

Agile Product Lifecycle Management

Agile Recipe Management for Pharmaceuticals Equipment
Management Guide

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Preface

Agile PLM is a comprehensive enterprise PLM solution for managing your product value chain.

Audience

This document is intended for administrators and users of the Agile PLM products.

Documentation Accessibility

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Related Documents

Oracle's Agile PLM documentation set includes Adobe® Acrobat PDF files. The Oracle Technology Network (OTN) Web site <http://www.oracle.com/technetwork/documentation/agile-085940.html> contains the latest versions of the Agile PLM PDF files. You can view or download these manuals from the Web site, or you can ask your Agile administrator if there is an Agile PLM Documentation folder available on your network from which you can access the Agile PLM documentation (PDF) files.

Conventions

The following text conventions are used in this document:

Convention	Meaning
boldface	Boldface type indicates graphical user interface elements associated with an action, or terms defined in text or the glossary.
<i>italic</i>	Italic type indicates book titles, emphasis, or placeholder variables for which you supply particular values.

Convention	Meaning
monospace	Monospace type indicates commands within a paragraph, URLs, code in examples, text that appears on the screen, or text that you enter.

Introduction to Recipe & Material Workspace Equipment Management

The Equipment Management module within the Agile PLM Recipe & Material Workspace (RMW) solution provides information on how to effectively qualify and make equipment available for use in the product development life cycle.

About this Guide

This guide provides information on all the features and functionality of the RMW Equipment Management solution. It also covers instructions on how to use the various menus and commands available on the RMW user interface to author and manage equipment objects. The features that are visible to you on the interface are determined by the access privileges assigned to you by an administrator.

Recipe & Material Workspace Documentation

The complete list of RMW manuals is provided here for the benefit of users and administrators of the RMW solution.

- Getting Started with Agile Recipe Management for Pharmaceuticals describes common concepts, basic navigation, searches and work flows. Also covers how to work with reports, standards, and environmental conditions.
- Agile Recipe Management for Pharmaceuticals Administrator Guide describes all administration and configuration information including Agile PLM integration requirements.
- Agile Recipe Management for Pharmaceuticals Process Management Guide describes the features of the Process module, covering the creation and execution of projects and campaigns, control recipes, and work requests.
- Agile Recipe Management for Pharmaceuticals Process management Guide describes the features of the Recipe module, covering the authoring and management of recipes and recipe templates.
- Agile Recipe Management for Pharmaceuticals Material Management Guide describes the features of the Materials module, covering how to work with material requests, inventory, and allocation. Also covers how to manage analytical activities.
- Agile Recipe Management for Pharmaceuticals Equipment Management Guide describes the features of the Equipment module, covering equipment qualification, loan, lease, and reservation.

- Agile Recipe Management for Pharmaceuticals Import/Export Guide describes how to export and import RMW business and administrator objects from a source system to a target system.

RMW is accessed only through the Agile PLM user interface. Refer to Getting Started with Agile PLM along with the Agile PLM Administrator Guide for a thorough understanding of PLM processes. The complete set of Agile PLM documentation, including RMW documentation, is available on the Oracle Technology Network (OTN) Web site <http://www.oracle.com/technetwork/documentation/agile-085940.html>.

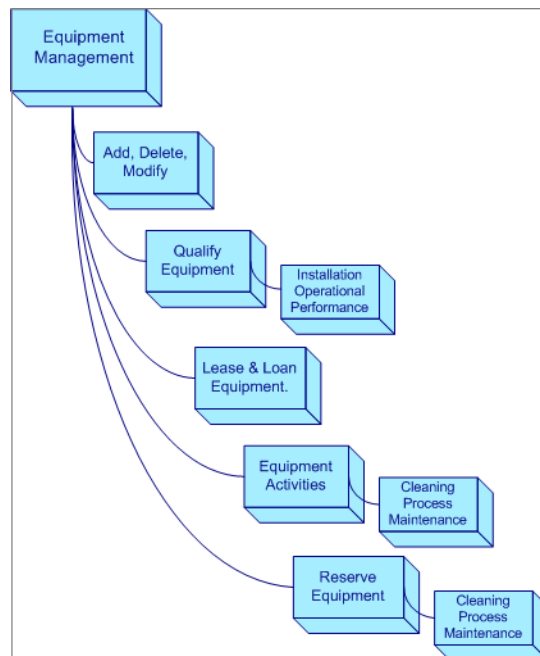
Equipment in RMW - An Overview

The Equipment module in RMW allows you to track the availability of equipment in various sites, reserve equipment for activities, and qualify equipment for installation, operation and performance.

Core functions:

- Creating and managing equipment master data in the equipment library.
- Carrying out transactions on equipment, including:
 - Qualifying equipment against specified parameters.
 - Loaning and leasing of equipment.
 - Maintenance, cleaning, and processing of equipment.

The following figure illustrates the main functions of equipment management:



Working with Equipment

The RMW Equipment Library is a repository of equipment master data. It maintains detailed records of the physical and non-physical attributes of each type of equipment. Records are categorized by type for easy search and retrieval.

In the equipment library, you can carry out:

- Equipment Definition management, where you can add, edit, search, duplicate, activate/de-activate, take action, set permission and remove equipment data.
- Equipment Transactions such as Change Site, View Availability, Reserve, Perform Activity, Qualify, Loan and Lease.

You can specify the following when you add a new equipment definition or edit an existing equipment definition in the Equipment Library:

- **Cleaning Method** - Each type of equipment is associated with one cleaning method. The RMW application allows you to choose one of the following cleaning methods:

Dose-in-Dose - the cleaning criteria which is used to calculate the effectiveness of the cleaning.

Set Cleaning Limit - the cleaning limit set by you.

You can also choose not to associate a cleaning method.

- **Qualification Type** - You can specify qualification information to ensure that when such equipment is created in the system, that equipment uses the definition to qualify before usage. Equipment should have at least one qualification associated with it. You can also associate multiple qualifications.
- **Accessory List** - You can associate accessories like hoses, pipes, etc., to the equipment definition, and thus create an Accessories List for the equipment.
- **Equipment Group** - Equipment can be grouped for one main reason, namely to enable group reservation. Equipment can also be used to model suites or rooms, where the same transactions (qualify, clean, etc.) are applicable.

Equipment can be grouped to allow users to manage entire rooms for a project. For example: You can create a group "Suite 1" that contains the following:

```
Room 1
  Equip1
  Equip2
Room 2
  Equip3
  Equip4
```

When you add group equipment, certain conditions apply. You cannot add equipment in Development mode to equipment in Clinical Supply mode. You can add equipment from the same or a different category to create a group.

Note: The system displays the Group tab between the MOC and Accessories tabs only if a user chooses "Group = Yes" in the General tab.

- **MOC** - You can specify a Material of Construction (MOC) for the new equipment. Make sure that MOC is specified so that no chemical reaction is caused by the MOC when placing materials in this equipment.

Equipment definitions in a library must be associated with a category. Ensure that the appropriate equipment category is created before you carry out equipment transactions. For information on adding equipment categories, see *Agile Recipe Management for Pharmaceuticals Administrator Guide*.

Adding New Equipment

Equipment used in any of the recorded processes in RMW must first be entered into the equipment library.

To add new equipment:

1. Go to **Create New** menu, select **Equipment > Library**.
2. In the **Preface** tab, click the arrow next to the Equipment radio button to view sub-categories. Select the category to which the equipment belongs.
3. Click **Next**.
4. Follow the steps outlined below to create the equipment record in RMW.

Step 1: Enter General Information

1. In the **General** tab, enter required information.

Significant inputs:

- **Equipment Tag Number** - The tag number according to which you arrange equipment in your catalog for corporate identification. This could be the ID coming from an Enterprise Asset Management system (EAM), if the Equipment Master is in EAM.
- **Current Site** - The site ID that currently has the right to use the equipment.
- **Product Quality Impact**
 - Select **Direct**, if the equipment has a direct impact on the quality of the product.
 - Select **Indirect**, if the equipment has an indirect impact on the quality of the product.
 - Select **No Impact**, if the equipment has no impact on the quality of the product.
- **Operating Mode** - Indicates the quality operating standards for equipment. Select the operating mode from the drop-down list.
 - Select **Clinical Supply**, if you are requesting equipment for clinical supplies.

- Select **Development**, if you are requesting equipment for development, both experimental and late stage.
- Select **Not Applicable**, if you do not wish to associate an operating mode with the request.
- **Effective Start Date** - The date from which this equipment becomes active and can be used. You can change this date.
- **Effective End Date** - The date on which this equipment becomes inactive and unavailable for use. Leave the field blank if you do not want to specify when this equipment becomes inactive and unavailable for use.
- **Group** - Specify whether you want to group other equipment with this equipment.
- **Can Contain Inventoried Material** - Select **Yes** if any material from the inventory is part of this equipment. Certain equipment may store In-process materials, which are being analyzed, sampled etc. For this, the equipment can also be considered as a container. This flag will auto-create a container in the Inventory, which can be used by an analytical scientist to pull in samples.

Note: When you add a new equipment record to the library, RMW automatically generates an **Equipment ID** for that record.

2. Click Next.

Step 2: Enter Equipment Characteristics

1. In the **Characteristics** sub-tab under the **Details** tab, enter required information.

Significant inputs:

- **Equipment Site** - The ID of the site that has the permission to use the equipment.
- **Department** - The department that owns the equipment.
- **General Reservation** - Indicates if reservation of this equipment should be controlled.
 - Select **Yes**, if you want to allow general reservation. All users with relevant roles and equipment-reservation rights can hard-reserve equipment.
 - Select **No**, if you do not want to allow general reservation. Only those users with relevant roles and equipment-reservation rights can hard-reserve equipment.

Note: See also, information on Equipment Lock Reservation Role, in the *Agile Recipe Management for Pharmaceuticals Administrator Guide*.

- **Calibration Frequency (in days)** - Enter the calibration frequency. This field is enabled only if the **Is Calibration Needed** field is set to **Yes**.
- **Allow Simultaneous Activities** - Select **Yes** if equipment can be used for multiple activities simultaneously.

2. Click Next.

Step 3: Enter Cleaning and Qualification Details

1. In the **Cleaning and Qualification** sub-tab under the **Details** tab, select one of the following cleaning methods:
 - **N/A** - Select this option if equipment does not require cleaning.
 - **Dose-in-Dose** - This is the cleaning criteria which are used to calculate the effectiveness of the cleaning. When you select this method of cleaning, the following fields appear:
 - **Minimum Lot Size** - Refers to the quantity of material that is being used as part of the work request.
 - **Final Assay Rinse Vol** - Refers to the amount of material (solvent) used as part of the final assay for equipment cleaning.
 - **100 ppm Limit** - Refers to how well the equipment needs to be cleaned (i.e. the lowest detection limit for material in question).
 - **10 ppm Limit** - Refers to how well the equipment needs to be cleaned (i.e. the lowest detection limit for material in question).
 - **Clean Every** - Frequency of cleaning.
 - **Set Cleaning Limit** - Sets a limit for cleaning that suits your process.
 - When you select this method of cleaning, the following field appears:
 - **User-defined PPM Limit** - The cleaning limit to define the residual amount, in Parts per Million, of the last compound allowed.
2. In the **Qualification Types** page,
 - Click **Add Row(s)** to specify the types of qualification checks you would like to perform on the equipment.
 - Select the qualification type for each row that you have added from the drop-down list.
 - Select **Installation Qualification**, to ensure that the equipment is installed in compliance with the manufacturer's specifications.
 - Select **Operational Qualification**, to ensure that the equipment operates as intended.
 - Select **Performance Qualification**, to ensure that the equipment and its associated equipment perform according to approved methods and specifications.

For more information on qualification, see Working with Equipment Qualification.

To add more than one qualification check to be performed on the equipment, enter the number of rows in the field adjacent to the **Add Rows(s)** button and click **Add Rows(s)**. The corresponding number of rows gets added.

3. Click Next.

Note: You have to select at least one qualification type to proceed further.

Step 4: Specify Material of Construction

1. In the **MOC** sub-tab, click **Add** to select the Material of Construction of the equipment from the **Results in MOC** page. Make your selection and click **OK**.

2. Select the Material of Construction for the equipment and click **OK**.

Note: You can associate one or more materials of construction with the new equipment

3. If you selected **Yes** for **Group** in the **General** tab, the **Group** sub-tab appears. Skip to the next step if you selected **No**.
4. Click **Add** to select equipment groups from the **Results in Equipment** page.
5. From the **Group Classification** drop-down list, select the category to which you want to associate the equipment.

Selected equipment is added in the **Group** tab.

6. From the equipment records, select the equipment to be grouped and click **Next**.

Note: You can group more than one piece of equipment with the new equipment.

7. If you selected **Yes** for **Can Contain Inventoried Material** in the **General** tab, the **Container** sub-tab appears. Skip to the next step if you selected **No**.

Here, you can specify the details of the container that is used for storing equipment.

Significant Status

„P Package Verified - indicates if it has been verified for acceptance or not.

„P Storage Location - search and select.

„P Material of Construction - search and select.

„P Import Status

„P Tare Weight

„P Type - Box, etc.t inputs:

■

8. Click **Next**.

Step 5: Add Accessories

In the **Accessories** sub-tab, you can associate any existing equipment as an accessory to the new equipment.

1. Click **Add**.
2. From the *Results in Equipment* page, select the equipment to be added as an accessory. You can add more than one accessory to the new equipment.
3. Click **OK**. The equipment appears under **Name** in **Accessories**.
4. Select one or more pieces of equipment and click **Next**.

Note: You cannot add any equipment that you have already grouped with the new equipment as accessory equipment.

Step 6: Add Consumables

In the **Consumables** sub-tab, you can add the material that the equipment will use for its operations.

1. Click **Add**.
2. From the *Results in Material* page, select the materials to be added as consumables. You can add one or more consumables to the new equipment.
3. Click **OK**.
4. Select one or more materials as consumables for this equipment.
5. Click **Finish**.

Interacting with Equipment Objects - the 'More' Menu

Most library objects in RMW have a **More** button that opens a dropdown list of more actions you can perform on the object. For example, the **More > Save As** command allows you to duplicate an existing object and modify it to create a new record. The **More** button is activated when you select an object from the search results.

Actions that you can perform on equipment objects are listed in the table below.

Command	Description
Reserve	Opens the Equipment Reservation page where you can add a reservation for the selected equipment. For details, see Working with Equipment Reservation.
Save As	Enables you to save an existing equipment object under a new name and modify details as appropriate. You can choose to duplicate the Notes and Attachments of the existing record if you wish. To modify any other details, click Save and Edit . Complete your changes and click OK to finish.
Manage Reservation	Opens the Manage Reservation page where you can view or edit existing reservations on the selected equipment, and add new reservations if required. For details, see Working with Equipment Reservation.
Record Activity	Opens the Record Activity page, where you can record one or more activities against the selected equipment. Click Add to add equipment activity. For details, see Adding a New Equipment Activity.
Manage Qualification	Opens the Manage Qualification page, where you can qualify the selected equipment for use. Click Add to create a new equipment qualification. For details, see Adding Equipment Qualification.
Manage Loan/Lease	Opens the Equipment Loan/Lease page where you can loan out or lease in equipment. To loan out the equipment, click New Loan Out . To lease in the equipment, click New Lease In . For details, see Working with Equipment Loan and Lease.
Change Site	Opens the search page where you can search for and select a new site for the equipment. If the equipment loan or lease record is in the status 'In-progress', a warning message appears so that you can check the loan or lease records for the equipment before changing the site.

Command	Description
View Availability	Opens the View Availability page, where the reservation periods, if any, are marked in the calendar. To modify a reservation, click Edit Reservation . If there is no reservation, or if you wish to reserve equipment for a different time period, click New Reservation . For details, see Working with Equipment Reservation.
Activate	Enables you to activate equipment for use. Equipment that is activated can be reserved or modified. Enter the effective start date, effective end date and the reason for activation.
Deactivate	Enables you to deactivate equipment. You cannot deactivate equipment if it is in use or if it is in the reserved state. Enter the effective start date, effective end date and the reason for deactivation.

Changing Equipment Lifecycle Phase

During its lifecycle in RMW, each piece of equipment goes through several 'phases' as part of the process. Users with appropriate privileges can change the lifecycle phase of an equipment object to indicate its current status.

Default status values are described in the table below. Actions that can be performed on an equipment object change according to its status.

Equipment Status	Description	Actions Possible
Hold-QA	On hold till QA releases it for use.	None.
Offline	Not available for use.	Soft reserve, change status, deactivate and manage activity.
Hold-Clean	Undergoing cleaning. On hold till QA releases it for use.	None
Release To Process	Automatic status assigned when disposition is set during compilation of production BOE.	None
Hold-Maintenance	Undergoing maintenance. On hold till QA releases it for use.	None
Retired	Not available for use in the plant any longer. May have been removed from the plant altogether.	Change status, deactivate and manage activity.
Clean	Cleaning is complete. Not available for edit.	Log activities
In Use	Being used by another user or process. Not available for edit.	None.
Draft	Initial status when created.	Edit, Change Status, Remove, Duplicate, Activate, Deactivate, Manage Reservation, Manage Activity, Manage Qualification, and Manage Loan/Lease.

To change the lifecycle phase of an equipment object:

1. Go to **Equipment > Library** and run a search.

2. From the search results, select equipment.
3. Click **Change > Lifecycle Phase >** and select the status you want to assign. The drop-down list in the change status field is filled dynamically. Based on the current status of the equipment, the list is filled with only those statuses to which the equipment can be transitioned.

Note: If an equipment object has a workflow associated with it, only the statuses defined in that workflow will be available for selection.

Recording Activities on Equipment

You can maintain records of all the activities that have been performed on every piece of equipment in RMW. Only completed activities can be recorded. Before use in the production process, the following types of activities are performed on equipment.

- **Maintenance** - The type of maintenance activity last conducted on the equipment.
- **Cleaning** - The last cleaning activity, whether major or minor, carried out on the equipment.
- **Processing** - The lot of material that the piece of equipment was utilized to produce.
- **Other** - Activities such as setting up and dismantling equipment.

Note: All the activities that are carried out on a piece of equipment must be recorded in order for the equipment to qualify for production or development. Entries that need to be made depend on the type of activity being recorded.

Note: If there is already an activity recorded against a piece of equipment on a particular day or during a particular period, you cannot record a new activity on that equipment for any overlapping day or period.

Maintenance Activities

You can record maintenance activity on equipment that is in any status except:

- Release to Process
- In Use
- Retired

Equipment should be qualified and active.

To record maintenance activity on equipment:

1. Go to **Create New** menu, select **Equipment > Activity**.
2. In the **Preface** tab, select **Maintenance** and click **Next**.
3. In the **General** tab, enter required information.

Significant inputs:

Activity Type

- **Corrective** - when you want to fix or repair equipment.
- **Preventative** - when you want to check for possible wear and tear in equipment.
- **Calibration** - when you want to calibrate equipment as per specifications.

Note: Equipment that you want to calibrate should have **Is Calibration Needed** set to **Yes**. Only a single piece of equipment can be selected for a calibration activity.

- **Change** - when you want to make modification to meet new needs or specifications.
- **Start Time** - must be prior to the current date as the RMW application records only completed activities.

4. Click **Next**.

5. In the **Characteristics** sub-tab under the **Details** tab, enter required information.

Significant inputs:

- **Next Scheduled Date** - This field does not appear, if the maintenance activity type is **Corrective**, as it is not possible to reschedule the activity.
- **Change Control Reference Number** - The identification of the authorization to make the change to a piece of equipment.
- **Deviation ID** - If any deviations from the planned values were found in the activity, enter the corresponding deviation ID.
- **Work Request Number** - The number of the work request from where you perform the activity.

6. Click **Next**.

7. In the **Equipment** sub-tab under the **Details** tab, click **Add**.

8. Select the equipment for which the maintenance activity was performed and click **OK**.

9. Select the status of each piece of equipment from the **Change Status To** drop-down list.

Note: Before you schedule equipment for an activity, ensure that it is **Available**. If equipment is already scheduled for an activity, the system displays an error message after you click **Finish**.

10. Click **Next**.

11. If you selected **Calibration** for **Activity Type** under the **General** tab, the **Calibration** sub-tab appears.

1. Enter the number of rows you wish to add in the field adjacent to **Add Row(s)**.
2. Click **Add Row(s)**.
3. Enter calibration details.

Note: You can use the Fill Down action to replicate values in columns. For additional tips, see *Getting Started with Recipe and Material Workspace*.

12. Click **Finish**.

Cleaning Activities

Equipment needs to be cleaned and **Available** before you can schedule it for an activity.

To record cleaning activity on equipment:

1. Go to **Create New** menu, select **Equipment > Activity**.
2. In the **Preface** tab, select **Cleaning**.
3. In the **General** tab, enter required information.

Significant inputs:

- Activity Type
 - **Minor** - when the cleaning activity is carried out at the equipment site using internal resources.
 - **Major-External** - when equipment is sent out to an external organization or to another site for cleaning.
4. Click **Next**.
 5. In the **Characteristics** sub-tab under the **Details** tab, enter required information.

Significant inputs:

- If you selected **Minor** as the **Activity Type** in the **General** tab:
 - **Cleaning up after Work Request** - Specify the ID of the Work Request that triggered this activity.
 - **Boiled Out** - Indicates that a boil out has been performed on the equipment.
 - **Rinsed** - Indicates that a rinse has been performed on the equipment.
 - **Visual Check** - Indicates that a visual check has been performed on the equipment.
 - **Gravimetric** - Indicates that a gravimetric test has been performed on the equipment.
 - **Gravimetric Comment** - Provide comments, specific to the gravimetric test performed.
 - **Other** - Indicates any other check that has been performed on the equipment.
 - If you selected **Major-External** as the **Activity Type** in the **General** tab:
 - **External Batch Record** - ID of the batch record that contains the activity instruction details used for re-instating the equipment.
6. Click **Next**.
 7. In **Equipment** sub-tab under the **Details** tab, click **Add**.

8. Select the equipment for which the cleaning activity was performed and click **OK**.

Note: You receive a warning message if Equipment Site does not match with Activity Site or if Equipment is in Draft status.

9. Select the status of the equipment from the **Change Status To** drop-down list.

Note: Before you schedule equipment for an activity, ensure that it is **Available**. If equipment is already scheduled for an activity, the system displays an error message after you click **Finish**.

10. If you selected **Minor** as the cleaning **Activity Sub Type**, then click **Next**. If you selected **Major-External** as the cleaning **Activity Sub Type**, click **Finish**.
11. In the **Material Used** sub-tab under the **Details** tab, click **Add Material**.
12. Select the material and click **OK**.
13. In the **Quantity** field, enter the quantity of material used and select the unit of measurement from the drop-down list.
14. Click on **Add Contaminant** to add a contaminant to the material.
15. Click **Finish**.

The material or contaminant can be removed by clicking **Delete Material**. Removing a material, also removes the added contaminants. If the material has more than one contaminant, only the contaminated that you select is removed when you click **Delete Material**. However, if the material has only one contaminant, both material and contaminant will be removed when you click **Delete Material**.

Processing Activities

To record processing activity on equipment:

1. Go to **Create New** menu, select **Equipment > Activity**.
2. In the **Preface** tab, select **Processing** and click **Next**.
3. In the **General** tab, enter required information.
 - **Activity Type**
 - **External to Agile PLM** - is carried out while setting Start Date on BOE Line Item in Work Request for cleaning type of Work Request.
 - **Start Time** - The time the activity starts. You cannot set a future date.
4. Click **Next**.
5. In the **Characteristics** sub-tab under **Details** tab, enter the information.

Significant inputs:

- **Material** - The material you are processing using equipment.
- **External Lot Number** - The identification of the activity instruction details used for re-instating of equipment.
- **Compound Number** - The identification number of the compound of the material that was removed while cleaning.

6. Click **Next**.
7. In **Equipment** sub-tab under **Details** tab, click **Add**.
8. Select equipment for which the processing activity is performed and click **OK**.

Note: You cannot select equipment that is in **Retired, In-Use, Hold-QA, Hold-Maintenance, Hold-Clean or Offline** state.

9. Select the status of equipment from the **Change Status To** drop-down list.

The drop-down list in the change status is filled dynamically. Based on the current status of equipment it fills in all the status to which equipment can transition.

Note: Before you schedule equipment for an activity, ensure that it is **Available**. If equipment is already scheduled for an activity, the system displays an error message after you click **Finish**.

Click **Finish**.

Other Activities

The **Other** option is used when the activity is either setting up equipment or dismantling equipment or none of the above.

To add any other activity for equipment:

1. From the **Create New** menu, select **Equipment > Activity**.
2. In the **Preface** tab, select **Other** and click **Next**.
3. In the **General** tab, enter required information.

Significant inputs:

- **Activity Type:**
 - **Equipment Setup** - if you are setting up new equipment, setting up equipment in a different location, or re-instating equipment.
 - **Tear down** - if you are removing, un-installing or completely dismantling equipment.
 - **N/A** - if you are carrying out any activity other than the default activities listed.
 - **Transaction Type** - Staging is selected by default.
4. Click **Next**.
 5. In the **Characteristics** sub-tab of the **Details** tab, enter required information.

Significant inputs:

- **Material** - The material being processed.
 - **External Lot Number** - The identification of the Lot Number that has the activity instructions used for reinstating equipment.
 - **Compound Number** - The identification number of the compound used for equipment activity.
6. Click **Next**.

7. In the **Equipment** sub-tab of the **Details** tab, click **Add** to add equipment on which you are performing an activity.
8. After adding the equipment, select the new status for the equipment from the **Change Status To** drop-down list.
9. Click **Finish**.

Removing an Activity Record

While removing an equipment activity record, the significant points to note are:

- No checks are required if the activity being removed is **In progress** status. Equipment status needs to be reverted to the status it was in before the activity was performed. The status of equipment as part of activity will be changed back to the previous equipment status.
- Equipment removes the activity which is completed, but not the last completed activity, and the status remains unchanged.
- If it is the last completed activity then **Status before Activity**, **Status after Activity** and **Current Status** warnings are shown for the approval, to change the status.
- To change the status of equipment after removing the activity, click **OK**. To remove the activity without changing the status, click **Cancel**.
- While removing or editing a Minor or Major External activity, an error message appears stating that these are logged in from a work order and can be modified or removed only from the work order.

Qualifying Equipment

Depending on your implementation, you can specify any of the following types of qualification for equipment:

- **Installation Qualification** - indicates that the installed equipment complies with the manufacturer's specifications.
- **Operational Qualification** - indicates that equipment performs as intended throughout the anticipated operating ranges.
- **Performance Qualification** - indicates that equipment and its associated equipment perform effectively based on approved methods and specifications.

Note: The qualification types can be configured and added from **Administration > Library > New Record**.

Equipment must be qualified at all specified levels of qualification, only then can you reserve it for a process.

When new equipment is added to an equipment category, by default, the qualification status is **Pending**. The qualification status of equipment is set to **Pending** if any of the predefined qualification types has an active record with qualification status **Expired**.

You can change the qualification status from **Pending** to one of the following qualification states:

- **Qualified** - When each of the predefined qualification types has an active record with qualification status Qualified.
- **Not Qualified** - When any of the predefined qualification types has an active record with qualification status Not Qualified.
- **Expired** - When the qualification state is over upon completion of its qualification duration.

Adding Equipment Qualification

To add a new qualification:

1. Go to **Create New** menu, select **Equipment > Qualification**.
2. In the **Preface** tab, select **Equipment ID** and click **OK**.
3. Click **Next**.
4. In the **General** tab, enter required information.

Significant inputs:

- **Qualification Start Date** - The date from which the qualification is applicable.
 - If the qualification status is **Expired**, then the Qualification Start Date should be a past date.
 - If the qualification status is **Qualified**, then the Start Date should not be a past date.
 - **Qualification Duration (in days)** - The validity of the qualification status.
 - If the qualification status is **Expired**, the Qualification Duration should be prior to the current date.
 - If the qualification status is **Qualified**, the Qualification Duration should not be prior to the current date.
 - This value cannot be negative or zero.
 - **Qualification Type** - Only the applicable qualifications appear. You can select more than one type.
5. Click Finish.

After you enter qualification information for each qualification type, the qualification status for the equipment changes to **Qualified**.

Viewing Equipment Qualification Details

To view equipment qualification details:

1. Go to **Equipment > Qualification** and execute a search to locate the equipment for which you wish to view qualification details.
2. In the search results pane, scroll to the **Qualification ID** column, and click on the Qualification ID of the equipment.

The Qualification Details page is displayed.

Loaning and Leasing Equipment

The Lease In/Loan Out feature enables you to rent out equipment to another site or borrow equipment from another site.

- **Loan Out:** when you rent out equipment.
- **Lease In:** when you borrow equipment.

The loaned-in or leased-out equipment can be in the following states:

- In Progress
- Completed
- Pending
- Canceled

You can loan out equipment to an internal or external site. Initially, when you loan-out or lease-in equipment, the loan/lease status is **Pending**. If the loan/lease status is **In Progress**, the RMW application automatically updates the **Current Site** of the equipment to **Loan to/Lease to Site**.

Note: You cannot loan out or lease in equipment to and from the same site.

Creating a New Equipment Loan Request

To create a new equipment loan request:

1. From the **Create New** menu, select **Equipment > Loan**.
2. In the **General** tab, enter required information.

Significant inputs:

- The **Loaned To site** and **Loaned From site** must be different.
 - The **Start Date** and **End Date** cannot be earlier than the current date.
3. Click **Next**.
 4. In the **Details** tab, click **Add Equipment**.
 5. Select all the equipment you want to loan out and click **OK**.
 6. Click **Finish**.

Creating a New Equipment Lease Request

To create a new equipment lease request:

1. From the **Create New** menu, select **Equipment > Lease**.
2. In the **General** tab, enter required information.
Significant inputs:
 - The **Lease From Site** and **Lease To Site** must be different.
 - The **Start Date** and **End Date** cannot be earlier than the current date.
3. Click **Next**.
4. In the **Details** tab, click **Add Equipment**.
5. Select all the equipment you want to loan out and click **OK**.
6. Click **Finish**.

Viewing Equipment Loan/Lease Details

To view equipment loan or lease details:

1. Go to **Equipment > Loan/Lease** and execute a search to locate the equipment for which you wish to view loan or lease details.
2. In the search results pane, under the **Loan/Lease ID** column, click on the Loan/Lease ID of the equipment.

The Loan/Lease Details page is displayed.

Editing Equipment Loan/Lease Details

You can edit the loan or lease details for equipment and change status only if the loan or lease status is as follows:

- Pending
- In Progress

You cannot edit the details, if the loan or lease status is:

- Completed
- Canceled

To edit loan or lease details for equipment:

1. Go to **Equipment > Loan/Lease** and run a search.
2. From the search results, select the desired equipment loan/lease record.
3. Click **Edit > Loan Out** to edit details of loaned out equipment.
4. Click **Edit > Lease In** to edit details of leased in equipment.

You can edit only the following information:

- Start Date
 - End Date
 - Comment
5. Click the **Details** tab.

6. Click **Add Equipment** to change equipment that is to be loaned or leased, or to add more equipment.
7. To delete equipment from the list, select the equipment and click **Delete**.
8. Click **OK**.

Setting Equipment Loan/Lease Status

To set the status for the leased in or loaned out equipment:

1. Go to **Equipment > Library** and run a search.
2. From the search results, select equipment for which you want to change status.
3. Click **Change > Lifecycle Phase** and select a status.

If the status is changed to **In Progress**, the following conditions are validated:

- Equipment should be available and qualified.
 - Equipment should be active.
 - There should not be any overlapping of duration with existing loan or lease for equipment.
 - The current site assigned to the equipment should be equal to the value in **Loaned From Site** or **Leased From Site**.
 - Equipment should not be hard reserved for the loan duration.
4. Click **OK**.

Returning Leased Equipment

You can return leased equipment to the leasing site and update the **Lease In** status as **In Progress**. You can also return multiple equipment associated with one **Lease In** transaction.

When the leased equipment is returned, it has no impact on equipment status, but the returned equipment is automatically deactivated.

Note: You cannot return the leased equipment, if the Lease In status is Pending, Canceled or Completed.

To return leased in equipment:

1. Go to **Equipment > Loan/Lease** and run a search.
2. From the Equipment Loaned/Leased search results, select the Leased In equipment that you want to return.
3. Click **More > Return**.
4. In **ReturnDetails**, enter required information.

Significant inputs:

- **Actual End Date** - If you had specified an End Date at the time of leasing equipment, you can update it. If not, specify the actual end date of the lease period.
5. Click **OK**.

Reinstating Loaned Equipment

You can reinstate loaned-out equipment only when the loaned out status is **In Progress**. You can also reinstate multiple equipment at one time. You have the option to specify one or more equipment activities such as processing, cleaning and maintenance on reinstated equipment.

Note: Re-instate action has no impact on the equipment status.

To re-instate loaned equipment:

1. Go to **Equipment > Loan/Lease** and run a search.
2. From the search results, select the equipment you wish to reinstate.
3. Click **More > Re-Instate**.
4. Enter the **Actual End Time**.
The actual end date should only be the current date.
5. Click **Log Activity** to log a new activity on the reinstated equipment.
The **Add New Activity** page appears.
6. Follow the steps in Recording Activities on Equipment to record a new activity on the reinstated equipment, then click OK.

Managing Equipment Reservations

Equipment reservations are classified as follows:

- Soft Reservation
- Hard Reservation

By default, a new reservation is a soft reservation. You can soft-reserve equipment installed at any site in any status and convert a soft reservation to a hard reservation. A hard reservation is possible only if equipment status is **Available** and equipment is **Qualified**. You cannot reserve deactivated equipment.

You can make a reservation for Equipment or Equipment Groups. In case of **Equipment Groups**, the 'children' of the parent group are also reserved along with the parent. You can choose to remove the children and reserve the parent only.

To make a reservation, at least one piece of equipment needs to be associated to the reservation. Multiple pieces of equipment or an equipment group can also be added to a new reservation. If an equipment group is added, you can remove individual equipment belonging to the added group if these are not necessary. Once you create a new reservation request for the equipment, you can check the availability of that equipment to complete the reservation process.

By default, the reservation site is the logged-in user's primary site. You can edit this site.

The types of equipment reservations are:

- Cleaning
- Process
- Maintenance

You can reserve equipment through:

- Equipment Library
- Reservation
- Bill of Equipment via process steps

Note: For Bill of Equipment (BOE), equipment should be in Available or Qualified state.

Making an Equipment Reservation

To make an equipment reservation:

1. From the **Create New** menu, select **Equipment > Reservation**.

2. In the **Preface** tab, select the **Reservation Purpose**.

If you are reserving equipment from Work Request or Control Recipe, this field is automatically filled in with the type of Work Request or Control Recipe.

3. In the **General** tab, enter required information.

Significant inputs:

- If you selected **Cleaning** or **Process** in the **Preface** tab, enter the information for one of the following:
 - Project
 - Campaign
 - Work Request
 - Process Step
- If you have selected **Maintenance** in **Preface** tab, select the **Maintenance Type** and enter the information in **Work Request Number** and **Final Due Date**.

4. Click **Next**.

5. In **Equipment** tab, click:

- **Add > Any Equipment** to select equipment from equipment library.
- **Add > Equipment from existing reservations** to select equipment from the list of reserved equipment.

You can add more than one equipment or equipment group.

Note: If you select equipment that is in Draft state, a warning message appears.

6. To check the availability of equipment you added, select equipment and click **View Reservation**.

For complete details, see Viewing Equipment Availability for Reservation.

7. Enter **Start Date** and **End Date**.
8. Click **Finish**.

Viewing Equipment Availability

You need to check the availability of equipment to reserve it, to manage reservations, or to lock/unlock reservations on it.

To check the availability of equipment for reservation:

1. Execute a search for reservation.
2. Select a reservation for which you want to view the availability details.
3. Click **More> View Availability**.
4. To view the availability, click on the desired reservation periods, represented as horizontal bars in the calendar.

The Reservation Details table appears.

5. To modify the reservation, select the desired reservation record in the Reservation Details table or in the Calendar and click **Edit Reservation**.
6. You can lock or unlock the reservation from this screen.
For complete details, see Locking and Unlocking Equipment Reservation.
You can also view the reservation based on the **Start Date, End Date, Interval, Reservation Purpose, Reserved For** and **Reservation Status**.
7. Click **OK**.

Locking and Unlocking an Equipment Reservation

You can lock a reservation, to change the reservation status from **Soft** to **Hard**.

- You can lock a reservation only if equipment is qualified and is in the **Available** state.
- If equipment is loaned out, then hard reservation is not possible.
- If equipment is not present in the site of reservation or some other hard reservation is present for the same equipment and for the same duration, then you cannot lock the reservation.

RMW provides two levels of user permission to lock the reservation from **Soft** to **Hard**. They are:

- Super administrator
- The user who has lock permission role, usually the Equipment Manager.

A locked reservation can be unlocked. The status of the reservation will change from **Hard** to **Soft**. Locking and unlocking can be done for multiple reservations.

To lock and unlock a reservation for equipment:

1. Search and select the reservation that you wish to lock/unlock.
2. Click **More** and select **Lock** or **Unlock**. A message informs you of successful Lock or Unlock status.

Note: If two or more users make a soft reservation for the same equipment for the same period, all the previous users who made a reservation will get a **Double Booked** alert.

Note: If one of the users makes a hard reservation, then the other users get a **No Longer Available** alert.

Changing Equipment Reservation Dates

You can change the dates of soft reservations only.

To change equipment reservation dates:

1. Execute a search and select the reservation whose dates you want to move.
2. Click **More > Change Dates**.
3. In the Set Reservation Dates page, change the **Start Date** and **End Date**.
4. Click **OK**.

Equipment Reservation Alerts

Equipment reservation alerts inform stakeholders and subscribed users of equipment availability, approvals, modifications and double bookings. Each alert is described below.

- **Reservation Double Booked** - This alert is triggered when an overlapping reservation is created. If a user creates a soft reservation for one or more equipment against which another reservation with an overlapping duration exists, then this alert is sent to the requesters of all the previous reservations.
- **No Longer Available** - This alert is triggered when a reservation is locked. If the user locks a soft reservation for one or more equipment against which reservations with an overlapping duration exists, then this alert is sent to the requesters of all the previous reservations.
- **New Reservation Requested** - This alert is triggered when a new reservation is created. The application triggers an alert whenever a new reservation is created. This alert is sent to the users on subscription.

Note: Since this is not a mandatory alert, users with **Lock** privilege can manually subscribe to this alert. These users are responsible for managing all or specific equipment if they want to receive reservation request notification. For specific equipment (one or more) notification, subscribers would have to put Equipment ID as part of the criteria.

- **Reservation Modified** - This alert is triggered when the reservation is edited by a user other than the requester.
- **Reservation Request Approved** - This alert is sent to the requester of the reservation.