Note that the value stored in the Basis for Assessment field from the Risk Assessment record in ACA will be copied to the Risk Assessment record that belongs to the FMEA Analysis.

When you are working with FMEA and ACA integration, you may find it helpful to visualize the data model.

Promoting Systems from ACA to FMEA

The following instructions provide details on promoting a system from ACA to FMEA. To promote a system to FMEA, you must be a Super User or a member of the MI RCM User Security Group.

To promote an ACA system to FMEA:

1. Access the **Asset Criticality Analysis Systems** page for the Asset Criticality Analysis whose system you want to promote to FMEA.

2. In the grid, select the row containing the Asset Criticality Analysis System record that represents the system that you want to promote to FMEA.

3. On the **Actions** menu, click the **Asset Strategy** link.

   A submenu appears with the following options:

   - **Promote**
   - **View**

4. Click the **Promote** link.

   - If the selected Asset Criticality Analysis System record is already linked to an RCM FMEA Analysis record, the **FMEA Explorer** page appears, where you can work with your FMEA Analysis in FMEA.

     -or-

   - The **Promotion Options** dialog box appears.
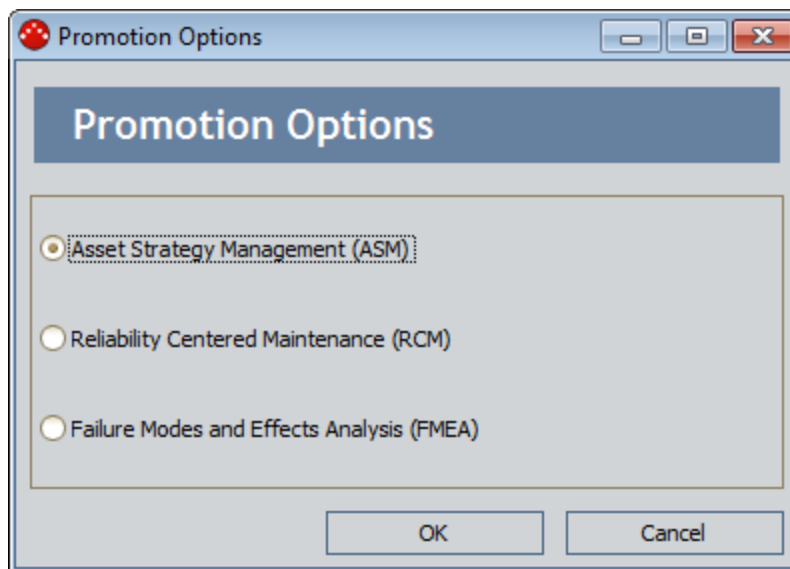
   This documentation assumes that you have not yet promoted the ACA System record to FMEA.

5. On the **Promotion Options** dialog box, select the **Failure Modes and Effects Analysis (FMEA)** option.

6. Click **OK**.

- If the selected system is not yet linked to an FMEA Analysis, a confirmation message appears, indicating that a NEW FMEA Analysis will be created and asking you if you want to continue:
    - If you click the **Yes** button, the new FMEA Analysis is created.
    - If you click the **No** button, the **Find Items** window appears, where you can search for an existing FMEA Analysis to which you want to link the Asset Criticality Analysis System record.
    - If you click **Cancel**, the confirmation message closes, and the **Asset Criticality Analysis Systems** page is revealed.
- If the selected system is already linked to an FMEA Analysis, that FMEA Analysis is updated and displayed in the FMEA Explorer on the **FMEA Explorer** page.

These instructions assume that the selected system is NOT yet linked to an FMEA Analysis and that you want to create a NEW one in FMEA.

7. On the confirmation message, click the **Yes** button.

The RCM Analysis is created and displayed in the FMEA Explorer on the **FMEA Explorer** page.

Viewing Existing FMEA Analyses Created from ACA Systems

The following instructions provide details on viewing an FMEA Analysis that was created from a system in ACA. The **View** link is enabled only if the system that is currently selected in the grid on the Asset Criticality Analysis Systems page has previously been promoted to FMEA.

To view an FMEA Analysis that was promoted from an ACA system, you must be a Super User or a member of the RCM User Security Group.

To view an existing FMEA Analysis created from an ACA system:

1. Access the **Asset Criticality Analysis Systems** page for the Asset Criticality Analysis whose system was promoted to FMEA.

2. In the grid, select the row containing the Asset Criticality Analysis System record that represents the system whose FMEA Analysis you want to view in FMEA.

3. On the **Actions** menu, click the **Asset Strategy** link.

   A submenu appears with the following options:

   - **Promote**
   - **View**

4. Click the **View** link.

   The **FMEA Explorer** page appears, and the FMEA Analysis is displayed.

Viewing Reports for ACA Analyses

You can view a report that contains information related to the current ACA Analysis via the **Reports** link on the **Common Tasks** menu. The **Reports** link displays a submenu that contains the names of the reports that are stored in the Catalog folder \\Public\Meridium\Modules\Asset Criticality Analysis\Reports.

You can access the **Reports** link on the following pages in ACA:

- [Asset Criticality Analysis Definition](#) page
- [Asset Criticality Analysis Systems](#) page

The following instructions assume that you are viewing one of the pages in the preceding list.

To view a report for an ACA Analysis:

1. In the Meridium APM Framework, anywhere within the Asset Criticality Analysis tool, on the **Common Tasks** menu, click the **Reports** link.

   A submenu appears that contains the list of available reports.

2. On the submenu, click the name of the report that you want to view.

   The report appears in the Report Viewer.

Viewing Graphs for ACA Analyses

You can view a graph that contains information related to the current ACA Analysis via the **Graphs** link on the **Common Tasks** menu. The **Graphs** link displays a submenu that contains the names of the graphs that are stored in the Catalog folder [\\Public\Meridium\Modules\Asset Criticality Analysis\Graphs](#).

You can access the **Graphs** link on the following pages in ACA:

- [Asset Criticality Analysis Definition page](#)
- [Asset Criticality Analysis Systems page](#)

The following instructions assume that you are viewing one of the pages in the previous list.

To view a graph for an ACA Analysis:

1. In the Meridium APM Framework, anywhere within the Asset Criticality Analysis tool, on the **Common Tasks** menu, click the **Graphs** link.

   A submenu appears that contains the list of available graphs.

2. On the submenu, click the name of the graph that you want to view.

   The graph appears in the Graph Viewer.

Removing Asset Criticality Analyses from the Asset Criticality Analysis Search

You can remove an Asset Criticality Analysis record from the **Asset Criticality Analysis Search** page via the **Delete** option that appears on the **Common Tasks** menu on that page. You can remove an Asset Criticality Analysis record regardless of the state of the record or whether or not the Asset Criticality Analysis Systems and locations and equipment that are associated with that analysis have been promoted to ASM.

Using the **Delete** option does *not delete* the Asset Criticality Analysis record from the database. Instead, when you remove an Asset Criticality Analysis record:

- The record is removed from the **Asset Criticality Analysis Search** page.
- The links between that record and other records associated with the ACA Analysis are deleted.
- The link between the Risk Assessment records for an ACA System and the Asset Strategy or System Strategy created by promoting that system to ASM.

To remove an Asset Criticality Analysis record from the Asset Criticality Analysis Search page:

1. In the Meridium APM Framework, on the **Asset Criticality Analysis Search** page, select the row containing the Asset Criticality Analysis record that you want to delete.

2. On the **Common Tasks** menu, click the **Delete** link.

   A confirmation message appears, asking if you really want to delete the Asset Criticality Analysis record and all the records linked to that record.

3. Click the **Yes** button.

   The Asset Criticality Analysis record is removed from the **Asset Criticality Analysis Search** page, and the links to all the records that are linked to that record are deleted.

About the Asset Criticality Analysis Catalog Folder Structure

The Asset Criticality Analysis Catalog folders contain queries, graphs, and reports that appear throughout Asset Criticality Analysis and display information contained in the records that make up an ACA Analysis. The Catalog folder **\\Public\Meridium\Modules\Asset Criticality Analysis** contains the following subfolders:

- **Graphs:** Contains the graph *Asset Criticality Analysis Unmitigated Risk Graph* and one subfolder, **Subgraphs**, which contains the supporting graphs for the Asset Criticality Analysis Unmitigated Risk Graph.

- **Queries:** Contains queries that are used by Asset Criticality Analysis to display information such as the list of existing Asset Criticality Analysis records and to support the reports stored in the folder \\Public\Meridium\Modules\Asset Criticality Analysis\Reports.

- **Reports:** Contains the report *Asset Criticality Analysis Report* and one subfolder, **Subreports**, which contains the supporting subreports for the Asset Criticality Analysis report.

The topics in this section of the Help system describe the content of each Catalog folder in this list. You should not modify the names of these Catalog folders or the names of the items that exist in these folders or move the items to another Catalog folder.

Graphs Folder

The graph listed in the following table is provided in the Catalog folder \\Public\Meridium\Modules\Asset Criticality Analysis\Graphs. In this table, the value listed in the **Graph** column refers to the graph *name*. The baseline caption is the same as the name.

Graph	Behavior and Usage
Asset Criticality Analysis Unmitigated Risk Graph	After displaying a prompt for an Entity Key, displays on the **Graph Viewer** page the graph *Asset Criticality Analysis Unmitigated Risk Graph*, which displays the unmitigated risk value for all the systems for the current ACA Analysis. Note that the systems appear on the graph in alphabetical order from left to right according to the value in the System ID field in the Asset Criticality Analysis System records.

Subgraphs Folder

The graph listed in the following table is provided in the Catalog folder \\Public\Meridium\Modules\Asset Criticality Analysis\Graphs\Subgraphs. In this table, the value listed in the **Graph** column refers to the graph *name*. The baseline caption is the same as the name.

Item	Behavior and Usage
ACA Location Equipment Unmitigated Risk	Supports the graph *Asset Criticality Analysis Unmitigated Risk Graph*.

Queries Folder

The queries listed in the following table are provided in the Catalog folder \\Public\Meridium\Modules\Asset Criticality Analysis\Queries. In this table, the values listed in the **Query** column refer to the query *names*. The baseline captions are the same as the names.

Query	Behavior and Usage
ACA Analysis	After displaying a prompt for an Entity Key, returns the Asset Criticality Analysis record with the specified Entity Key. This query supports the report *Asset Criticality Analysis Report*, which is stored in the **Reports** folder.
ACA Recommendations	After displaying a prompt for an Entity Key, returns the Meridium General Recommendation records that are linked to the Asset Criticality Analysis record with the specified Entity Key. This query appears when you click the **All Recommendations** link on the **Navigation** menu that appears throughout Asset Criticality Analysis.
ACA Reference Document Query	After displaying a prompt for an Entity Key, returns the Reference Document records that are linked to the Asset Criticality Analysis record with the specified Entity Key. This query supports the report *Asset Criticality Analysis Report* that is stored in the **Reports** folder.
ACA Search	After displaying a prompt for a state value, returns the Asset Criticality Analysis records that are set to the specified state. The results of this query appear when you access the **Asset Criticality Analysis Search** page.
ACA System Lists	After displaying a prompt for an Entity Key, returns the Equipment and Functional records that are linked to the Asset Criticality Analysis record with the specified Entity Key. This query supports the report *Asset Criticality Analysis Report* that is stored in the **Reports** folder.

Query	Behavior and Usage
ACA System Search	Displaying a prompt for an Analysis Key and ID, where the Analysis Key is the Analysis Key for an Asset Criticality Analysis record and ID is the System ID of an Asset Criticality Analysis System record. The query returns the Asset Criticality Analysis *System* record with the specified ID that is linked to the Asset Criticality Analysis record with the specified Analysis Key. This query is used by the **Asset Criticality Analysis Systems** page.
ACA Team Member Query	After displaying a prompt for an Entity Key, returns the Human Resource records that are linked to the Asset Criticality Analysis record with the specified Entity Key. This query supports the report *Asset Criticality Analysis Report* stored in the **Reports** folder.

Reports Folder

The report listed in the following table is provided in the Catalog folder \\Public\Meridium\Modules\Asset Criticality Analysis\Reports. In this table, the values listed in the **Report** column refer to the report *name*. The baseline caption is the same as the name.

Report	Behavior and Usage
Asset Criticality Analysis Report	After displaying a prompt for an Entity Key, displays a summary of the information related to the Asset Criticality Analysis record with the specified Entity Key.

Subreports Folder

The reports listed in the following table are provided in the Catalog folder \\Public\Meridium\Modules\Asset Criticality Analysis\Reports\Subreports. In this table, the values listed in the **Report** column refer to the report *names*. The baseline captions are the same as the names.

Report	Behavior and Usage
ACA Reference Documents Report	After displaying a prompt for an Entity Key, displays the Reference Document records that are linked to the Asset Criticality Analysis record with the specified Entity Key.
ACA System Lists Report	After displaying a prompt for an Entity Key, displays the Asset Criticality Analysis System records that are linked to the Asset Criticality Analysis record with the specified Entity Key.
ACA Team Members Report	After displaying a prompt for an Entity Key, displays the list of team members whose Human Resource record is linked to the Asset Criticality Analysis record with the specified Entity Key.

About the Asset Criticality Analysis Unmitigated Risk Graph

The Asset Criticality Analysis Unmitigated Risk graph displays for the current ACA Analysis the unmitigated risk value for each system that is associated with that ACA Analysis. It also uses the subgraph ACA Location Equipment Unmitigated Risk, which displays:

- The unmitigated risk value for the Functional Location record that is linked directly to the Asset Criticality Analysis System record that is associated with the ACA Analysis.
- The unmitigated risk value for the Equipment record that is linked directly to the Functional Location records record that is linked directly to the Asset Criticality Analysis System record.

In this way, you can drill down into a series in the Asset Criticality Analysis Unmitigated Risk graph to view the unmitigated risk value for the records that appear on a subsequent row in the grid on the **Asset Criticality Analysis Systems** page.

Example

Assume you have an ACA Analysis *Unit B* that contains two systems:

- *System A- Unit B*, whose unmitigated risk value is 150.
- *System B- Unit B*, whose unmitigated risk value is 10.

When you view the Asset Criticality Analysis Unmitigated Risk graph, it might look similar to the following image.

ACA System Lists Unmitigated Risk Query Graph
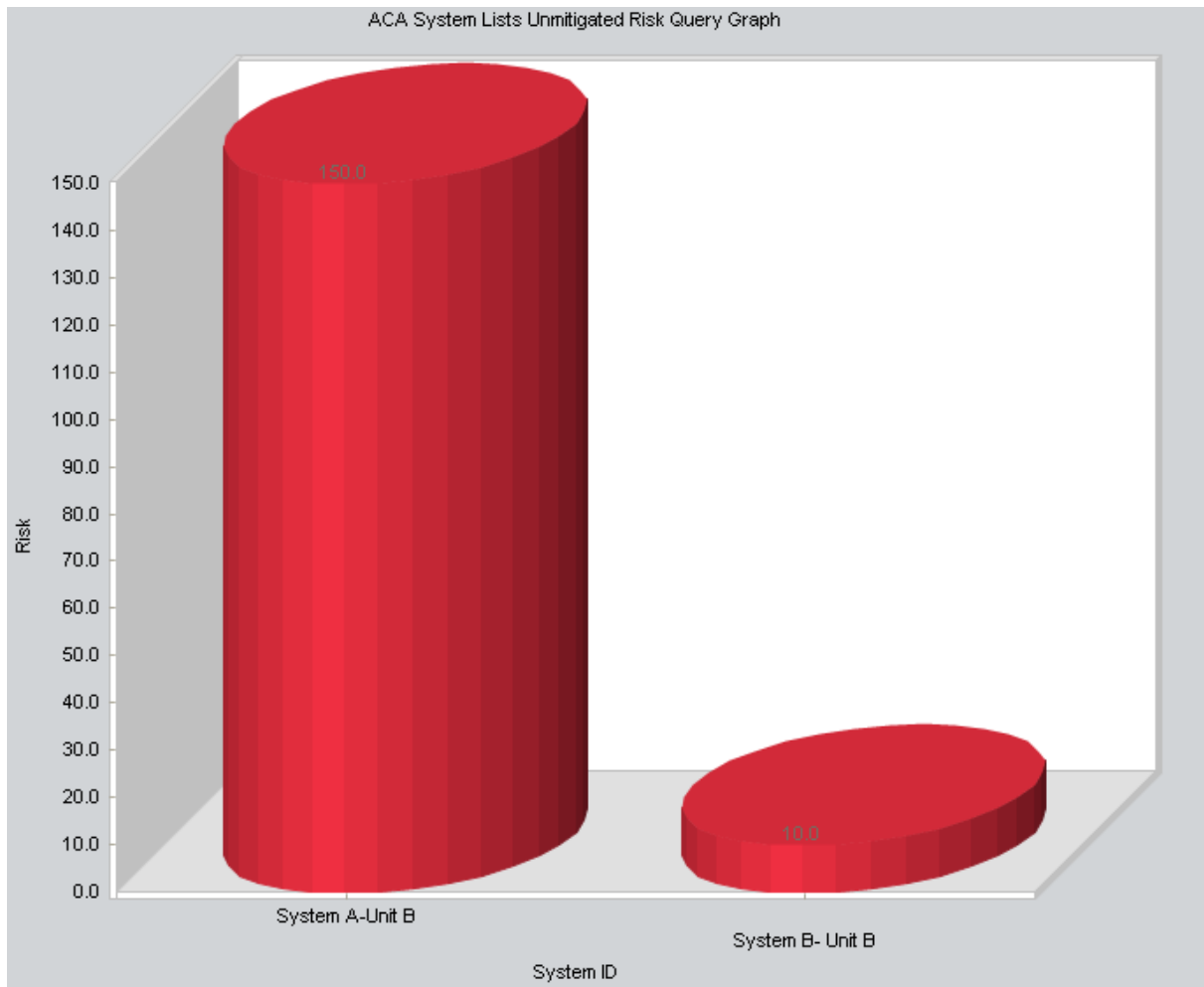
Now, assume that if *System A- Unit B* is linked to directly to the Functional Location record *01-B02-1 ~ Compressor*, which has an unmitigated risk value of 50, when you drill down into the series in the graph that represents System A- Unit B, the ACA Location Equipment Unmitigated Risk graph appears as shown in the following image.
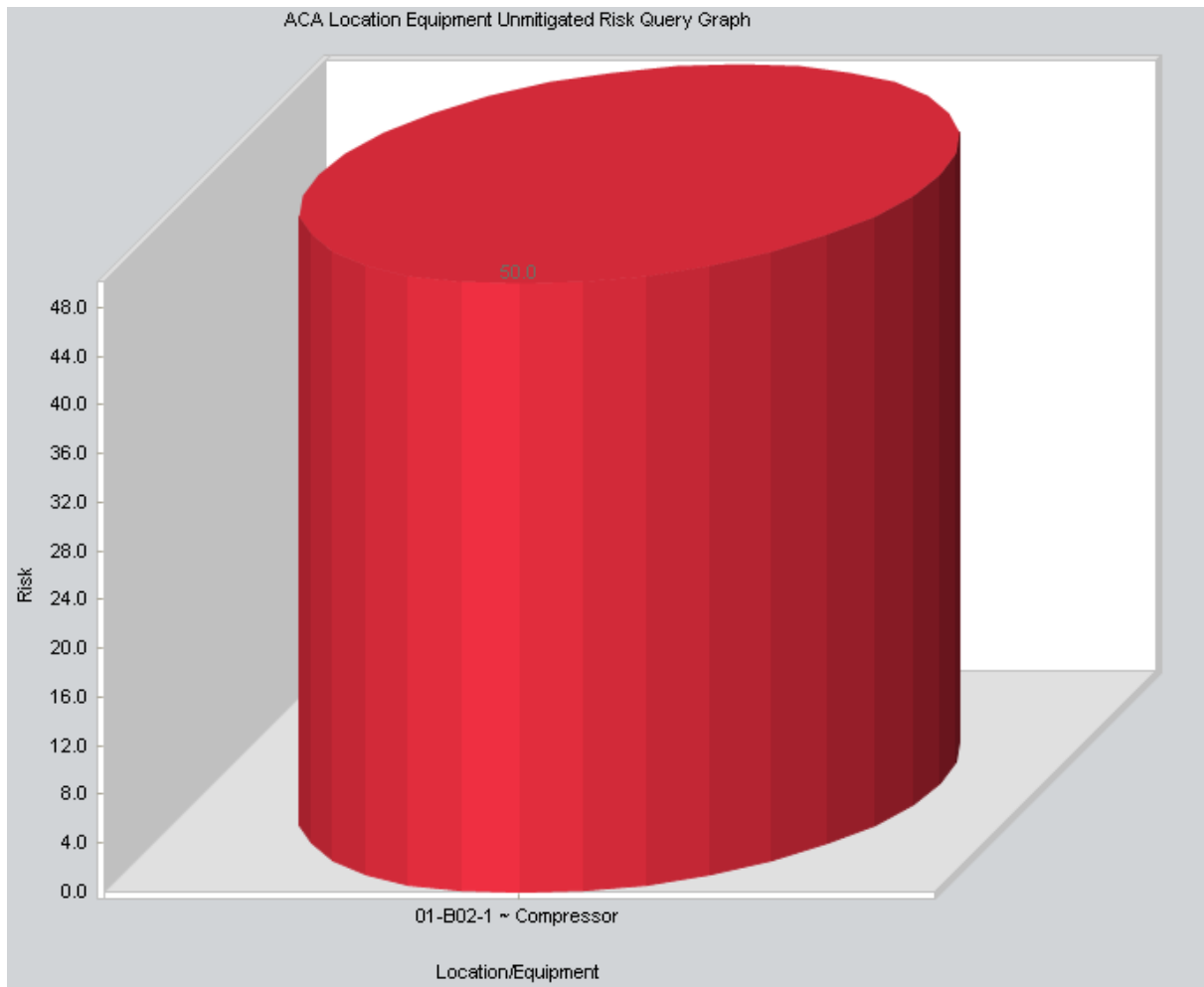
Similarly, if the Functional Location record *01-B02-1 ~ Compressor* is linked to the Equipment record *~ #1 DEPROP. O.H. COND. ~HXST 123*, whose unmitigated risk value is 100, when you drill down into the series that represents the Functional Location record *01-B02-1 ~ Compressor*, the ACA Location Equipment Unmitigated Risk graph displays the unmitigated risk value for Equipment record *~ #1 DEPROP. O.H. COND. ~HXST 123* as shown in the following image.

ACA Equipment Lists Graph
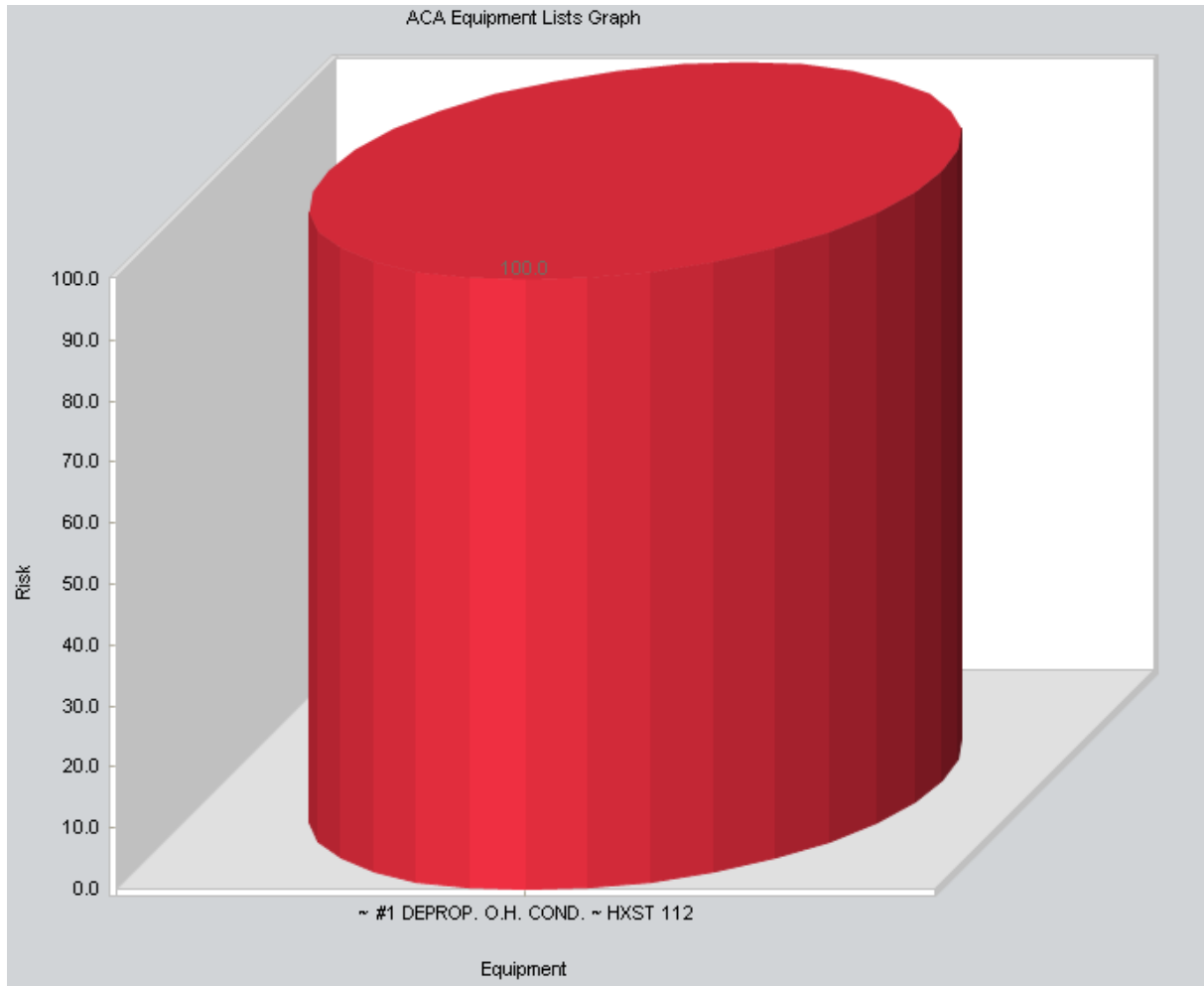
About the Asset Criticality Analysis Report

The Asset Criticality Analysis Report is a SQL Server Reporting Services report that you can use to view a summary of the ACA Analysis and its systems, including the risk associated with those systems and the locations and equipment that make up those systems. The Asset Criticality Analysis Report uses the following queries, which are stored in the **Queries** folder:

- ACA Analysis
- ACA Systems List

The Asset Criticality Analysis Report contains the following sections:

- **Cover:** Displays the ID of the ACA Analysis.
- **Asset Criticality Analysis:** Displays the following information:
    - **Analysis ID:** The value that exists in the Analysis ID field in the Asset Criticality Analysis record.
    - **Analysis End Date:** The value that exists in the Analysis End Date field in the Asset Criticality Analysis record.
- **Description:** Displays the value that exists in the Analysis Description field in the Asset Criticality Analysis record.
- **Scope of study:** Displays the value that exists in the Analysis Scope field in the Asset Criticality Analysis record.
- **Analysis Team Members:** Displays a table, which contains the list of ACA Analysis team members. Each row in the table represents one Human Resource record. For each Human Resource record, the following information appears:
    - **Name:** The last name and first name that exists in the Last Name field and the First Name field in the Human Resource record.
    - **Department:** The value that exists in the Department field in the Human Resource record.
- **Analysis Documentation:** Displays a table, which contains the list of reference documents that are associated with the ACA Analysis. Each row in the table represents one Reference Document record. For each Reference Document record, the following information appears:
    - **ID:** The value that exists in the Name field in the Reference Document record.
    - **Description:** The value that exists in the Description field in the Reference Document record.
- **System/Asset List:** Contains a table, which summarizes the systems, locations, and equipment associated with the ACA Analysis and the unmitigated risk value associated with each system, location, and piece of equipment. The table contains the following columns:

- **System ID Description:** The ID of the Asset Criticality Analysis System record that is linked to the ACA Analysis.

- **Location/Equipment ID:** The ID of the Equipment or Functional Location record that is linked directly to an Asset Criticality Analysis System record.

- **Equipment ID:** The ID of the Equipment record that is linked directly to the Functional Location record that appears in the **Location/Equipment ID** column.

- **Unmitigated Risk:** The unmitigated risk value that appears in the Risk Assessment record that is linked to either an Equipment, Functional Location, or Asset Criticality Analysis System record.

The content of the **System/Asset List** section of the Asset Criticality Analysis Report mimics the layout of the **Asset Criticality Analysis Systems** grid on the **Asset Criticality Analysis Systems** page with the exception of the **Recommendations** column. For example, the following image shows the **Asset Criticality Analysis Systems** grid with two systems defined.

If you were to view the **System/Asset List** page of the Asset Criticality Analysis Report for this ACA Analysis, it would look something like the following image.

Asset Criticality Analysis Report

System/Asset List

System ID Description	Location/Equipment ID	Equipment ID	Unmitigated Risk
System 1			2500
	~ #1 STEAM REHEATER ~ HXST 36		30
	MRD-ROA-REFN-RF001-GM0042-001 ~ MOTOR - NORTH BOILER H20 CIRCULATION		500
		~ #4 SULFUR CONDENSER ~ HXST 34	30
System 2			5
	MRD-ROA-REFN-RF104-SB0002-104 ~ SOOT BLOWER - FCC NORTH BOILER		
		~ CHARGE MIX COOLER ~ HXST 163	
		~ NO. 2 SULFUR CONDENSER ~ HXST 91	

Note: In the **Unmitigated Risk** column in the Asset Criticality Analysis Report, if the Asset Criticality Analysis System record has the *same* unmitigated risk value as the Equipment and Functional Location records to which it is linked, only the risk value for the *system* will appear in the table.

Asset Criticality Analysis

Asset Criticality Analysis records store information about an ACA Analysis. The following table provides an alphabetical list and description of the fields that exist in the Asset Criticality Analysis family. The information in the table reflects the baseline state and behavior of these fields.

Field	Data Type	Description	Behavior and Usage
Analysis Description	Character	A description of the ACA Analysis.	None
Analysis End Date	Date	The date on which the ACA Analysis will end.	None
Analysis ID	Character	The ID for the ACA Analysis.	This field is required, and the value must be unique.
Analysis Owner	Character	The name of the team member who is specified as the Process Owner for the ACA Analysis.	This field is disabled and populated automatically with the value in the Process Owner field.
Analysis Scope	Text	A description of the ACA Analysis that you want to conduct.	None
Analysis Start Date	Date	The date on which the ACA Analysis will begin.	None
Analysis Type	Character	N/A	This field does not appear on the Asset Criticality Analysis datasheet by default.

Field	Data Type	Description	Behavior and Usage
Facilitator	Character	The name of the team member who is specified as the Facilitator for the ACA Analysis.	This field does not appear on the Asset Criticality Analysis datasheet by default. This field is populated auto-matically with the name of the ACA Analysis Team Mem-ber specified as the Facilitator on the **Asset Criticality Ana-lysis Team Mem-bers** page.
Import Date	Date	The date on which the analysis was cre-ated or last updated from a Microsoft Excel file.	This field is disabled and populated auto-matically when you create an analysis by importing it from an Excel file and when you update an analysis by import-ing risk values from an Excel file.

Field	Data Type	Description	Behavior and Usage
Import Status	Character	The status of the import process that was last used to create or update the analysis.	This field is disabled and populated automatically when you create an analysis by importing it from an Excel file and when you update an analysis by importing risk values from an Excel file. The value will be set to one of the following values: • **Successful** • **Incomplete** • **Failed** • **Skipped** The status is also displayed in the grid on the ACA Import page.
Imported By	Character	The user ID of the Security User who created or last updated the analysis from a Microsoft Excel file.	This field is disabled and populated automatically when you create an analysis by importing it from an Excel file and when you update an analysis by importing risk values from an Excel file.
Last Modified By	Character	The name of the user who last modified the record.	This field is disabled and populated automatically with the name of the user who was logged in when the record was last modified.

Field	Data Type	Description	Behavior and Usage
Last Modified Date	Date	The date on which the record was last modified.	This field is disabled and populated automatically.
Process Owner	Character	The name of the Process Owner for the ACA Analysis.	This fields does not appear on the Asset Criticality Analysis datasheet by default. It is populated automatically with the name of the ACA Analysis Team Member specified as the Process Owner on the **Asset Criticality Analysis Team Members** page. When you create a new Asset Criticality Analysis record, this value defaults to the name of the user who creates the record. After a team member has been assigned to the role of Process Owner, this field will be updated automatically with that team member's name.
Site ID	Character	Contains a list of IDs for existing Site Reference records.	[The record that you select here](#) is used to identify which risk matrix to display when you create Risk Assessment records in ACA. If this field is empty, the default risk matrix will be used.

Field	Data Type	Description	Behavior and Usage
Unit ID	Character	The name or ID of the unit in which the pieces of equipment, locations, and systems exist in your facility.	You can use this field to specify the unit in which the pieces of equipment, locations, and systems that you are analyzing exist.
Visual Attributes	Text	N/A	This field does not appear on the Asset Criticality Analysis datasheet by default.

Note: Only members of the MI ACA Administrator Security Group can modify the layout of the Asset Criticality Analysis datasheet.

Asset Criticality Analysis System

The following table provides an alphabetical list and description of the fields that exist in the Asset Criticality Analysis System family. The information in the table reflects the baseline state and behavior of these fields.

Field	Data Type	Description	Behavior and Usage
Import Date	Date	The date on which the analysis was created or last updated from a Microsoft Excel file.	This field is disabled and populated automatically when you create an analysis by importing it from an Excel file and when you update an analysis by importing risk values from an Excel file.
Import Status	Character	The status of the import process that was last used to create or update the analysis.	This field is disabled and populated automatically when you create an analysis by importing it from an Excel file and when you update an analysis by importing risk values from an Excel file. The value will be set to one of the following values: • **Successful** • **Incomplete** • **Failed** • **Skipped** The status is also displayed in the grid on the ACA Import page.

Field	Data Type	Description	Behavior and Usage
Imported By	Character	The user ID of the Security User who created or last updated the analysis from a Microsoft Excel file.	This field is disabled and populated automatically when you create an analysis by importing it from an Excel file and when you update an analysis by importing risk values from an Excel file.
Modified By	Character	The name of the user who last modified the record.	This field is disabled and populated automatically with the name of the user who was logged in when the record was last modified. It is not available on the baseline datasheet.
Modified Date	Date	The date on which the record was last modified.	This field is disabled and populated automatically. It is not available on the baseline datasheet.
Parent Analysis Key	Number	The Entity Key of the Asset Criticality Analysis record to which this Asset Criticality Analysis System record is linked.	This field is not available on the baseline datasheet.

Field	Data Type	Description	Behavior and Usage
Site ID	Character	The ID of the site that is associated with the analysis to which the system belongs.	This field is populated automatically with the value that is stored in the Site ID field in the Asset Criticality Analysis record for the current ACA Analysis. If you specify a value in this field that is different from the value specified in the Site ID field in the Asset Criticality Analysis record, the value in the Asset Criticality Analysis record will be used to determine which risk matrix to display when you create Risk Assessment records. You can select a site ID from the list. The list displays the IDs of all existing Site Reference records.
Site Description	Character	The description of the site that is associated with the analysis to which the system belongs.	This field is not available on the baseline datasheet.
System Comments	Text	Additional comments about the system.	You can type comments manually.
System Description	Text	A description of the system.	None

Field	Data Type	Description	Behavior and Usage
System Equipment Type	Character	A description of the type of equipment that the system contains.	You can select a value from the list.
System ID	Character	A unique identifier for the system.	The System ID must be unique with respect to other systems that belong to the same analysis.
System Log	Text	A log of any errors that occurred when updating criticality indicator values in SAP. This field contains information about the *most recent* update operation.	The contents of this field are rewritten each time that you use the ACA System to update criticality indicator values in SAP. If no errors occur during the update operation, this field will be empty.
System Process Type	Character	The type of system process.	You can select one of the following values from the list, which comes from a system code table: • Gas/Oil Fired Steam Boiler (Steam Generation) • Ethylene Oxide Storage (EO Storage) • FCCU (Fluid Catalytic Cracking Unit)
Unit Description	Character	N/A	This field is not available on the baseline datasheet.

Field	Data Type	Description	Behavior and Usage
Unit ID	Character	The ID of the unit that is associated with the system.	This field is populated automatically with the value stored in the Unit ID field in the Asset Criticality Analysis record for the current ACA Analysis.

Parameters for the Asset Criticality Analysis URL

There is one root URL associated with Asset Criticality Analysis: **meridium://ACA**. A link constructed from the path alone will open the **Asset Criticality Analysis Start Page**. In addition, you can use any of the parameters described in the following table.

Parameter Name	Description	Accepted Value(s)	Notes
Page	Specifies the page in Asset Criticality Analysis that you want to view.	Admin Search Definition Team Documents Systems Import	The Page parameter is required. Displays the **Asset Criticality Analysis Administration** page. Displays the **Asset Criticality Analysis Search** page. Displays a new or existing Asset Criticality Analysis record on the **Asset Criticality Analysis Definition** page. If the EntyKey parameter is included in the URL, the page will display the existing record with the specified Entity Key. If, however, the EntyKey parameter is omitted from the URL, the page will display a *new* record in the Asset Criticality Analysis family. Displays the **Team Members** page for the Asset Criticality Analysis record that is specified by the EntyKey parameter. If the Team parameter is included, the EntyKey parameter is required. Displays the **Reference Documents** page for the Asset Criticality Analysis record specified by the EntyKey parameter. If the Documents parameter is included, the EntyKey parameter is required. Displays the **Asset Criticality Analysis Systems** page for the Asset Criticality Analysis record specified by the EntyKey parameter. If the Systems parameter is included, the EntyKey parameter is required. Displays the **Open** dialog box, where you can navigate to the Microsoft Excel file that you want to use for [importing ACA Analyses](#). To see examples of URLs that include

Parameter Name	Description	Accepted Value(s)	Notes
			these parameters, see the topic **Examples of Asset Criticality Analysis URLs**.
EntyKey	Specifies the Entity Key of the Asset Criticality Analysis record that you want to manage on the specified page.	Numeric Entity Key	The EntyKey parameter is required when the Page parameter is set to any of the following values: • Team • Documents • Systems

Examples of Asset Criticality Analysis URLs

- meridium://ACA

  Displays the **Asset Criticality Analysis Start Page**.

- meridium://ACA**?Page=Admin**

  Displays the **Asset Criticality Analysis Administration** page.

- meridium://ACA**?Page=Search**

  Displays the **Asset Criticality Analysis Search** page.

- meridium://ACA**?Page=Definition**

  Displays a new Asset Criticality Analysis record on the **Asset Criticality Analysis Definition** page.

- meridium://ACA**?Page=Team&EntyKey=12345678**

  Displays the **Team Members** page for the Asset Criticality Analysis record with the Entity Key 12345678.

ACA Analysis

An Asset Criticality Analysis record and all the records that are linked to that record. Using ACA, you can evaluate the criticality of systems and the individual locations and pieces of equipment that make up those systems by defining the consequences and probability of the failure events that may occur. In this way, you can determine which of your locations, pieces of equipment, and systems have the highest risk of failure in your facility. In other words, using ACA, you can determine which of your locations, pieces of equipment, and systems are critical.