HEMS Enterprise 5.x

User & Administrator Guide

January, 2010; Revision 1.0

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CHAPTER 1: Welcome!

About HEMS

The HEMS Enterprise 5.x system (HEMS) is a state-of-the-art preventive maintenance program that provides you with all of the tools you need to manage every aspect of your hospital's operation and the clinical and plant equipment within it.

Note: For simplicity, this guide will refer to the HEMS Enterprise 5.x system as "HEMS" throughout.

With HEMS, you can:

- **Improve patient care** by delivering critical clinical and plant asset data to key personnel throughout the facility. Clear, comprehensive reports on the environment of care, technology acquisitions, equipment downtime, and maintenance help managers improve quality of care as well as equipment reliability and availability.

- **Reduce risk** to both patients and staff by monitoring and managing clinical and facility equipment risk. HEMS Enterprise 5.x provides risk analysis for all equipment types and models, collects and archives all equipment incidences and documents all recalls, alerts, and the corresponding actions taken to resolve them.

- **Reduce health care delivery costs** by capturing critical equipment performance and maintenance data to enable informed decisions to be made on when and why to replace it.

- **Improve maintenance service** by establishing service priorities and providing benchmarks for response and completion times. Detailed reports on events that do not meet benchmarks and customer satisfaction surveys enable department managers to initiate improvements.

- **Comply with regulations** by providing reports that bundle a variety of necessary information into clear, actionable reports to identify positive and negative trends related to key requirements from such organizations as the Centers for Medicare & Medicaid Services, The Joint Commission, College of American Pathologists, and others. HEMS provides you with the information you need to prove your compliance with regulatory agencies.

HEMS can generate scheduled work orders through the Preventive Maintenance (PM) program and corrective work orders on demand. EQ2 supports and will integrate any of the standard equipment nomenclatures (ASHE, AAMI, or ECRI) and procedures to your standardization process. Please contact EQ2 directly for information and a quote for standardizing processes for existing data.

HEMS also includes:

- A risk assessment program that allows you to define your equipment risk management program.

- Classifications to help you meet TJC regulations pertaining to setting up your utility management program and guidelines for life support.

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- A robust array of reports that use Microsoft® Reporting Services. You can also integrate optional third-party reporting tools. Please contact EQ2 for more information.

Features and Benefits

Each department in a health care organization—Facilities Engineering, Clinical Engineering, Safety, Information Services, Environmental Services, etc. —views its own responsibilities as being specific to the services it provides. For example, clinical engineers repair, install, and test many kinds of equipment from defibrillators to imaging equipment. Facility engineers maintain equipment such as HVAC and electrical power systems. Engineering needs access to its own information and the ability to share that information with management, the safety committee and other departments. Groups also often exchange information with other departments and the safety committee.

HEMS provides all of the benefits of a standardized equipment management program without the obvious deficiencies of systems that require a single data view for all Service Areas. Each Service Area has its own unique view of the information it needs to run efficiently. HEMS ensures that Service Areas only see the information they need. With HEMS, every technician can use handy dashboards to manage:

- The work s/he is responsible for.

- Pending work assignments.

- Work order opening, updating, and closing.

- Reviewing relevant reports.

HEMS eliminates paper reports and time-consuming performance review meetings. Engineering Management personnel can either use the HEMS dashboards to review the performance of a particular service department or access performance information across several enterprise-wide service departments. With one click, managers can access graphical reports that show:

- Work order completion rates for individuals and departments.

- Monthly preventative maintenance work schedules.

- Completion rates for preventative maintenance work orders.

- Service hours and costs by both single and aggregated departments.

- Equipment replacement details and schedules.

Need to add a service department or set up a new site, such as a new hospital or outpatient clinic? No problem. HEMS quickly and easily scales to your enterprise's size and complexity.

The HEMS Best Practices version automatically forwards a copy of your organization's published practices to new sites or departments. This immediately lets new staff members know how to maximize their contribution to the parent organization. HEMS Best Practices ensures that any new Service Area will succeed no matter where it is located.

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What's New in HEMS Enterprise 5.x

HEMS Enterprise 5.x includes the following new features:

- Fully automated risk and scheduling.

- Automated reports from any window.

- Automated and interactive history review.

- Automated service contract renewal notices.

- All-new **Work Orders** dashboard that lets you find, report, open, close, and edit work orders.

- All-new **Equipment Inventory** dashboard that lets you find, report, open, close, and edit equipment, open work orders, and review histories and contracts.

- Export data to Adobe® Acrobat® (PDF), Microsoft Excel®, and email formats.

- Ability to attach pictures and documents to work orders, equipment, type, model, and service contracts.

- Monitor work events that exceed preset response or close time thresholds.

- Microsoft SQL Server 2005-2008® ACID-certified database keeps your sensitive information secure.

- Pocket PC-based access to HEMS.

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About This Guide

This guide provides comprehensive information about using and administering HEMS and also uses specific formatting conventions to present special information such as lists, procedures, cautions, and tips/hints.

Organization

This guide is organized as follows:

- **Welcome:** Introduces HEMS and this *User & Administrator Guide*.

- **The HEMS Interface:** Describes the HEMS interface in detail. This chapter begins on page 13.

- **Adding Values to Fields:** Discusses the HEMS search function and describes how to use pre-set values to increase speed and accuracy when entering information into HEMS. This chapter begins on page 49.

- **Work Orders:** Describes the **Work Orders** dashboard and provides detailed instructions on working with HEMS work orders throughout the complete life cycle from opening to closing. This chapter begins on page 55.

- **Managing Equipment:** Covers the **Equipment Inventory** dashboard and how to find, add, modify, and remove equipment. This chapter also describes how to assign and modify equipment attributes such as type, model, location, parts, etc. This chapter begins on page 85.

- **Information Lists:** Describes the HEMS Information Lists and how to access and work with each list. This chapter begins on page 123.

- **Managing Parts:** Contains instructions for managing parts within HEMS. This chapter begins on page 169.

- **Managing Risk:** HEMS uses the ASHE risk scoring model to assign risk to equipment by model, type, or individual equipment item. This chapter begins on page 179.

- **Managing Contracts:** HEMS stores service contract information that can be applied to equipment. This chapter begins on page 183.

- **Reports:** Lists all of the reports available in HEMS and describes the information contained in each report. This chapter begins on page 195.

- **Finding Data:** Shows you how to quickly find the information you're looking for in HEMS. This chapter begins on page 219.

- **Printing & Exporting Data:** Describes how to print HEMS data or export it for use in third-party applications. This chapter begins on page 233.

- **Administration:** Provides detailed administration and management instructions for HEMS administrators. This chapter begins on page 237.

- **Help & Support:** HEMS includes robust help and support options to help you get the most from the system and resolve any problem that may occur. This chapter begins on page 273.

- **Add-on Modules:** Briefly describes some of the most commonly used HEMS add-on modules. This chapter begins on page 281.

Formatting Conventions

This manual uses several formatting conventions to present information of special importance.

Text

Lists of items, points to consider, or procedures that do not need to be performed in a specific order appear in bullet format:

- Item 1.

- Item 2.

Procedures that must be followed in a specific order appear in numbered steps:

1. Perform this step first.

2. Perform this step second.

Specific keyboard keys are depicted in square brackets and are capitalized, for example: [ESC]. If more than one key should be pressed simultaneously, the notation will appear as [KEY1]+[KEY 2], for example [ALT]+[F4].

Interface elements such as document titles, fields, windows, tabs, buttons, commands, options, and icons appear in **bold** text.

Menus and submenus are indicated with the notation **Menu>Submenu**. For example, "Select **Activities>Work Order**" means that you should first select **Activities** in the menu, and then select **Work Order** in the submenu.

Special Information

The following icons and text format appear throughout this document to provide additional information that complements the main text where necessary:

⚠ ***CAUTION: CAUTIONS INDICATE A POSSIBILITY OF UNPREDICTABLE RESULTS AND/OR DATA LOSS IF THE SPECIFIED PROCEDURE IS NOT FOLLOWED OR IS FOLLOWED INCORRECTLY.***

Note: Notes provide tips, hints, and other useful information to make using HEMS faster and easier.

Logging into HEMS

To log into HEMS:

1. Launch HEMS by double-clicking the **HEMS Enterprise** icon on the Windows® desktop.

2. Enter your login credentials:

    -   If HEMS is set up using HEMS built-in security, the **Logon to HEMS Enterprise** window appears. Enter your user-name and password in the appropriate fields and then click **OK**.

    -   If HEMS is set up using Windows security (LDAP), enter your Windows password (you don't need to enter a user-name) and then click **OK**.

    Please see "Password Management" on page 249 for more information on password secu-rity.

3. The HEMS **Home** screen appears. Please see "The Home Screen" on page 14 for more infor-mation about the **Home** screen.

If HEMS is set up to use Windows security, then your password will function the same way with HEMS as it does when you log in to your network.

> *Note: By default, you may log into HEMS from multiple locations. Contact your HEMS administrator to disable this feature, if required.*

Common Tasks

This section briefly describes how to perform some of the most basic functions within HEMS. Please refer to the indicated cross-references for additional details and information. Please see "CHAPTER 2: The HEMS Interface" on page 13 for more information about the HEMS interface.

Work Orders

Work orders are requests for work to be performed on equipment items for repair, maintenance, etc. Clicking the **Work Orders** button in the HEMS **Home** screen (see "The Home Screen" on page 14) or clicking the **Work Orders** tab opens the **Work Orders** dashboard.

Please see "CHAPTER 4: Work Orders" on page 55 for more information about working with work orders in HEMS, "The Work Orders Dashboard" on page 17 for more information about the **Work Orders** dashboard, and "The Work Order Window" on page 60 for more information about the **Work Order** window.

Looking Up Work Orders

Enter your desired search criteria in the Search Area and then click **Search** to display all matching work orders in the Search Results Area. Selecting a result displays the work order in the Detail Area. By default, HEMS displays pending work orders.

Opening a Work Order from the Work Orders Dashboard

You may either create a new work order or copy from an existing work order. New work orders may be pre-filled with information depending on how you set up your default work order settings. Please see "Work Order Defaults" on page 247 for more information about default work order settings.

- To create a new work order, click the **New** button in the Action Area to open a **Work Order** window where you can create a new work order. Please see "Creating a Work Order" on page 72 for more information about creating work orders.

- To create a new work order based on an existing work order, find the work order you want to copy and then click the **Copy** button in the Action Area. This opens the **Work Order** window with fields automatically filled based on the current work order. Please see "Copying Work Orders" on page 75 for more information about copying work orders.

Updating/Editing a Work Order

To edit a work order, find the work order you want to edit and then either click the **Edit** button in the Action Area or double-click the work order in the Search Results Area to open the **Work Order** window for the selected work order, allowing you to make changes as needed.

Closing a Work Order

To close a work order, find the work order your want to close and then click the **Close WO** button in the Action Area to open the **Work Order** window for the selected work order. Enter your labor, action text, and any other additional information, and then click the **Save** button in the **Toolbar**. You will be prompted to save any unsaved changes when you close the **Work Orders** window.

*Note: You may also create work orders from the **Equipment Inventory** dashboard, as described in "Opening a Work Order from the Equipment Inventory Dashboard" on page 121. Work orders created from the **Equipment Inventory** dashboard are automatically populated with the equipment's information such as department, location, assigned engineer, etc.*

CHAPTER 1: Welcome!

Equipment Inventory

You can find and manage equipment using the **Equipment Inventory** dashboard. Clicking the **Equipment Inventory** button in the HEMS **Home** screen (see "The Home Screen" on page 14) or clicking the **Equipment Inventory** tab opens the **Equipment Inventory** dashboard.
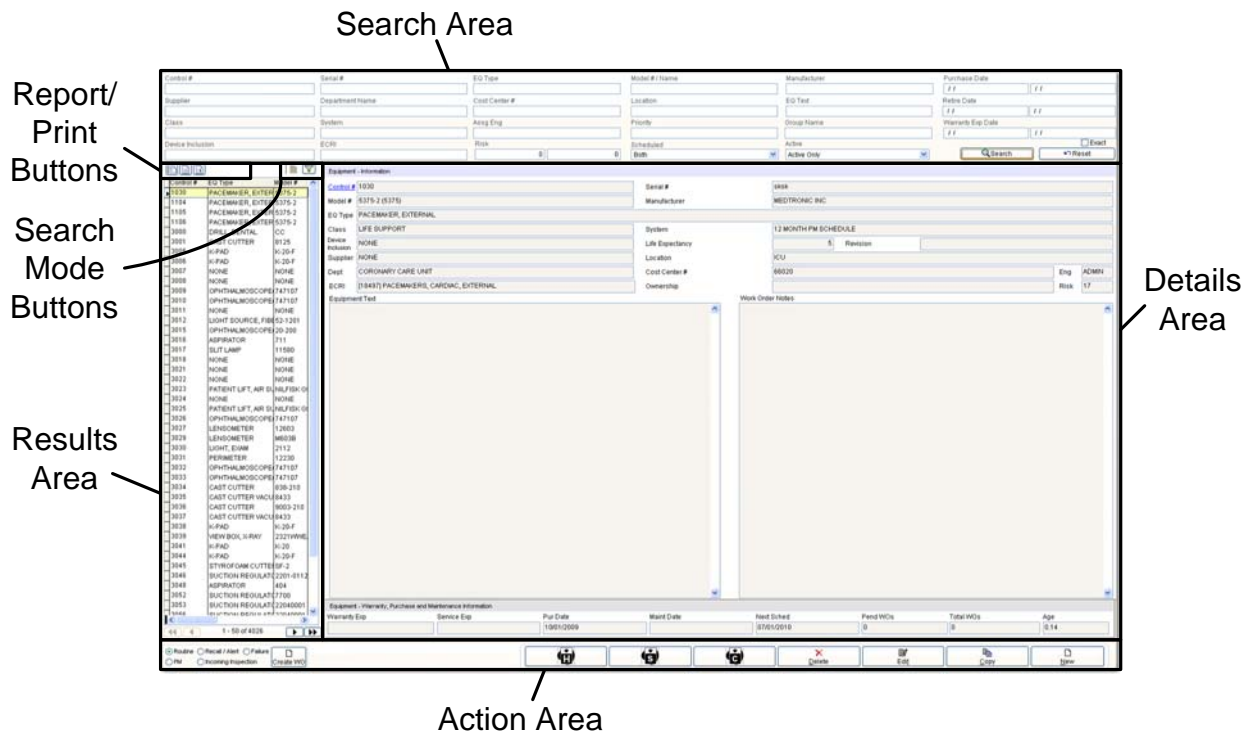
Please see "CHAPTER 5: Managing Equipment" on page 85 for more information about managing equipment in HEMS, "The Equipment Inventory Dashboard" on page 22 for more information about the **Equipment Inventory** dashboard, and "The Equipment Inventory Window" on page 89 for more information about the **Equipment Inventory** window.

Looking Up Equipment

Enter your desired search criteria in the Search Area and then click **Search** to display all matching equipment items in the Search Results Area. Selecting a result displays the equipment item in the Detail Area. By default, HEMS searches active equipment.

Looking Up Equipment History

To look up history on an equipment item, find the equipment item you want to review and then click the **H** button to open the **Equipment History** window for the selected equipment item.

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Opening a Work Order from the Equipment Inventory Dashboard

To create a work order for the selected equipment item, check the appropriate **Work Order Type** radio button (such as **Routine** or **PM**), and then click the **Create WO** button to open a **Work Order** window. One benefit of opening a work order from the **Equipment Inventory** dashboard (as opposed to the **Work Orders** dashboard) is that the equipment information such as department, location, assigned engineer, etc. is automatically populated for you. Please see "Opening a Work Order from the Equipment Inventory Dashboard" on page 121 for more information about opening work orders.

Adding Equipment to Inventory

You may add a new equipment item to HEMS or copy an existing equipment item.

- To add a new equipment item, click the **New** button in the Action Area to open a blank **Equipment Inventory** window where you can add a new equipment item. Please see "Adding Equipment" on page 116 for more information about adding equipment.

- To copy an existing equipment item, find the equipment item you want to copy and then click the **C** button in the Action area to open the **Equipment Inventory** window with fields automatically filled based on the current equipment item. Please see "Copying Equipment" on page 117 for more information about adding equipment.

Reports

The **Reports** sidebar allows you to access and run the reports available within HEMS. Selecting a report opens a separate browser window that presents filtering options based on the report type you selected. Enter your desired criteria and then click **View Report** to see the generated report.

Please see "Reports Sidebar" on page 39 for information about the **Reports** sidebar and "CHAPTER 10: Reports" on page 195 for more information about HEMS reports.

Logging Out of HEMS

To log out of HEMS, you may either:

- Select **Activities>Exit**.

- Click the **Exit HEMS** button on the **Toolbar**. Please see "Toolbar" on page 37 for more information about the **Toolbar**.

- Press [ALT]+[F4].

You will be prompted to save any unsaved changes.

⚠	***CAUTION: EXITING HEMS WITHOUT SAVING YOUR UNSAVED CHANGES WILL CAUSE THOSE CHANGES TO BE PERMANENTLY LOST.***

CHAPTER 2:
The HEMS Interface

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The Home Screen

The HEMS **Home** screen appears when you first log into HEMS.
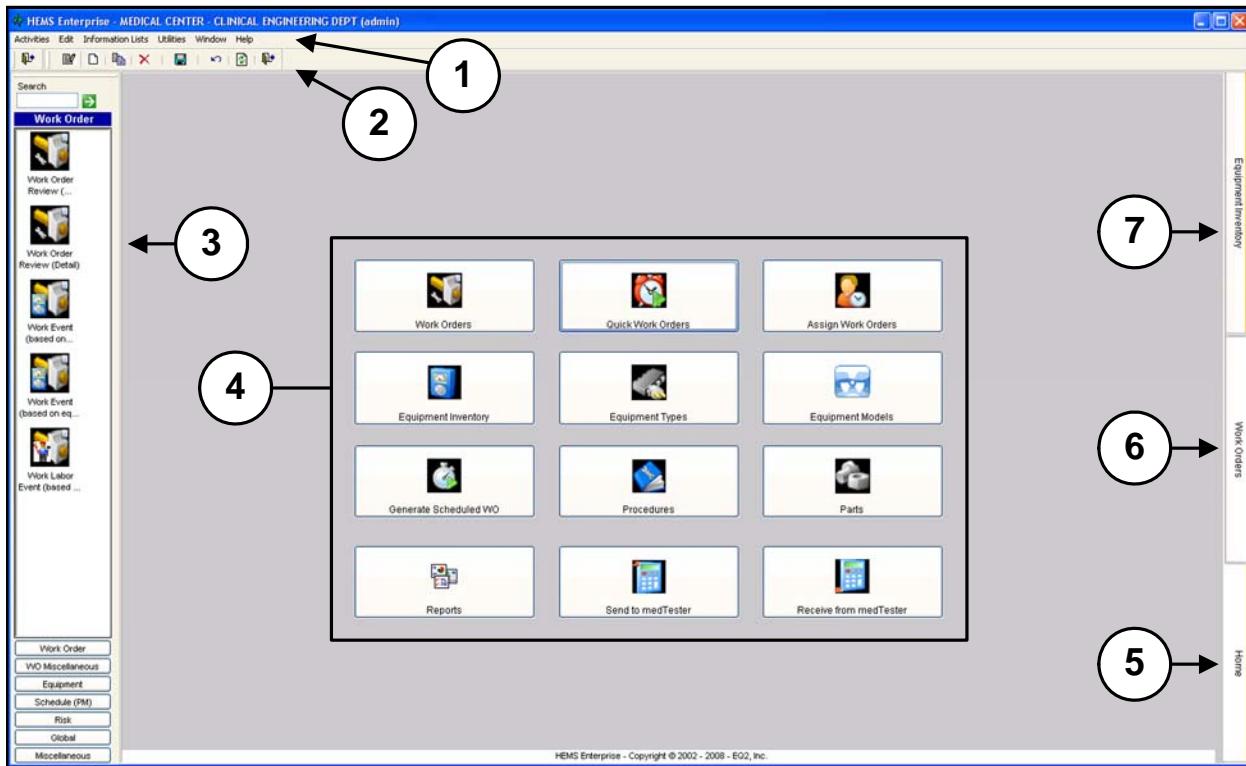
The **Home** screen contains the following functional areas.

- **Menu Bar (1):** Provides access to all HEMS features and functions. Please see "Menu Bar" on page 27 for more information about the **Menu** bar.

- **Toolbar (2):** Provides quick access to common editing functions. Please see "Toolbar" on page 37 for more information about the **Toolbar**.

- **Reports Sidebar (3):** Accesses the HEMS reports. Please see "Reports Sidebar" on page 39 for more information about the **Reports** sidebar and "CHAPTER 10: Reports" on page 195 for more information about reports.

- **Quick Launch Buttons (4):** These buttons provide quick access to the most commonly used HEMS functions. Please see "Quick Launch Buttons" on page 15 for more information about the **Quick Launch** buttons.

- **Home Tab (5):** Opens the HEMS **Home** screen.

- **Work Orders Dashboard Tab (6):** Opens the **Work Orders** dashboard. Please see "The Work Orders Dashboard" on page 17 for more information about the **Work Orders** dashboard.

- **Equipment Inventory Dashboard Tab (7):** Opens the **Equipment Inventory** dashboard. Please see "The Equipment Inventory Dashboard" on page 22 for more information about the **Equipment Inventory** dashboard.

Quick Launch Buttons

The HEMS **Home** screen includes the following 12 **Quick Launch** buttons:

- **Work Orders:** Launches the **Work Orders** dashboard, which allows you to find, review, open, edit, and close work orders. Please see "The Work Orders Dashboard" on page 17 for more information about the **Work Orders** dashboard.

- **Quick Work Orders:** Opens the **Quick Work Orders** window, which allows you to quickly edit or update multiple work orders at once. Please see "The Quick Work Orders Window" on page 66 for more information about the **Quick Work Orders** window.

- **Assign Work Orders:** Opens the **Assign Work Orders** window, which allows you to assign or reassign work orders to technicians. Please see "The Assign Work Orders Window" on page 68 for more information about the **Assign Work Orders** window.

- **Equipment Inventory:** Opens the **Equipment Inventory** dashboard, which allows you to find, add, edit, schedule, and review equipment history as well as open work orders for equipment. Please see "The Equipment Inventory Dashboard" on page 22 for more information about the **Equipment Inventory** dashboard.

- **Equipment Types:** Opens the **Equipment Types** Information List, which allows you to enter or update equipment types and set up your preventive maintenance template by type. Please see "Equipment Types List" on page 134 for more information about the **Equipment Types** Information List.

- **Equipment Models:** Opens the **Equipment Models** Information List, which allows you to enter or update equipment models and set up your preventive maintenance template by model. Please see "Equipment Models List" on page 131 for more information about the **Equipment Models** Information List.

- **Generate Scheduled WO:** Opens the **Generate Scheduled Work Orders** window, which allows you to generate scheduled work orders for your selected date range. Please see "Generating Scheduled Work Orders" on page 81 for more information about scheduled work orders.

- **Procedures:** Opens the **Procedures** Information List, which allows you to search for, add, or edit preventive maintenance procedures. Please see "Procedures List" on page 146 for more information about the **Procedures** Information List.

- **Parts:** Opens the **Parts Inventory** window, which allows to you to view, add, edit, and remove parts. Please see "CHAPTER 7: Managing Parts" on page 169 for more information about managing parts.

- **Reports:** Opens the **Reports** window, which allows you to access HEMS reports. Please see "Reports Sidebar" on page 39 and "CHAPTER 10: Reports" on page 195 for more information about HEMS reports.
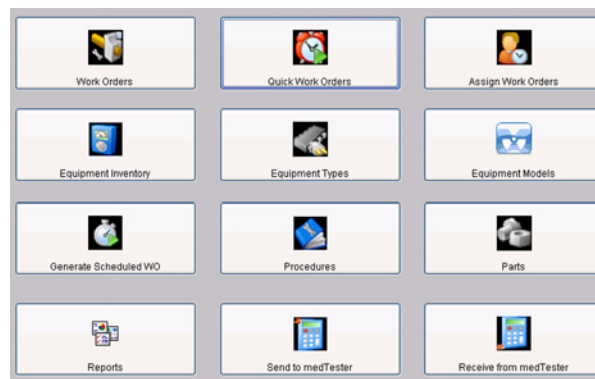
- **Send to medTester:** Send work orders to the Fluke Biomedical® medTester® via the EQ2 medTester Interface.

- **Receive from medTester:** Receive work orders from the Fluke Biomedical medTester via the EQ2 medTester Interface.

Dashboards

Day-to-day activities will primarily be accomplished with the **Equipment Inventory** and **Work Orders** dashboards such as looking up individual records, reviewing history, editing, copying and creating new records.

The Work Orders Dashboard

The **Work Orders** dashboard allows you to quickly look up and review work orders.

To open the **Work Orders** dashboard, you may either:

- Click the **Work Orders** tab on the right of the HEMS application.

- Click the **Work Orders** button in the HEMS **Home** screen.

- Select **Activities>Work Orders**.

- Press [CTRL]+[W].

The **Work Orders** dashboard contains the following functional areas:

- **Search Area:** Allows you to search for work order records. This image shows an example of the **Work Orders** dashboard in Find mode.

- **Report/Print Buttons:** Allow you to run reports and print/export work order data. Please see "CHAPTER 12: Printing & Exporting Data" on page 233 for more information about printing and exporting data in HEMS.

- **Search Mode Buttons:** Switch between Find and Filter modes, and display records added during the current HEMS session.

- **Results Area:** Search results appear here.

- **Details Area:** Displays the work order.

- **Action Area:** Perform various actions on the selected work order, or open a new work order.

Search Area (Find Mode)

When the **Work Orders** dashboard is in Find mode (shown above), the Search Area contains various fields. By default, entering one or more letters in one or more of the search fields returns results that begin with the text you entered. For example, entering "def" will return "defibrillator."

Note: By default, searches return only pending work orders.

Entering values in multiple search field restricts results to values that match all of the search terms in all of the fields. For example, entering "def" in the **EQ Type** field and "phi" in the **Manufacturer** field would return defibrillators manufactured by Philips® but not defibrillators from different manufacturers.

Checking the **Exact** checkbox forces HEMS to return only those results that contain the exact text you entered. If you select this option, then entering "def" will not return "defibrillator" because the two are not an exact match.

Enter your desired search terms and then click **Search** to return matching results, or **Reset** to clear the Search Area and begin a new search.

- Searching with all search fields left blank returns all pending work orders stored in HEMS (unless the **Pending** checkbox is cleared, in which case the search will return all pending and closed work orders).

- Most fields return matches that begin with the text entered in that field. For example, entering "def" retrieve both "defib" and "defibrillator."

- The **EQ Type** and **ECRI** fields return results that contain the text entered in those fields. For example, entering "fib" will return "defibrillator."

- The **Work Order Number** field returns only an exact match. For example, you must enter "6981" to search for Work Order #6981; entering part of the number will not work.

Please see "CHAPTER 11: Finding Data" on page 219 for more information on using Find mode.

Search Area (Filter Mode)

When the **Work Orders** dashboard is in Filter mode (not shown), the Search Area contains a list of selected filter conditions. Please see "Filters" on page 222 for more information about using filters.

Report/Print Buttons

The **Report/Print** buttons provide quick access to relevant reports. From the left to right, the buttons are:

- **List Report:** Clicking the **List Report** button opens a summary report that lists all of the items in the Results Area.

- **Technician's Copy (Actual) - All:** Clicking the **Technician's Copy (Actual) - All** button opens a report that provides the work order information that a technician sees for each of the items in the Results Area.

- **Technician's Copy (Actual) - Current:** Clicking the **Technician's Copy (Actual) - Current** button opens a report that provides the work order information that a technician sees for the currently selected item in the Results Area.

- **Detail Report - All:** Clicking the **Detail Report - All** button opens a report that provides detailed information about each of the items in the Results Area.

- **Detail Report - Current:** Selecting an item in the Results Area and then clicking the **Detail Report - Current** button opens a report that provides detailed information about the currently selected item in the Results Area.

- **Group WO Scheduled Report:** This report allows you to print a group work order with the equipment listed on one work order.

Reports appear in a separate browser window. You can print and/or export these reports, as described in "CHAPTER 12: Printing & Exporting Data" on page 233.

Search Mode Buttons

The **Search Mode** buttons determine how dashboard data will be retrieved. From left to right, the buttons are:

- **Show Newly Added Items:** If the **Show Newly Added Items** button is active, clicking it will display work orders added during your current HEMS session (from the time you logged into HEMS). Exiting HEMS ends your session. Clicking this button again returns you to normal Search mode.

- **Switch to Filter mode:** When the **Work Orders** dashboard is in Find mode, the **Switch to Filter mode** button appears as a small funnel. Clicking this button switches the Search Area to Filter mode. Please see "Filters" on page 222 for more information on using filters.

- **Switch to Find mode:** When the **Work Orders** dashboard is in Filter mode, the **Switch to Find mode** button appears as a small magnifying glass. Clicking this button switches the Search Area to Find mode. Please see "The Find Function" on page 221 for more information on using Find mode.

Search Results Area

The Search Results Area displays the result of the most recent search and includes the following navigation functions to help you find the desired work order:

- Clicking a column header sorts the search results by the selected column. You can also reorder and resize columns by dragging them.

- Clicking the **<<** button takes you to the first page of search results.

- Clicking the **<** button takes you to the previous page of search results.

- Clicking the **>** button takes you to the next page of search results.

- Clicking the **>>** button takes you to the last page of search results.

Once you have located the correct work order, click it to open it in the Details Area.

Details Area

The Details Area displays the currently selected work order in the Search Results Area.

Action Area

The Action Area allows you to perform the following actions on the work order:

- **Page WO:** Clicking the **Page WO** button pages the work order to the assigned technician.

- **Close WO:** Clicking the **Close WO** button opens the **Work Order** window for the selected work order with the status changed to Closed. Enter your labor, action text, and any additional information before saving. The work order **Status Date** field will update to match your last labor entry.

- **Delete:** Clicking the **Delete** button deletes the selected work order. You are prompted to confirm the deletion.

> ⚠ **CAUTION: DELETED WORK ORDERS ARE PERMANENTLY REMOVED FROM HEMS.**

- **Edit:** Clicking the **Edit** button opens the **Work Order** window for the selected work order, allowing you to make changes as needed.

- **Copy:** Clicking the **Copy** button opens the **Work Order** window with a new work order that is based on the current work order.

- **New:** Selecting the **New** button opens a blank **Work Order** window so that you can create a new work order.

Using the Work Orders Dashboard

To use the **Work Orders** dashboard:

1. Enter your desired search term(s) in the Search Area.

2. Click the **Search** button to run the search.

3. Select the desired work order in the Search Results Area.

4. Review the work order by viewing the work order details in the Details Area.

5. Perform an action on the selected work order using the Action Area.

Please see "CHAPTER 4: Work Orders" on page 55 for more information about working with work orders in HEMS and "The Work Order Window" on page 60 for more information about the **Work Order** window.

Equipment History and Labor Hours Reports

The **Work Orders** dashboard contains two links that allow you to access detailed equipment and labor information:

*   Selecting a work order and then clicking the **Control #** link in the Results Area opens an **Equipment History** report in a separate browser window for the selected equipment item. You can print and export this report as described in "CHAPTER 12: Printing & Exporting Data" on page 233.

*   Selecting a work order and then clicking the **Assg Eng** link in the Results Area opens a **Labor Hours** report in a separate browser window that displays the selected employee's shift hours vs. hours actually worked (hours logged against work orders). You can print and export this report as described in "CHAPTER 12: Printing & Exporting Data" on page 233.

The Equipment Inventory Dashboard

The **Equipment Inventory** dashboard allows you to quickly look up and manage equipment.

Search Area

Report/
Print
Buttons

Search
Mode
Buttons

Results
Area

Details
Area

Action Area
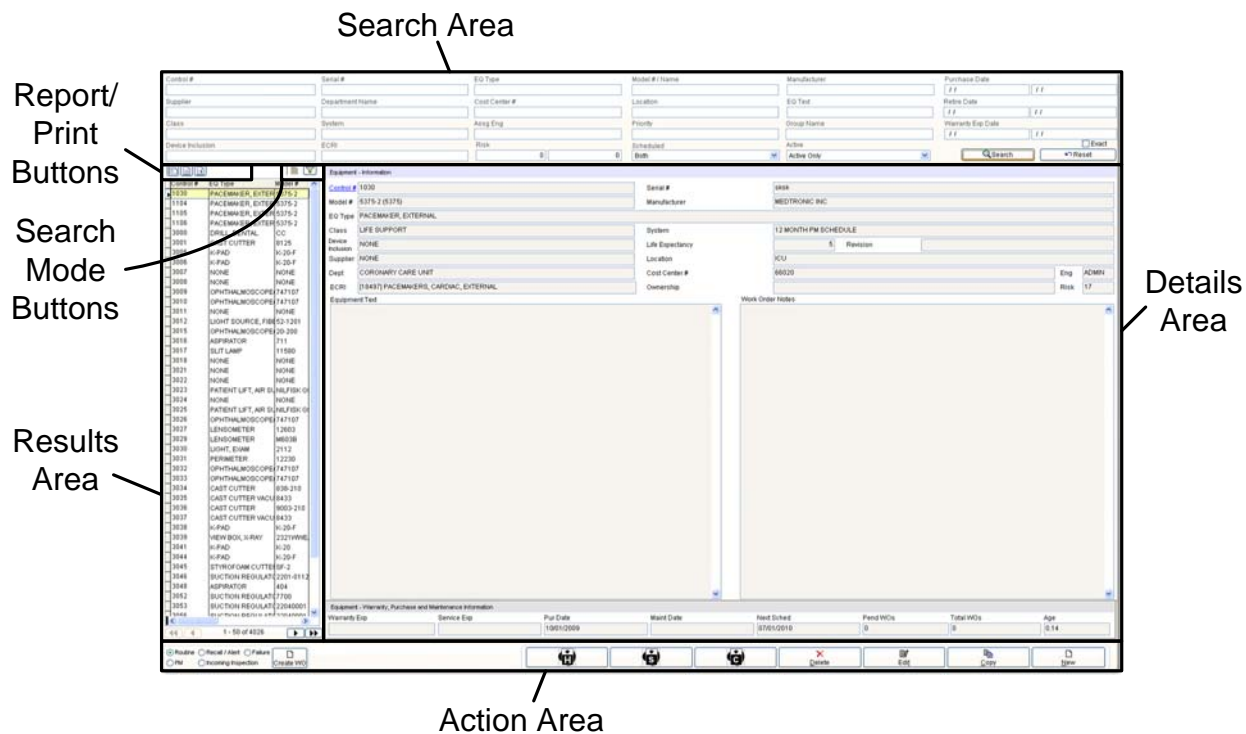
To open the **Equipment Inventory** dashboard, you may either:

- Click the **Equipment Inventory** tab on the right of the HEMS application.

- Click the **Equipment Inventory** button in the HEMS **Home** screen.

- Select **Activities>Equipment Inventory**.

- Press [CTRL]+[I].

The **Equipment Inventory** dashboard contains the following functional areas:

- **Search Area:** Allows you to search for equipment inventory records. This image shows an example of the **Equipment Inventory** dashboard in Find mode.

- **Report/Print Buttons:** Allow you to run reports and print/export equipment item data. Please see "CHAPTER 12: Printing & Exporting Data" on page 233 for more information about printing and exporting data in HEMS.

- **Search Mode Buttons:** Switch between Find and Filter modes, and display records added during the current HEMS session.

- **Results Area:** Search results appear here.

- **Details Area:** Displays the current equipment item record.

- **Action Area:** Perform various actions on the selected equipment item or add a new item to inventory.

Search Area (Find Mode)

When the **Equipment Inventory** dashboard is in Find mode (shown above), the Search Area contains various fields. By default, entering one or more letters in one or more of the search fields returns results that begin with the text you entered. For example, entering "def" will return "defibrillator."

Entering values in multiple search field restricts results to values that match all of the search terms in all of the fields. For example, entering "def" in the **EQ Type** field and "phi" in the **Manufacturer** field would return defibrillators manufactured by Philips but not defibrillators from different manufacturers.

Checking the **Exact** checkbox forces HEMS to return only those results that contain the exact text you entered. If you select this option, then entering "def" will not return "defibrillator" because the two are not an exact match.

Enter your desired search terms and then click **Search** to return matching results, or **Reset** to clear the Search Area and begin a new search.

Note: By default, searches return only active equipment.

- Searching with all search fields left blank returns all active equipment in inventory (unless **Both Active and Inactive** is selected, in which case the search will return all pending and closed work orders.

- Most fields return matches that begin with the text entered in that field. For example, entering "def" retrieve both "defib" and "defibrillator."

- The **EQ Type** and **ECRI** fields return results that contain the text entered in those fields. For example, entering "fib" will return "defibrillator."

- The **Control Number** field returns only an exact match. For example, you must enter "6981" to search for Control Number #6981; entering part of the number will not work.

Please see "The Find Function" on page 221 for more information on using Find mode.

Search Area (Filter Mode)

When the **Equipment Inventory** dashboard is in Filter mode (not shown), the Search Area contains a list of selected filter conditions. Please see "Filters" on page 222 for more information about using filters.

Report/Print Buttons

The **Report/Print** buttons provide quick access to relevant reports. From the left to right, the buttons are:

- **List Report:** Clicking the **List Report** button opens a summary report that lists all of the items in the Results Area.

- **Detail Report - All:** Clicking the **Detail Report - All** button opens a report that provides detailed information about each of the items in the Results Area.

- **Detail Report - Current:** Selecting an item in the Results Area and then clicking the **Detail Report - Current** button opens a report that provides detailed information about the currently selected item in the Results Area.

Reports appear in a separate browser window. You can print and/or export these reports, as described in "CHAPTER 12: Printing & Exporting Data" on page 233.

Search Mode Buttons

The **Search Mode** buttons determine how dashboard data will be retrieved. From left to right, the buttons are:

- **Show Newly Added Items:** If the **Show Newly Added Items** button is active, clicking it will display entries added during your current HEMS session (from the time you logged into HEMS). Exiting HEMS ends your session.

- **Switch to Filter mode:** When the **Equipment Inventory** dashboard is in Find mode, the **Switch to Filter mode** button appears as a small funnel. Clicking this button switches the Search Area to Filter mode. Please see "Filters" on page 222 for more information on using filters.

- **Switch to Find mode:** When the **Equipment Inventory** dashboard is in Filter mode, the **Switch to Find mode** button appears as a small magnifying glass. Clicking this button switches the Search Area to Find mode. Please see "The Find Function" on page 221 for more information on using Find mode.

Search Results Area

The Search Results Area displays the result of the most recent search and includes the following navigation functions to help you find the desired equipment item record:

- Clicking a column header sorts the search results by the selected column. You can also reorder and resize columns by dragging them.

- Clicking the **<<** button takes you to the first page of search results.

- Clicking the **<** button takes you to the previous page of search results.

- Clicking the **>** button takes you to the next page of search results.

- Clicking the **>>** button takes you to the last page of search results.

- Once you have located the correct equipment item record, click it to open it in the Details Area.

Details Area

The Details Area displays the currently selected equipment item record in the Search Results Area.

Action Area

The Action Area allows you to perform the following actions on the currently selected equipment item:

- **Create Work Order:** Select the type of work order you want to open (such as Routine, Recall/ Alert, etc.) by checking the appropriate radio button and then click the **Create WO** button to create a new work order of the selected type for the equipment item. Information associated with the equipment will automatically be populated such as department, location, assigned engineer, work order notes, etc. Please see "Opening a Work Order from the Equipment Inventory Dashboard" on page 121 for information about creating work orders from the Equipment inventory dashboard.

- **View History:** Click the **H** button to open the interactive **Equipment History** window for the selected equipment item. You may sort by column by clicking the desired column's header and may also resize and reposition columns by clicking and dragging. Double-clicking a work order opens the **Work Order** window for the selected work order. Please see "Viewing Equipment History" on page 122 for information about creating work orders from the Equipment inventory dashboard.

- **View Schedule:** Click the **S** button to see the equipment's maintenance schedule in a separate browser window.

- **View Contract Information:** Click the **C** button to open the **Equipment Contract History** window for the selected equipment item and view all current and previous contract information for the selected equipment item. Please see "The Equipment Contract History Window" on page 104 for information about creating work orders from the Equipment inventory dashboard.

- **Delete:** Clicking the **Delete** button deletes the selected equipment item from HEMS, provided that no action has been performed on that item. You are prompted to confirm the deletion.

> *Note: You cannot delete equipment if any action has been performed on it, because that action is part of your maintenance history, which includes work orders, an equipment group, equipment assigned to a contract, etc.*

> **CAUTION: DELETED EQUIPMENT IS PERMANENTLY REMOVED FROM HEMS.**

- **Edit:** Clicking the **Edit** button opens the **Equipment Inventory** window for the selected equipment item, allowing you to make changes as needed.

- **Copy:** Clicking the **Copy** button opens the **Equipment Inventory** window with a new equipment item that is based on the equipment item. This is useful if you already have another identical equipment item in HEMS and want to save time when adding your new equipment item to the database.

- **New:** Selecting the **New** button opens a blank **Equipment Inventory** window so that you can add a new equipment item to HEMS.

Using the Equipment Inventory Dashboard

To use the **Equipment Inventory** dashboard:

1. Enter your desired search term(s) in the Search Area.

   Note: By default, searches return only active equipment.

2. Select the desired equipment item in the Search Results Area.

3. Confirm that you have opened the correct equipment item by reviewing the data in the Details Area.

4. Perform an action on the selected equipment item using the Action Area.

Please see "CHAPTER 5: Managing Equipment" on page 85 for more information about managing equipment in HEMS and "The Equipment Inventory Window" on page 89 for more information about the **Equipment Inventory** window.

Menu Bar

The **Menu Bar** covers the topmost portion of the HEMS window.

| Activities | Edit | Information Lists | Utilities | Window | Help |

This section describes all of the functions available from the **Menu Bar**.

The Activities Menu

The **Activities** menu provides quick access to the HEMS windows and dashboards.

Change Service Areas

Selecting **Activities>Change Service Areas** opens the **Choose Service Area** window, which allows you to switch to another Service Area (depending on your security rights).

In the **Choose Service Area** window, click the Service Area you want to access. HEMS displays data for the selected Service Area.

Work Orders

Selecting **Activities>Work Orders** opens the **Work Orders** dashboard, which allows you to find, review, open, edit, and close work orders. Please see "The Work Orders Dashboard" on page 17 for more information about the **Work Orders** dashboard.

Generate Scheduled Work Orders

Selecting **Activities>Generate Scheduled Work Orders** opens the **Generate Scheduled Work Orders** window, which allows you to generate scheduled work orders for your selected date range. Please see "Generating Scheduled Work Orders" on page 81 for more information about generating scheduled work orders.

Assign Work Orders

Selecting **Activities> Assign Work Orders** opens the **Assign Work Orders** window, which allows you to assign or reassign work orders to technicians. Please see "Assigning Work Orders" on page 82 for more information about assigning work orders.

Quick Work Order

Selecting **Activities>Quick Work Order** opens the **Quick Work Orders** window, which allows you to quickly edit, update, or close multiple work orders at once, such as changing status or the employee who performed labor. Please see "The Quick Work Orders Window" on page 66 for more information about the **Quick Work Orders** window.

Equipment Inventory

Selecting **Activities>Equipment Inventory** opens the **Equipment Inventory** dashboard, which allows you to find, add, edit, schedule, and review equipment history as well as open work orders for equipment. Please see "The Equipment Inventory Dashboard" on page 22 for more information about the **Equipment Inventory** dashboard.

Quick Equipment Activities

Selecting **Activities>Quick Equipment Activities** opens the **Quick Equipment Activities** window, which allows you to take an action on multiple pieces of equipment at once, such as moving hundreds of equipment items to a new department, retiring, or placing in storage. Please see "The Quick Equipment Activities Window" on page 101 for more information about the **Quick Equipment Activities** window.

Contracts

Selecting **Activities>Contracts** opens the **Contracts** window, which allows you to view, add, edit, or remove service contract information. Please see "CHAPTER 9: Managing Contracts" on page 183 for more information about working with contracts.

Parts

Selecting **Activities>Parts** opens the **Parts** submenu, which allows you to manage and track parts. The available options are:

- **Inventory:** Selecting **Activities>Parts>Inventory** opens the **Parts Inventory** window, which allows to you to view, add, edit, and remove parts. Please see "CHAPTER 7: Managing Parts" on page 169 for more information about managing parts.

- **Transactions:** Selecting **Activities>Parts>Transactions** opens the **Parts Transactions** window, which allows you to track parts movements. Please see "Part Transactions" on page 174 for more information about tracking part movements.

Exit

Selecting **Activities>Exit** exits the HEMS application.

The Edit Menu

The **Edit** menu provides quick access to the most commonly used HEMS editing functions.

Edit

Selecting **Edit>Edit** allows you to edit the current record. You may also press [CTRL]+[E].

New

Selecting **Edit>New** opens a window to create a new entry in your current Information List, as appropriate depending on where you are in HEMS when you select this option. You may also press [CTRL]+[N].

Create Copy

Selecting **Edit>Create Copy** creates a copy of the current work order, equipment record, etc. as appropriate depending on which Information List you are using when you select this option. You may also press [CTRL]+[K].

Delete

Selecting **Edit>Delete** deletes the current work order, equipment record, etc. as appropriate depending on where you are in HEMS when you select this option. You may also press [CTRL]+[D].

Save

Selecting **Edit>Save** saves the current record, including all changes you have made since the last save. You may also press [CTRL]+[S].

Cancel

Selecting **Edit>Cancel** cancels your most recent record creation, save, or deletion. You may also press [CTRL]+[U].

Close

Selecting **Edit>Close** closes the current HEMS window. You may also press [CTRL]+[F4].

The Information Lists Menu

The **Information Lists** menu provides quick access to the HEMS Information Lists. Please see "CHAPTER 6: Information Lists" on page 123 for more information about Information Lists.

Departments

Selecting **Information Lists>Departments** opens the **Departments** Information List, which lists all of the available departments in the current Service Area (such as Emergency, Plant, etc.). Please see "Departments List" on page 124 for more information about departments.

Device Inclusions

Selecting **Information Lists>Device Inclusions** opens the **Device Inclusions** Information List, which allows you to classify equipment for easy identification. For example, you could include fire extinguishers in a list called Fire Safety. Please see "Device Inclusions List" on page 126 for more information about device inclusions.

Employees

Selecting **Information Lists>Employees** opens the **Employees** Information List, which allows you to add, edit, and deactivate employees. Please see "Employees List" on page 126 for more information about managing employees within HEMS.

*Note: Define engineering staff by checking the **Eng Emp** checkbox. These are employees who will be assigned work and provide the services documented in HEMS work orders.*

Equipment Inventory Lists

Selecting **Information Lists>Equipment Inventory Lists** opens the **Equipment Inventory Lists** submenu, which allows you to access the various equipment-related Information Lists. The available options are:

- **Equipment Models:** Opens the **Equipment Models** Information List, which allows you to add, edit, define a preventive maintenance template, and assign risk, parts, and attachments to equipment models. This is also where you indicate other information such as service manuals, operator manuals, and alarms. This information then appears in all individual equipment records that include this model. Please see "Equipment Models List" on page 131 for more information about equipment models.

- **Equipment Types:** Opens the **Equipment Types** Information List, which allows you to view, add, edit, define a preventive maintenance template, and assign risk, parts, and attachments to equipment types. Please see "Equipment Types List" on page 134 for more information about equipment types.

- **Equipment Groups:** Opens the **Equipment Groups** Information List, which allows you group equipment items for scheduling, if no other schedule template is available. Please see "Equipment Groups List" on page 137 for more information about equipment groups.

- **Equipment Classes:** Opens the **Equipment Classes** Information List, which allows you to identify equipment, such as Life Support, Non-Life Support, etc. This is especially important for reporting purposes. Please see "Equipment Classes List" on page 139 for more information about equipment classes.

- **Equipment Systems:** Opens the **Equipment Systems** Information List, which allows you to further identify and report on equipment. For example, equipment classified as "Cooling" and "Heating" may be assigned to the "HVAC" system. Please see "Equipment Systems List" on page 139 for more information about equipment systems.

Locations

Locations lists describe equipment placement and help mechanics and technicians find what they are looking for. Selecting **Information Lists>Locations** opens the **Locations** submenu, which allows you to access the various location-related Information Lists. The available options are:

- **Locations:** Selecting **Information Lists>Locations>Locations** opens the **Locations** Information List, which allows you to add, edit, or deactivate locations. Please see "Locations List" on page 140 for more information about locations.

- **Campuses:** Campuses are typically clusters of buildings that share a common location. Selecting **Information Lists>Locations>Campuses** opens the **Campuses** Information List, which allows you to add, edit, or deactivate campuses. Please see "Campuses List" on page 141 for more information about campuses.

- **Buildings:** Buildings are typically freestanding structures that may be either standalone or grouped into a campus. Selecting **Information Lists>Locations>Buildings** opens the **Buildings** Information List, which allows you to add, edit, or deactivate buildings. Please see "Buildings List" on page 142 for more information about buildings.

- **Wings:** Wings typically designate separate sections of buildings that can span multiple floors. Selecting Information **Lists>Locations>WIngs** opens the **Wings** Information List, which allows you to add, edit, or deactivate wings. Please see "Wings List" on page 142 for more information about wings.

- **Floors:** Floors typically designate a given floor number. A floor may span one or more wings. Selecting **Information Lists>Locations>Floors** opens the **Floors** Information List, which allows you to add, edit, or deactivate floors. Please see "Floors List" on page 143 for more information about floors.

- **Rooms:** Rooms are typically enclosed spaces on a certain floor. Selecting **Information Lists>Locations>Rooms** opens the **Rooms** Information List, which allows you to add, edit, or deactivate rooms. Please see "Rooms List" on page 143 for more information about rooms.

- **Spaces:** Spaces are typically separately designated areas within a room, such as above a cabinet. Selecting **Information Lists>Locations>Spaces** opens the **Spaces** Information List, which allows you to add, edit, or deactivate spaces. Please see "Spaces List" on page 144 for more information about spaces.

Maintenance Specialties

Maintenance specialties include trades, crafts, and other functions of employees who perform work based on work orders. Selecting **Information Lists>Maintenance Specialties** opens the **Maintenance Specialties** Information List, which allows you to add, edit, and remove maintenance specialties. Please see "Maintenance Specialties List" on page 144 for more information about maintenance specialties.

Part Types

Part type lists describe groups of like parts (such as batteries.) Selecting **Information Lists>Parts** Types opens the **Part Types** Information List, which allows you to add, edit, and deactivate part types. Please see "Part Types List" on page 145 for more information about part types.

Predefined Text

Predefined text simplifies data entry and helps ensure consistency across multiple records. Selecting **Information Lists>Predefined Text** opens the **Predefined Text** Information List, which allows you to add, edit, and remove predefined text entries. Please see "Predefined Text List" on page 145 for more information about predefined text.

Procedures and Tasks

Procedure and task Information Lists describe how to maintain and/or service equipment. Selecting **Information Lists>Procedures & Tasks** opens the **Procedures & Tasks** submenu. The available options are:

- **Procedures:** A procedure is a group of tasks designed to maintain a piece of equipment in optimum running condition while trying to ensure that it meets its life expectancy. Selecting **Information Lists>Procedures & Tasks>Procedures** opens the **Procedures** Information List, which allows you to add, edit, and deactivate procedures. Please see "Procedures List" on page 146 for more information about procedures.

- **Procedure Types:** Procedure types categorize procedures by specialty (such as plumbing, electrical, etc.). Selecting Information **Lists>Procedures & Tasks>Procedure Types** opens the **Procedure Types** Information List, which allows you to add, edit, and deactivate procedure types. Please see "Procedure Types List" on page 148 for more information about procedure types.

- **Tasks:** A task is a specific item of work that must be accomplished as part of a procedure. Selecting **Information Lists>Procedures & Tasks>Tasks** opens the **Tasks** Information List, which allows you to add, edit, and deactivate tasks. Please see "Tasks List" on page 149 for more information about tasks.

- **Task Types:** Task types group tasks by specialty, such as plumbing or electrical. Selecting **Information Lists>Procedures & Tasks>Task Types** open the **Task Types** Information List, which allows you to add, edit, and deactivate task types. Please see "Task Types List" on page 150 for more information about task types.

Purchase Orders

HEMS tracks purchase order numbers and descriptions. Selecting **Information Lists>Purchase Orders** opens the **Purchase Orders** Information List, which allows you to add, edit, and deactivate purchase orders. Please see "Purchase Orders List" on page 150 for more information about purchase orders.

Seasons

Seasons restrict scheduled work order generation to specific date ranges. Selecting **Information Lists>Seasons** opens the **Seasons** Information List, which allows you to add, edit, and deactivate season information. Please see "Seasons List" on page 151 for more information about seasons.

Shifts

Selecting **Information Lists>Shifts** opens the **Shifts** Information List, which allows you to add, edit, and remove work shifts and department shifts, or hours of operation. Shifts must be assigned to employees to view a comparison of shift hours vs. labor hours in the **Labor Hours** report from the **Work Orders** dashboard and the **Employees** Information List. Shifts must be defined in the **Departments** Information List to view the **Equipment Downtime** report. Please see "Departments List" on page 124 and "Shifts List" on page 152 for more information about managing work shifts within HEMS.

Subcodes

Subcodes provide additional tracking information, such as "PM Successful" or "Failure." Selecting **Information Lists>Subcodes** opens the **Subcodes** Information List, which allows you to add, edit, and deactivate subcodes. Please see "Managing Work Orders" on page 56 and "Subcodes List" on page 152 for more information about subcodes.

Vendors

Vendors comprise all equipment and part vendors, including suppliers and manufacturers. Selecting **Information Lists>Vendors** opens the **Vendors** Information List, which allows you to add, edit, and deactivate all equipment and parts vendors, including suppliers and manufacturers. Please see "Vendors List" on page 153 for more information about vendors.

Work Order Lists

Work order Information Lists allow work orders to be classified by several criteria for easy tracking and resource management. Selecting **Information Lists>Work Order Lists** opens the **Work Order Lists** submenu, which allows you to access the various work order lists. The available options are:

*   **Work Order Codes:** Work order codes recognize labor actions in the work order **Labor** and **Parts** tabs such as travel, ordering parts, training, waiting for the device, etc. Selecting **Information Lists>Work Order Lists>Work Order Codes** opens the **Work Order Codes** Information List, which allows you to add, edit, and deactivate work order codes. Please see "Work Order Codes List" on page 155 for more information about work order codes.

*   **Work Order Priorities:** Work order priorities allow department management to review open work orders and determine their importance and urgency. Selecting **Information Lists>Work Order Lists>Work Order Priorities** opens the **Work Order Priorities** Information List, which allows you to add, edit, and deactivate work order priorities. Please see "Work Order Priorities List" on page 156 for more information about work order priorities.

*   **Work Order Status:** Work order statuses allow department management to track work progress and identify bottlenecks or delays. Selecting **Information Lists>Work Order Lists>Work Order Status** opens the **Work Order Status** Information List, which allows you to add, edit, and deactivate work order priorities. Please see "Work Order Status List" on page 157 for more information about work order priorities.

*   **Work Order Types:** Work order types classify work orders in a predetermined manner for tracking and regulatory management. Selecting **Information Lists>Work Order Lists>Work Order Types** opens the **Work Order Types** Information List, which allows you to add, edit, and deactivate work order types. Please see "Work Order Types List" on page 158 for more information about work order types.

The Utilities Menu

The **Utilities** menu accesses HEMS administrative functions. Please see "CHAPTER 13: Administration" on page 237 for more information about administering and managing HEMS and "HEMS Security Modes" on page 238 for more information about using HEMS security vs. Windows (LDAP) security.

Security

- **Users:** Selecting **Utilities>Users** opens the **Users** window, which allows you to add, update, and delete HEMS users. Please see "User Management" on page 242 for more information about the **Users** window.

- **Passwords:** Selecting **Utilities>Passwords** opens the **Passwords** window, which allows you to view user passwords, if you are using HEMS security. Please see "Viewing and Changing Passwords" on page 249 for more information about the **Passwords** window.

- **Password Setup:** Selecting **Utilities>Password Setup** opens the **Password Setup** window, which allows you to specify various password parameters if you are using HEMS security. Please see "Controlling Password Usage" on page 250 for information about the **Password Setup** window.

- **Users Report:** Selecting **Utilities>Users Report** opens the **Users** report in a browser window, which presents the list of all current and former HEMS users.

- **Passwords Report:** Selecting **Utilities>Passwords Report** opens the HEMS security **Passwords** report in a browser window, which presents the list of HEMS users and their passwords.

- **Permission Groups:** Selecting **Utilities> Permission Groups** opens the **Control Permission Group** window, which defines what the selected user can do, such as adding, copying, editing, or deactivating/deleting records within each window and Information List. Please see "Control Groups" on page 252 for more information about the **Control Permissions Group** window.

- **Menu Permission Groups:** Selecting **Utilities>Menu Permission Groups** opens the **Menu Permission Groups** window, which defines what windows and Information Lists the selected user has access to, such as work orders, equipment inventory, generating schedules, or security. Please see "Menu Groups" on page 257 for more information about the **Menu Permissions Group** window.

Reports

Selecting **Utilities>Reports** opens the **Reports** window, which allows you to run reports. Please see "Reports" on page 271 for more information about the **Reports** window.

User Configuration:

Selecting **Utilities>User Configuration** opens the **User Configuration** window, which allows you to customize your **Reports** sidebar by determining what reports you want displayed and the order in which you want them displayed. You can also set your individual work order defaults by Service Area (if you have access to multiple Service Areas), which makes opening work orders faster and more accurate. Each user can set up her or his own report and work order defaults.

*Note: Some work order defaults (such as Location) are overridden when creating work orders from the **Equipment Inventory** dashboard. In this example, **Department**, **Location**, and **Assigned Engineer** (if specified) are fields associated with an equipment record and the work order will auto-fill with information from equipment.*

Please see "Configuring User Defaults" on page 246 for more information about the **User Configuration** window.

Management Tools

Selecting **Utilities>Management Tools** opens the **Management Tools** submenu, which allows management to define policies. This includes determining the default for how you schedule equipment (date), assigning a work coordinator, determining the department/location preferences for new work orders, when to lock closed work orders, etc. The available options are:

- **Equipment Management:** Selecting **Utilities>Management Tools>Equipment Management** opens the **Equipment Management** window, which allows you to take an action on multiple pieces of equipment at once, such as moving hundreds of equipment items to a new department, retiring, placing in storage, changing schedule information, and other administrative functions. Please see "Equipment Management" on page 260 for more information about the **Equipment Management** window.

- **Service Area Configuration:** Selecting **Utilities>Management Tools>Service Area Configuration** opens the **Service Area Configuration** window, which allows you to specify work order and equipment defaults by Service Area. Please see "Service Area Configuration" on page 263 for more information about the **Service Area Configuration** window.

- **Service Area and Specialty Rates:** Selecting **Utilities>Management Tools>Service Area and Specialty Rates** opens the **Service Area and Specialty Rates** window, which allows you to determine both a standard Service Area rate by maintenance specialty or Service Area (Standard Rate). If both standard and specialty rates are defined, HEMS will use the Specialty Rate first where applicable. If neither Standard nor Specialty rates are defined, the maintenance employee hourly rate (from the **Employees** Information List) will be used. Please see "Service Area and Specialty Rates" on page 266 for more information about the **Service Area and Specialty Rates** window.

Errors

Selecting **Utilities>Errors** opens the **Errors** window, which displays detailed information from the application's error log. Please see "Error Logs" on page 267 for more information about the **Errors** window.

Replace Values

Replacement values help remove nonstandard entries from HEMS records by replacing them with standard entries. Selecting **Utilties>Replace Values** opens the **Replace Values** submenu, which allows you to replace values by Departments, Device Inclusion, Employees, EQ Class, EQ Model, EQ System, EQ Types, Locations, Maintenance Specialty, Parts, Part Types, Priority, Procedure Types, Procedures, Purchase Orders, Seasons, Subcodes, Task Types, Tasks, Vendor Suppliers, Vendor Manufacturers, WO Codes, WO Status, and WO Types. Selecting a replacement value list then opens the **Replacement Module** window, which allows you to replace the selected value. Please see "Replacing Values" on page 269 for more information about the **Replacement Module** window.

Window Menu

The **Window** menu displays all of the windows you currently have open in HEMS. To switch between windows, select **Window** and then click the window you wish to bring to the top.

The Help Menu

The **Help** menu accesses the available HEMS program support options.

Search for Help On

Selecting **Help>Search for Help On** opens the **Help** window, which displays the HEMS online Help system. You can navigate the online Help using the navigation display, hyperlinks within individual Help pages, the included index, or by using the handy **Search** function.

User Guide

Selecting **Help>User Guide** opens this *User & Administrator Guide* in Adobe Acrobat (PDF) format.

About

Selecting **Help>About** opens the **About** window, which displays HEMS version and copyright information, plus contact information for EQ2, Inc.

Toolbar

The **Toolbar** contains buttons that provide quick access to commonly used functions. The buttons included on the **Toolbar** vary depending on whether the **Toolbar** is in Normal or Admin mode. Please see "Admin Toolbar" on page 239 for information about the **Toolbar** buttons available in Admin mode.

The **Toolbar** contains the following buttons when in Normal mode:
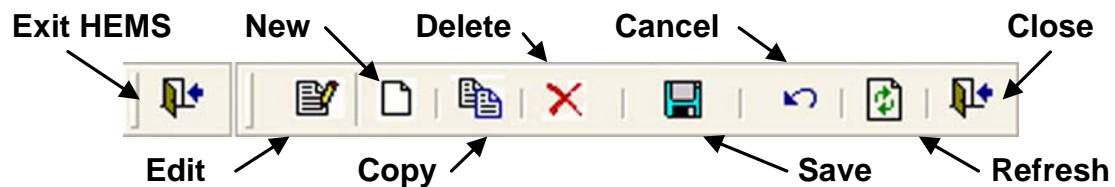
*Note: For clarity, this image shows all **Toolbar** buttons active. The active buttons you will actually see depend on the functions available at the moment. Unavailable buttons will appear grayed out.*

Exit HEMS Button

Clicking the **Exit HEMS** button logs you out of HEMS and exits the application.

Edit Button

Clicking the **Edit** button allows you to edit the record you are currently viewing.

New Button

Clicking the **New** button creates a new record of the same type you are currently working with.

Copy Button

Clicking the **Copy** button creates a copy of the record you are currently viewing. You can then edit this record as needed. This can speed repetitive tasks such as adding multiple pieces of the same type and model of equipment to your inventory.

Delete Button

Clicking the **Delete** button deletes the record you are currently viewing. A confirmation dialog appears, asking you to confirm or cancel the deletion.

*Note: You cannot delete any record that has had an action performed on it or that has been used in HEMS because it is part of your history. You can deactivate a record by clearing the selected record's **Active** checkbox, and can configure HEMS to not display deactivated records. Please see "Service Area Configuration" on page 263 for more information.*

CAUTION: DELETED RECORDS CANNOT BE RECOVERED. DO NOT DELETE RECORDS UNLESS YOU ARE ABSOLUTELY SURE THAT THEY SHOULD BE PERMANENTLY REMOVED FROM THE HEMS DATABASE.

Save Button

Clicking the **Save** button saves the record you are currently working on to the HEMS database.

Cancel Button

Clicking the **Cancel** button cancels your most recent action.

Refresh Button

Clicking the **Refresh** button refreshes the record you are currently viewing with the most recent information from the HEMS database.

Close Button

Clicking the **Close** button closes the window you are currently viewing. You will be prompted to save any unsaved changes.

Reports Sidebar

The **Reports** sidebar allows you to quickly run any of the available HEMS reports. Please see "Reports Sidebar Defaults" on page 246 for information about configuring report defaults.

You may access reports by either:

- Clicking a category button at the bottom of the **Reports** sidebar and then double-clicking the icon of the report you want to run, or

- Entering a report name or keyword into the **Search** field at the top of the **Reports** sidebar and then running one of the matching reports by double-clicking its icon.

Reports appear in a separate browser window. Available filtering options, if any, will also appear in the browser window. To filter a report, enter your desired criteria and then click the **View Report** button. You can hide filtering options by clicking the double up-arrow button, or display these options by clicking the double-down arrow button.

This section describes the standard HEMS reports. EQ2 can design custom reports for you, or provide assistance for users with report design experience.

Work Order Reports

HEMS includes the following work order reports, which are available by clicking the **Work Order** category button at the bottom of the **Reports** sidebar:

Work Order Review (Summary)

Review pending versus closed work orders including percentages, costs, and hours. Please see "Work Order Review (Summary)" on page 198 for more information about this report.

Work Order Review (Detail)

Review pending versus closed work orders with details, including the request and the action taken. Please see "Work Order Review (Detail)" on page 198 for more information about this report.

Work Order Equipment Review (Summary)

Review pending versus closed work orders based on the equipment including percentages, costs and hours. This report includes equipment related items (such as equipment type, equipment model, device inclusion). Please see "Work Order Equipment Review (Summary)" on page 199 for more information about this report.
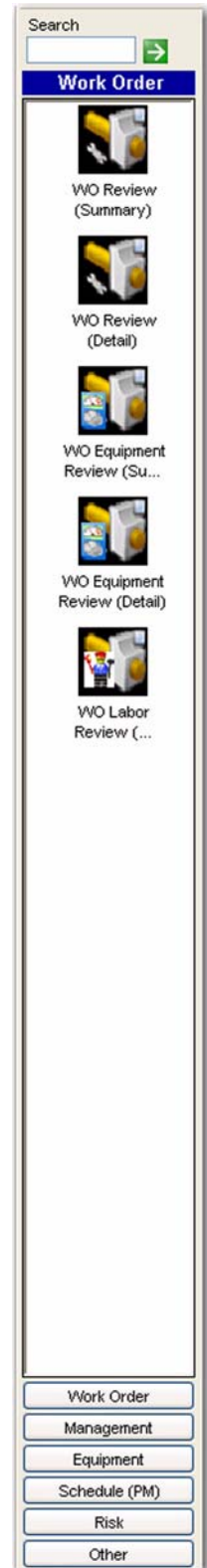
Work Order Equipment Review (Detail)

Review pending versus closed work orders with details, including the request and action taken based on the equipment on the work order. This report includes equipment related items (such as equipment type, equipment model, device inclusion). Please see "Work Order Equipment Review (Detail)" on page 199 for more information about this report.

Work Order Labor Review (Summary)

Review labor hours on work orders based on one or more date(s) when the work orders were opened, closed, or the date(s) actual services were provided. Please see "Work Order Labor Review (Summary)" on page 200 for more information about this report.

Management Reports

HEMS includes the following management work order reports, which are available by clicking the **Management** category button at the bottom of the **Reports** sidebar:

Work Order Response Time (Detail)

How quickly you are responding to work with details, including the request and/or action. This report can be used for safety committee and quality control committee meetings. When running the report, you can define the response time in hours. You can also filter for your high-priority work orders and set the response time to the appropriate number of hours according to your policy. Please see "Work Order Response Time (Detail)" on page 201 for more information about this report.

Work Order Response Time (Summary)

How quickly you are responding to work. This report can be used for safety committee and quality control committee meetings. When running the report, you can define the response time in hours. You can also filter for your high-priority work orders and set the response time to the appropriate number of hours according to your policy. Please see "Work Order Response Time (Summary)" on page 202 for more information about this report.

Work Order Close Time (Summary)

How quickly you are completing work. This report can be used for safety committee and quality control committee meetings. When running the report, you can define the close time in hours. You can also filter for your high-priority work orders and set the close time to the appropriate number of hours according to your policy. Please see "Work Order Close Time (Summary)" on page 202 for more information about this report.

Work Labor Close Time (Detail)

How quickly you are completing work with details, including the request and/or action. This report can be used for safety committee and quality control committee meetings. When running the report, you can define the close time in hours. You can also filter for your high-priority work orders and set the close time to the appropriate number of hours according to your policy. Please see "Work Order Close Time (Detail)" on page 202 for more information about this report.

Work Order Summation by Priority

Summarizes total work orders count, percentage, hours, and costs by priority. To report on preventive maintenance work orders only, filter the report by setting the **WO Type** to **Scheduled**. Please see "Work Order Summation by Priority" on page 203 for more information about this report.

Work Order Summation by Department

Summarizes total work orders count, percentage, hours, and costs by department. To report on preventive maintenance work orders only, filter the report by setting the **WO Type** to **Scheduled**. Please see "Work Order Summation by Department" on page 203 for more information about this report.

Regulatory Compliance Report

Encapsulates all of the information required for regulatory compliance, active inventory, cost spent on work orders for user error and/or equipment abuse. This report lets you look at how your hospital is performing in one click. Please see "Regulatory Compliance" on page 203 for more information about this report.

Quality Survey Remarks

This report shows the remarks submitted by users in response to quality surveys about the services provided by your department. Surveys are conducted after work is completed. This report is only available if you have the optional EQ2 Web Enterprise add-on installed. Please see "EQ2 Web Enterprise" on page 285 for more information about the EQ2 Web Enterprise add-on.

Quality Survey

This report shows the satisfaction level of departments for services performed for them. This information is based on quality surveys conducted after work is completed. This report is only available if you have the optional EQ2 Web Enterprise add-on installed. Please see "EQ2 Web Enterprise" on page 285 for more information about the EQ2 Web Enterprise add-on.

Equipment Reports

HEMS includes the following equipment reports, which are available by clicking the **Equipment** category button at the bottom of the **Reports** sidebar:

Equipment Detail Report

Detailed information about equipment in inventory. Please see "Equipment Detail" on page 205 for more information about this report.

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Management Program Inventory

This report only covers equipment in the preventive maintenance management program. Management program inventory contains all equipment items that have a higher risk factor than the minimum required for placing the equipment into the management program as well any equipment that does not have risk defined. This report also compares the number of preventive maintenance and repair work orders. Please see "Management Program Inventory" on page 206 for more information about this report.

Equipment List

This report shows the equipment inventory in list format. Technicians can run this report for a quick glance at equipment with next due date for preventive maintenance. Please see "Equipment List" on page 206 for more information about this report.

Equipment Overdue for PM

Displays equipment that is more than 30 days overdue for preventive maintenance. Please see "Equipment Overdue for PM" on page 207 for more information about this report.

Equipment List with Purchase Information

Shows the equipment inventory in a list format including purchase information. This report is useful when the owner department needs information regarding purchasing decisions or equipment age. Please see "Equipment List with Purchase Information" on page 207 for more information about this report.

Equipment Summary

Summary information about equipment in inventory. Please see "Equipment Summary" on page 208 for more information about this report.

Equipment List with Schedule Information

Shows the equipment inventory in list format, including schedule information. This can be used to review equipment schedule information with the next due date. Please see "Equipment Listing with Schedule Information" on page 208 for more information about this report.

Equipment Downtime

Lists equipment with its downtime. Please see "Equipment Downtime" on page 209 for more information about this report.

Equipment History

Lists equipment items and the maintenance history for each item. Please see "Equipment History" on page 209 for more information about this report.

Equipment with Parts

Lists equipment items and their associated parts. Please see "Equipment with Parts" on page 210 for more information about this report.

Rate of Occurrence of Failure

Identifies the equipment is failing most frequently according to unscheduled (repair) events. Failed equipment slows production and incurs costs. Failures are a metric for management to review and determine wither preventive maintenance must be increased, equipment replaced, etc. This is the flip side of the **Maximum Expenditure Limit** report. Please see "Rate of Occurrence of Failure" on page 210 for more information about this report.

Maximum Expenditure Limit

Lists equipment items with life expectancy, purchase, and purchase price defined. This report provides a baseline for establishing a equipment replacement program. If the Repair Cost is more than the Maximum Expenditure Limit (MEL) then it is time to purchase new equipment. The new cost that appears in the report is a straight line calculation that adds 3% to the equipment's original cost per annum. Please see "Maximum Expenditure Limit" on page 211 for more information about this report.

> *Note: The fact that a piece of equipment is approaching or beyond its projected useful life expectancy is not by itself a sufficient reason to replace the item.*

Closed Percentage per Month

This report only covers equipment in the preventive maintenance management program. Shows the count of scheduled equipment in the preventive maintenance program per month per priority and the count of equipment closed within that month. Please see "Closed Percentage per Month" on page 212 for more information about this report.

Schedule (PM) Reports

HEMS includes the following preventive maintenance schedule reports, which are available by clicking the **Schedule (PM)** category button at the bottom of the **Reports** sidebar:

Procedure Review

Displays a procedure and its associated tasks in sequence. This report also shows all of the equipment associated with the procedure, if selected. Please see "Procedure Review" on page 213 for more information about this report.

Preventive Maintenance Summary

Lists preventive maintenance schedules based on your search criteria. Please see "Preventive Maintenance Summary" on page 213 for more information about this report.

Annual Schedule Load

Review your scheduled load to see equipment scheduled per month and estimated hours per month. Define the grouping based on how you perform preventive maintenance (such as by department, equipment type, etc.). Please see "Annual Schedule Load" on page 214 for more information about this report.

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PM Parts Due - Shortage

Lists parts that need to be ordered to cover the selected preventive maintenance period. HEMS calculates the shortage by subtracting stock on hand from the parts required for preventive maintenance for the selected period. Please see "PM Parts Due - Shortage" on page 214 for more information about this report.

PM Parts Due

Lists parts required for preventive maintenance without considering stock on hand. Please see "PM Parts Due" on page 215 for more information about this report.

Risk Reports

HEMS includes the following risk reports, which are available by clicking the **Risk** category button at the bottom of the **Reports** sidebar:

Risk Interval

Displays preventive maintenance intervals and priority based on risk factor. Please see "Risk Interval" on page 216 for more information about this report.

Risk Category

Displays statements sorted by risk category. Please see "Risk Category" on page 216 for more information about this report.

Other Reports

HEMS includes the following other reports, which are available by clicking the **Other** category button at the bottom of the **Reports** sidebar:

Parts with Equipment

Lists parts and their associated equipment. Please see "Parts with Equipment" on page 217 for more information about this report.

Equipment with Network Information

This is a sample custom report with custom fields pertaining to network information defined in the equipment inventory. Please see "Equipment with Network Information" on page 217 for more information about this report.

Shortcuts

HEMS includes keyboard, mouse, and calendar shortcuts to make your work faster and easier.

Keyboard Shortcuts

HEMS contains several keyboard shortcuts (or "hot keys") that allow users to open windows or quickly perform common functions in the **Activities** and **Information Lists** windows. The available keyboard shortcuts are:

Editing Shortcuts

- **[CTRL]+[A]:** Selects all of the text in the current field.
- **[CTRL]+[C]:** Copies the current text to the Windows Clipboard.
- **[CTRL]+[V]:** Paste the contents of the Windows Clipboard to the current field.
- **[CTRL]+[X]:** Removes the current text and places it in the Windows Clipboard.
- **[CTRL]+[Z]:** Undoes the last action.
- **[DEL]:** Clears the current text or record.

Record Shortcuts

- **[CTRL]+[D]:** Deletes the current record.
- **[CTRL]+[E]:** Edits the current record.
- **[CTRL]+[N]:** Adds a new record.
- **[CTRL]+[K]:** Creates a copy of the current record.
- **[CTRL+[S]:** Saves the current record.

Interface Shortcuts

- **[CTRL]+[Q]:** Opens the **Quick Work Orders** window. Please see "The Quick Work Orders Window" on page 66 for more information about the **Quick Work Orders** window.
- **[CTRL]+[I]:** Opens the **Equipment Inventory** dashboard. Please see "The Equipment Inventory Dashboard" on page 22 for more information about the **Equipment Inventory** dashboard.
- **[CTRL]+[T]:** Opens the **Parts Inventory** window. Please see "Parts Inventory Window" on page 170 for more information about the **Parts Inventory** window.
- **[CTRL]+[W]:** Opens the **Work Orders** dashboard. Please see "The Work Orders Dashboard" on page 17 for more information about the **Work Orders** dashboard.
- **[CTRL]+[F4]:** Closes the current window.
- **[ALT]+[F4]:** Exits HEMS.

Dashboard Shortcuts

- **[ALT]+[C]:** Copies the selected record.

- **[ALT]+[D]:** Deletes the current record.

- **[ALT]+[N]:** Creates a new record.

- **[ALT]+[T]:** Edits the current record.

Miscellaneous Shortcuts

- **[F1]:** Opens the searchable HEMS Help.

- **[F2]:** Opens a search window when resting on a field, or a pick list that contains predefined text for text fields.

- **[F7]:** Opens a spell checker.

> *Note: You must have Microsoft Word® 2000 or later installed on your system to access this function. The HEMS spell checker uses the spelling and grammar defaults defined within Word. To change these defaults, launch Word and then select **Tools>Options>Spelling & Grammar**. If you are using Word 2007, click the **Microsoft Office** button and then select **Word Options**.*

- **[F8]:** Enter your signature (your HEMS Login ID) and date/time stamp in the currently selected text field.

- **[F10]:** Enlarge the current text field.

Mouse Shortcuts

Right-clicking in HEMS allows you to:

- Add a new record that currently isn't in your Information List.

- Edit a record.

- Access the **Search** window to search for a value from an Information List.

> *Note: Adding and editing a record using the right-click function retrieves the appropriate information list (see "CHAPTER 6: Information Lists" on page 123), which ensures that you are properly editing records in your list and not adding nonstandard values or other entries "on the fly," which can lead to data discrepancies caused by variant spellings and abbreviations, misspellings, etc.*

Calendar

HEMS generates all default dates and times based on the system date and time, and uses military (24-hour) time. For added speed, you can enter a single year digit. For example, entering 9 defaults to 2009.

Calendars are available on all date fields within HEMS. You can enter dates manually, or you can select the **Calendar** icon next to the date field to open the **Calendar** window. To use the **Calendar** window:

- Navigate months by selecting the forward or backward arrow.

- View a list of months by clicking on the month.

- Change the year by clicking the year and using the forward and backward arrows to select your desired year.

- Click a date to select it and input into the date field.

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CHAPTER 3:
Adding Values to Fields

Adding Values to Fields

Different fields get information from various sources, including:

- Manual text entry.

- Read-only fields inherit information from different fields.

- Date fields have a calendar icon next to them. Please see "Calendar" on page 47 for more information about the HEMS **Calendar** function.

- Information Lists. These lists often contain specific values, such as equipment model numbers (from the **Equipment Models** Information List) or work order type (from the **Work Order Types** Information List). Fields that use this function have a blue down arrow next to them. Please see "CHAPTER 6: Information Lists" on page 123 for more information about Information Lists.

- The **Predefined Text** Information List. This Information List contains text that can be added to text fields with just a few mouse clicks. Please see "Predefined Text List" on page 145 for more information about the **Predefined Text** Information List.

> *Note: Some fields allow multiple means of data entry. For example, you can enter dates either manually or by using the HEMS **Calendar** function.*

Obtaining values from the HEMS **Calendar** function and Information Lists increases both speed and data accuracy by providing a library of standard terminology and text that can be quickly selected and inserted where needed with just a few keystrokes and/or mouse clicks.

Using Information List Values

To add an Information List value to a field:

1. Select the field where you want to insert the Information List value.

2. Click the down arrow to the right of the selected field to open a list of possible values for that field.

3. Scroll as needed, then click your desired value to update the field.

Using Predefined Text

To add predefined text to a text field:

1. Right-click the selected text field, and then select **Predefined Text** to open a list of text strings available for your currently selected text field. (You can also press [F2].)

2. Scroll as needed, then click your desired value to update the field.

3. Please see "Working with Information Lists" on page 159 for information about adding, editing, and removing text from the **Predefined Text** Information List.

Searching Information Lists

You can search the Information List for the correct value if you're not sure what entry to use or are unable to locate the correct value. To search the Information List for your currently selected field:

1. Open the **Information List** window by either:

    -   Right-clicking the field and selecting **Search**, or

    -   Pressing [F2].

2. The **Information List** window appears with the name of the appropriate Information List in its title bar. For example, if you are adding a value to the **Model #** field in the **Equipment Inventory** window, the **Information List** window will say **Equipment Models**.

3. Search for the appropriate Information List value by entering your desired search term(s) and click **Search**. Matching results appear as a list below the search fields.

4. Highlight your desired value and click **Select**. The value appears in the selected field and other fields may also be populated with related information.

The Information List Window

The **Information List** window appears as shown here and contains the following functional areas:

-   **Search Area:** Allows you to search for Information List values. This image shows an example of a Find mode search area. The actual search options available will depend on the field you are entering a value for. Please see "Search Area (Find Mode)" on page 159 and "Search Area (Filter Mode)" on page 160 for more information about using the Search Area.

-   **Report/Print Buttons:** Allow you to run reports and print/export data. Please see "CHAPTER 12: Printing & Exporting Data" on page 233 for more information about printing and exporting data in HEMS.

Search Area

Report/Print Buttons

Results Area

Action Buttons

Search Mode Buttons

Open List Button

-   **Search Mode Buttons:** Switch between Find and Filter modes, and display records added during the current HEMS session. Please see "Search Mode Buttons" on page 160.

-   **Results Area:** Search results appear here.

-   **Action Buttons:** Place your desired value into the selected field.
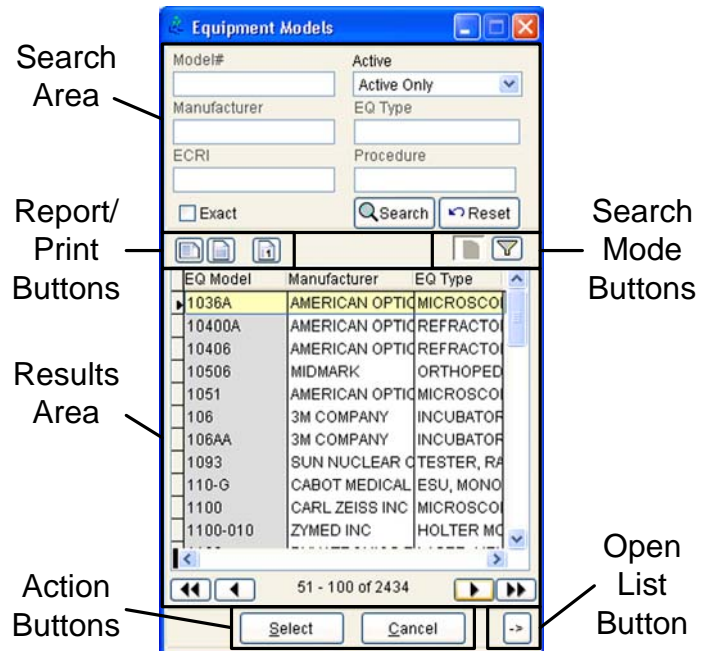
- **Open List Button:** Opens the full **Information List** window for the current Information List.

Results Area

The Results Area displays the results of your search. You can:

- Highlight a result to add it to the current text field by either clicking **Select** or by double-clicking the value.

- Sort in ascending (A-Z) order by clicking the header of the column you want to sort by.

- Rearrange the order in which columns appear by clicking and dragging the column headers left or right. HEMS remembers this and will present your selected column order in the future.

- Navigate the results using the following navigation buttons:

    - To go to the first page of results, click the **<<** button.

    - To go to the previous page of results, click the **<** button.

    - To go the next page of results, click the **>** button.

    - To go to the last page of results, click the **>>** button.

Action Buttons

The **Information List** window has two **Action** buttons:

- **Select:** Clicking **Select** places the value you highlighted in the Results area into your currently selected field and closes the **Information List** window.

- **Cancel:** Clicking **Cancel** closes the **Information List** window without placing a value in your currently selected field.

Open List Button

Clicking the **Open List** button opens the appropriate Information List. Please see "CHAPTER 6: Information Lists" on page 123 for more information about Information Lists.

Adding Information List Values

Adding a new Information List value adds a new entry to the appropriate Information List. Please see "CHAPTER 6: Information Lists" on page 123 for more information about the Information Lists. To add a new Information List value:

1. If you do not find the value you are trying to add after searching as described above, right-click the field you want to add the new Information List value to, and then select **Add New**.

2. Add the new Information List value as described in "Adding a Record" on page 161.

Editing Information List Values

Editing an existing Information List value modifies the corresponding entry in the appropriate Information List. Please see "CHAPTER 6: Information Lists" on page 123 for more information about the Information Lists. To edit an Information List value:

1. Enter the value you want to edit in the selected field, as described above.

2. Right-click the field and then select **Edit**. A window appears with the current value. The fields in this window will vary depending on the value you are editing.

3. Edit the Information List value as described in "Editing a Record" on page 167**.**

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CHAPTER 4:
Work Orders

Managing Work Orders

HEMS uses two basic categories of work orders:

- **Scheduled:** Preventive maintenance work orders. These work orders have a HEMS system value of **Scheduled**.

- **Unscheduled:** Work orders created on demand to address corrective maintenance such as **Routine**, **Hazard**, **Education**, **Failure**, **Project**, etc. You can add to this list as needed.

> *Note: System-generated scheduled work orders have a **System Generated** stamp in order to easily identify system-generated preventive maintenance work orders from on-demand preventive maintenance work orders.*

Preventive Maintenance (WO Type = Scheduled)

Once configured, HEMS automatically schedules newly added equipment items for preventive maintenance based on the schedule template defined in the equipment type, model, or individual item. Please see "Scheduling Equipment" on page 107 for more information about scheduling equipment.

Generate scheduled work orders every month using the **Generate Scheduled Work Orders** window, as described in "Generating Scheduled Work Orders" on page 81. You may also issue on-demand preventive maintenance work orders using either the **Work Orders** dashboard (as described in "Creating from the Work Orders Dashboard" on page 72) or the **Equipment Inventory** dashboard (as described in "Opening a Work Order from the Equipment Inventory Dashboard" on page 121).

After generating the scheduled work orders, you may print copies for each technician. If you are using EQ2 Mobile, the technicians will automatically receive their assigned work orders on their Pocket PC devices.

Technicians can update the work order with the appropriate action taken, labor, and parts if required, change the work order **Status** to **Closed**, and change the **Subcode** as appropriate, to either:

- **PM Successful:** If preventive maintenance succeeded, or

- **PM Failed:** If preventive maintenance revealed a problem that was repaired when the maintenance was performed, or the technician discovered a more severe problem that required tagging out the equipment item. In the latter case, the technician can open a new corrective work order and update it as necessary.

The following lists contain recommended subcodes, work order statuses, and labor codes for scheduled work orders:

- **Subcodes**:

  - **Device in Use:** If preventive maintenance was not performed because the device was in use.

  - **Unable to Locate:** If preventive maintenance was not performed because the technician was unable to locate the device.

  - **PM Failure:** If the preventive maintenance was performed and a failure was found.

  - **PM Successful:** If the preventive maintenance was successful and no failure was found.

- **Work Order Statuses:**

  - **Open:** Status of the work order when a new request is made.

  - **Closed:** Status of the work order once the request has been completed.

  - **Hold:** If the job is on hold due to any reason other than awaiting parts.

  - **Awaiting Parts:** If the job is on hold while awaiting parts.

- **Labor Codes:**

  - **Locating Equipment:** Time spent locating an equipment item.

  - **Wait Time:** Time spent waiting for an in-use equipment item to become available.

  - **Travel Time:** Time spent traveling.

  - **PM:** Time spent performing the preventive maintenance procedure.

Corrective Maintenance (WO Type=Routine, Failure, etc.)

Corrective maintenance work orders are opened whenever a problem occurs with or without an equipment item. Enter the user's request in the work order **Request Text** field with enough detail for the technician to be able to diagnose the problem and make the repair. The work order should be updated with action taken, labor, and parts if required, then closed once the repair is completed.

The following lists contain recommended subcodes, work order statuses, and labor codes for unscheduled work orders:

- **Subcodes:**

  - **Operator Error:** If the work request occurred due to operator error.

  - **Abuse/Physical Damage:** If the work request occurred due to equipment abuse or other damage.

  - **Battery Failure:** If the work request occurred because of battery failure.

  - **Accessory Failure:** If the work request resulted because of any accessory failure (such as broken cords, lead wires, etc.).

- **Work Order Statuses:**
    - **Open:** Status of the work order when a new request is made.
    - **Closed:** Status of the work order once the request has been completed.
    - **Hold:** If the job is on hold due to any other reason than awaiting parts.
    - **Awaiting Parts:** If the job is on hold while awaiting parts.
    - **Sent for Repair:** If the work order is on hold because the equipment has been sent out for repair.
- **Labor Codes**
    - **Overtime:** Job performed after work hours or on holidays, if that is considered overtime at your facility.
    - **Callback After Hours:** Job performed after hours due to call back.
    - **Locating Equipment:** Time spent locating an equipment item.
    - **Wait Time:** Time spent waiting for an in-use equipment item to become available.
    - **Travel Time:** Time spent in travelling.
    - **Repair:** Time spent repairing.

Recall/Alert

The EQ2 HEMS ECRI Interface makes adding recall/alert work orders for equipment fast, easy, and automatic. Please see "EQ2 Alert & Recall" on page 284 for more information about the HEMS ECRI interface.

In HEMS Enterprise, open a new work order, select **Recall/Alert** as the type, and paste the recall/alert text into the request text. Make sure to add all of the required equipment to the work order.

Retiring Equipment

Retiring one or more equipment items from service requires a **Retired** type work order if the equipment needs any kind of inspection or other maintenance prior to being retired. HEMS automatically generates the work orders. Please see "Retiring Equipment" on page 119 for more information about retiring equipment.

HEMS Work Order Windows

HEMS includes the following work order windows:

- **Work Orders dashboard:** The **Work Orders** dashboard allows you to find, view, open, update, and close work orders and also run reports for printing or exporting. Please see "The Work Orders Dashboard" on page 17 for more information about the **Work Orders** dashboard.

- **Work Order window:** The **Work Order** window allows you to open work orders and document work performed on work orders. Please see "The Work Order Window" on page 60 for more information about the **Work Order** window.

- **Quick Work Orders window:** The **Quick Work Orders** window lets you save time by updating and/or closing multiple work orders at once (such as adding the same action text or labor entry to multiple work orders). Please see "The Quick Work Orders Window" on page 66 for more information about the **Quick Work Order** window.

- **Assign Work Orders window:** The **Assign Work Orders** window allows a manager to quickly assign or reassign work orders to a technician. Please see "The Assign Work Orders Window" on page 68 for more information about the **Assign Work Orders** window.

The Work Orders Dashboard

Clicking the **Work Orders** button in the HEMS **Home** screen (see "The Home Screen" on page 14) or clicking the **Work Orders** tab opens the **Work Orders** dashboard, which allows you to quickly look up and review work orders. You can also open, update, copy, and/or close work orders.

Search Area

Report/ Print Buttons

Search Mode Buttons

Results Area

Details Area

Action Area

Please see "The Work Orders Dashboard" on page 17 for more information about the **Work Orders** dashboard layout.

The Work Order Window

The **Work Order** window allows you to open, update, and/or close work orders. You may configure both individual user work order defaults and Service Area department/location work order preferences to have certain fields automatically filled in when you open work orders. Please see "Work Order Defaults" on page 247 for information on setting individual user work order defaults and "Service Area Configuration" on page 263 for information on setting department/location preferences.

The **Work Order** window contains the following information:

- **Requester:** Initials of the person who is requesting the work order. This field uses values from the **Employees** Information List, which is described in "Employees List" on page 126.

- **Name:** Requester's name. Use this field if the requester is not entered in the **Employees** Information List. Once entered, this name will also appear in the work order **Request Text** field.

- **Cost Center:** This number is used for accounting purposes. This field uses values from the **Departments** Information List, which is described in "Departments List" on page 124.

- **Department:** Department making the request (typically the department that owns the equipment item). This field uses values from the **Departments** Information List, which is described in "Departments List" on page 124.

- **Location:** Location of the equipment (if the work order is for an equipment item). This field uses values from the **Locations** Information List, which is described in "Locations List" on page 140.

- **Phone #:** Phone number of the requester. This field uses values from the **Employees** Information List, which is described in "Employees List" on page 126.

- **Priority:** Priority of the work order. This field uses values from the **Work Order Priorities** Information List, which is described in "Work Order Priorities List" on page 156.

- **Print After Save:** Checking the **Print After Save** checkbox prints a technician's copy of the work order after you save it.

- **Type:** Work order type. Please see "Managing Work Orders" on page 56 for more information about work order types. This field uses values from the **Work Order Types** Information List, which is described in "Work Order Types List" on page 158.

- **Est Hours:** Estimated number of hours required to complete the work order. This field uses values from the **Procedures** Information List, if defined, which is described in "Procedures List" on page 146. You may manually enter hours for corrective work.

- **Issue Date:** Date the work order was issued (or requested, if the work order was entered using EQ2 Web Enterprise).

- **Assigned Engineer:** Engineer assigned to work on the work order and/or equipment item(s). This field uses values from the **Employees** Information List, which is described in "Employees List" on page 126.

- **Specialty:** Maintenance specialty or trade required to complete the work order (such as BMET, Carpentry, etc.). This field uses values from the **Maintenance Specialties** Information List, which is described in "Maintenance Specialties List" on page 144.

- **Subcode:** Additional tracking information for the work order. For preventive maintenance work orders, this documents the outcome (such as "PM Successful"), as described in "Preventive Maintenance (WO Type = Scheduled)" on page 56. For corrective work orders, this field documents the cause (such as "Failure"), as described in "Corrective Maintenance (WO Type=Routine, Failure, etc.)" on page 57. This field uses values from the **Subcodes** Information List, which is described in "Subcodes List" on page 152.

- **Status Date:** Date the work order was closed, or, if the work order is still pending, you can manually enter the date and time of the last action taken on the work order.

- **Status:** Most recent status of the work order (such as "Awaiting Parts," etc. as described in "Preventive Maintenance (WO Type = Scheduled)" on page 56 and "Corrective Maintenance (WO Type=Routine, Failure, etc.)" on page 57) until work is complete and the work order status is changed to **Closed**. This field uses values from the **Work Order Statuses** Information List, which is described in "Work Order Status List" on page 157.

- **Procedure:** The preventive maintenance procedure. HEMS automatically fills the procedure for both system-generated scheduled work orders and on-demand preventive maintenance work orders. You may manually define a procedure for corrective work orders as needed. This field uses values from the **Procedures** Information List, which is described in "Procedures List" on page 146. For corrective work orders, you can manually enter the procedure, if known.

- **Request Text:** The **Request Text** field is where the work request is documented. This field contains the procedure and tasks for scheduled work orders. You may use predefined text to quickly add frequently used text. Predefined text is stored in the **Predefined Text** Information List, which is described in "Predefined Text List" on page 145.

- **Action Text:** The **Action Text** field is where the action taken on the work order is documented. You may use predefined text to quickly add frequently used text. You may add your signature (HEMS user ID and date/time stamp) to this field by pressing [F8].Predefined text is stored in the **Predefined Text** Information List, which is described in "Predefined Text List" on page 145.

Equipment Tab

The **Equipment** tab of the **Work Order** window contains the following information about the equipment item(s) included in the current work order:

- **Control #:** Equipment item control number.

- **Equipment Type:** Type of equipment. This is obtained from the **Equipment Types** Information List, which is described in "Equipment Types List" on page 134.

- **Closed:** For a work order with multiple pieces of equipment, you may indicate that work on a particular equipment item has been completed to track your progress on the work order.

- **Group:** If the equipment is part of a group, the equipment group name is displayed.

To add an equipment item to a work order, simply enter the item's control number in the **Control #** field.

Clicking the **Select Equipment** button opens the **Select Equipment** window, which lets you search for and add one or more equipment item(s) to the work order. Please see "The Select Equipment Window" on page 69 for more information about the **Select Equipment** window.

Selecting an equipment item in the list and then checking the **Closed** checkbox indicates that work on that equipment item has been completed.

Equipment history can be viewed in the **Equipment History** window (**H** button) from the **Equipment Inventory** dashboard. Please see "The Equipment History Window" on page 103 for more information about the **Equipment History** window.

Labor Tab

The **Labor** tab of the **Work Order** window allows technicians to record labor performed on the current work order. You may add or delete labor entries by clicking the **New** or **Delete** button on the right side of the tab as appropriate.

The **Labor** tab contains the following information for each labor entry in the selected work order:

- **Initials:** Initials of the engineer who performed the work. This field defaults to the initials of the assigned engineer (if any). You may edit the default entry or can add or delete labor

entries. This field uses values from the **Employees** Information List, which is described in "Employees List" on page 126.

- **Start Date/Time:** Date and time the selected labor entry began. The first entry defaults to the work order issue date and time. Subsequent entries default to the date/time. You may also manually enter the date/time work was performed.

- **Total Time:** Total time spent responding to the work order for the selected labor entry. This field uses decimal entries. For example, half an hour is entered as 0.5.

- **End Date/Time:** Date and time the selected labor entry ended. HEMS calculates this using the **Start Date/Time** and **Total Time** fields.

- **Rate:** The rate may default to the technician's labor rate, maintenance specialty rate, or standard Service Area rate based on your HEMS system configuration. Labor rates are defined in the **Employees** Information List. Specialty and standard Service Area rates are defined in the **Service Area and Specialty Rates** window. Please see "Service Area and Specialty Rates" on page 266 for more information about the **Service Area and Specialty Rates** window.

- **Premium:** Indicates whether an employee is on overtime or not. The default is straight time (1.00 x pay rate). Enter the appropriate overtime rate, if needed (typically 1.50 depending on local labor regulations and contracts). You must have a valid hourly rate entered in the employee's record for HEMS to calculate the premium amount. Please see "Employees List" on page 126 for more information about the **Employees** Information List.

- **Lump Sum:** Any additional labor costs that are not otherwise accounted for such as overhead or external costs.

- **Codes:** Labor codes provide more detailed information on the labor entry, such as "Locating Equipment," "Travel time," etc. Please see "Managing Work Orders" on page 56 for more information about labor codes. This field uses values from the **Work Order Codes** Information List, which is described in "Work Order Codes List" on page 155.

- **PO:** Purchase order that covers the selected labor entry, if any. This field uses values from the **Purchase Orders** Information List, which is described in "Purchase Orders List" on page 150.

- **Control #:** Control number of the equipment item that the technician worked on during the selected labor entry.

- **Shift:** Checking the **Shift** checkbox automatically calculates the labor according to the shift defined in the **Shifts** Information List, which is described in "Shifts List" on page 152.

- **Vendor:** This checkbox is included for backward compatibility with older versions of HEMS. Checking the **Vendor** checkbox indicates that the assigned engineer is a contractor or outside vendor.

- **Avg:** This checkbox is included for backward compatibility with older versions of HEMS. Checking the **Avg** checkbox averages labor time and costs among equipment items if the work order contains multiple equipment items.

Parts Tab

The **Parts** tab of the **Work Order** window lists all of the parts required for this work order. You can add and remove parts from this list if needed.

The **Parts** tab contains the following information for each part entry in the selected work order:

- **Part #:** HEMS part number. This number is unique for each part entered in HEMS.

- **Part # (Non Inventory):** Part number (if the part is not stored in the HEMS parts inventory). You may manually enter part numbers in this field.

- **Quantity:** How many units of the selected part were used.

- **On Date:** Date and time the listed part was used.

- **Lump Sum:** Any additional costs for parts such as overhead or shipping.

- **Codes:** Labor codes provide more detailed information on the part entry, such as "Ordering Parts," "Travel time," etc. Please see "Managing Work Orders" on page 56 for more information about part codes. This field uses values from the **Work Order Codes** Information List, which is described in "Work Order Codes List" on page 155.

- **PO:** Purchase order that covers the selected part, if any. This field uses values from the **Purchase Orders** Information List, which is described in "Purchase Orders List" on page 150.

- **Control #:** Equipment item that the part was used for.

- **Avg:** This checkbox is included for backward compatibility with older versions of HEMS. Checking the **Avg** checkbox averages parts costs among equipment items if the work order contains multiple equipment items.

- **Units:** How the part is measured.

- **Unit Cost:** How much each unit of the part costs. This field is automatically filled from the **Standard Price** value in the **Parts** Inventory List record for the selected part. If the **Standard Price** is not entered for this part, HEMS will use the **Last Price** value stored in the **Parts** Inventory List record for the part. This field uses values from the **Parts Inventory** window, which is described in "Parts Inventory Window" on page 170. You may manually enter cost information for parts not in inventory.

Attachment Tab

The **Work Order** window includes an **Attachments** tab that allows you to attach documents and/or images related to the current work order.

Equipment	Labor	Parts	Attachments

Scan   Attach   Delete

- To add an attachment, select **Attach** to open a standard Windows dialog that allows you to select the file name, type, and location to attach. HEMS supports the DOC, GIF, ICON, JPEG, PDF, TXT, XLS, and ZIP formats.

> *Note: To attach a file in a format that HEMS does not support, ZIP the file and then attach the ZIP file to the desired record.*

- To scan an image from a local scanner, select **Scan** to open a standard Windows dialog that allows you to scan and name the file. Click **OK** to scan the file.

- To delete an attached or scanned file, select the item to delete and then click the **Delete** button. You are prompted to confirm your decision.

The Quick Work Orders Window

The **Quick Work Orders** window allows you to update and/or close multiple work orders at once to save time (such as adding the same action text or labor entry to multiple work orders). You can open the **Quick Work Orders** window by either:

• Clicking the **Quick Work Orders** button in the **Home** screen.

• Selecting **Activities>Quick Work Orders**.

• Pressing [CTRL]+[W].

The **Quick Work Orders** window appears as follows:
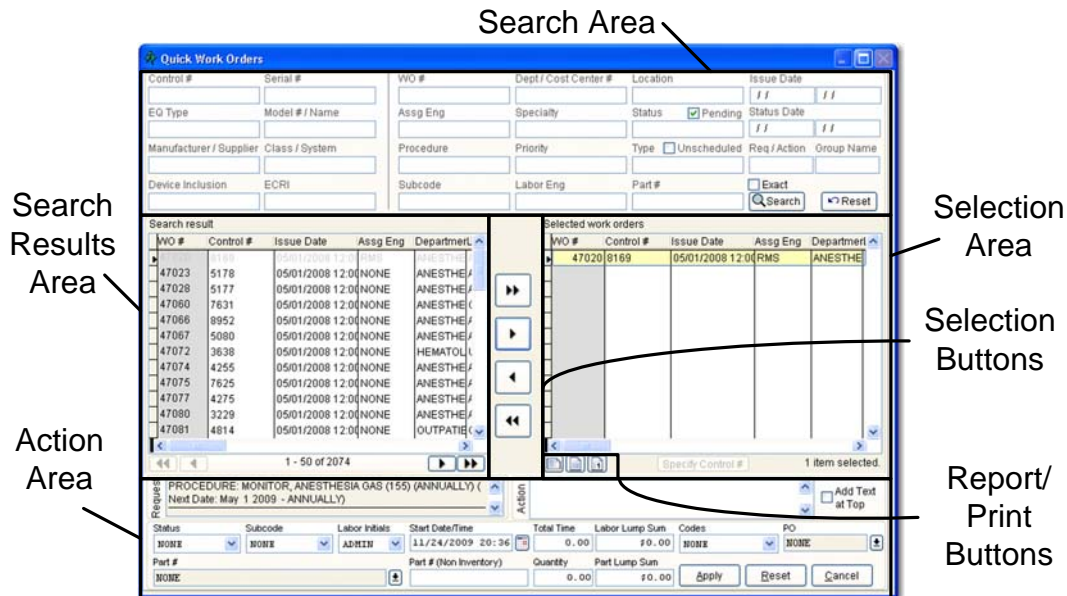
To use the **Quick Work Orders** window:

1. Search for the work order(s) you want to update or close using the Search Area.

2. Select the work order(s) to update or close in the Search Results Area and then move that information to the Selection Area using the following **Selection** buttons:

   - Clicking the **>>** button moves all of the work orders in the Search Result Area to the Selection Area.

   - Clicking the **>** button moves the currently selected work order in the Search Result Area to the Selection Area.

   - Clicking the **<** button removes the currently selected work order from the Selection Area back to the Search Results Area.

   - Clicking the **<<** button removes all of the work orders in the Selection Area back to the Search Results Area.

3. Update the work order(s) by entering the appropriate information in the fields in the Action Area. This information will be added to all selected work orders. If you need to run a new search, click the **Reset** button in the Search Area. If you make a mistake and need to start over, click the **Reset** button in the Action Area to clear your changes.

*Note: To close the selected work order(s), select **Closed** using the **Status** field.*

4. Click the **Apply** button to save your updates to the selected work order(s). Updated work orders return to the Search Results Area and are highlighted in blue. You may then continue updating work orders by either repeating Steps 2-4 of this process to work with your current search results or by clicking the **Reset** button in the Search Area and then starting at Step 1 to run a new search.

The **Report/Print** buttons provide quick access to relevant reports. From the left to right, the buttons are:

- **List Report:** Clicking the **List Report** button opens a summary report for all of the work orders in the Selection Area.

- **Detail Report - All:** Clicking the **Detail Report - All** button opens a detailed report for all of the work orders in the Selection Area.

- **Detail Report - Current:** Selecting a work order in the Selection Area and then clicking the **Detail Report - Current** button opens a report that provides detailed information about the currently selected work order.

Reports appear in a separate browser window. You can print and/or export these reports, as described in "CHAPTER 12: Printing & Exporting Data" on page 233.

The Assign Work Orders Window

The **Assign Work Orders** window allows you to quickly assign or reassign multiple work orders to a maintenance technician. You can open the **Assign Work Orders** window by either:

- Selecting **Activities>Assign Work Orders,** or

- Clicking the **Assign Work Orders** button in the HEMS **Home** screen.

The **Assign Work Orders** window appears as follows:
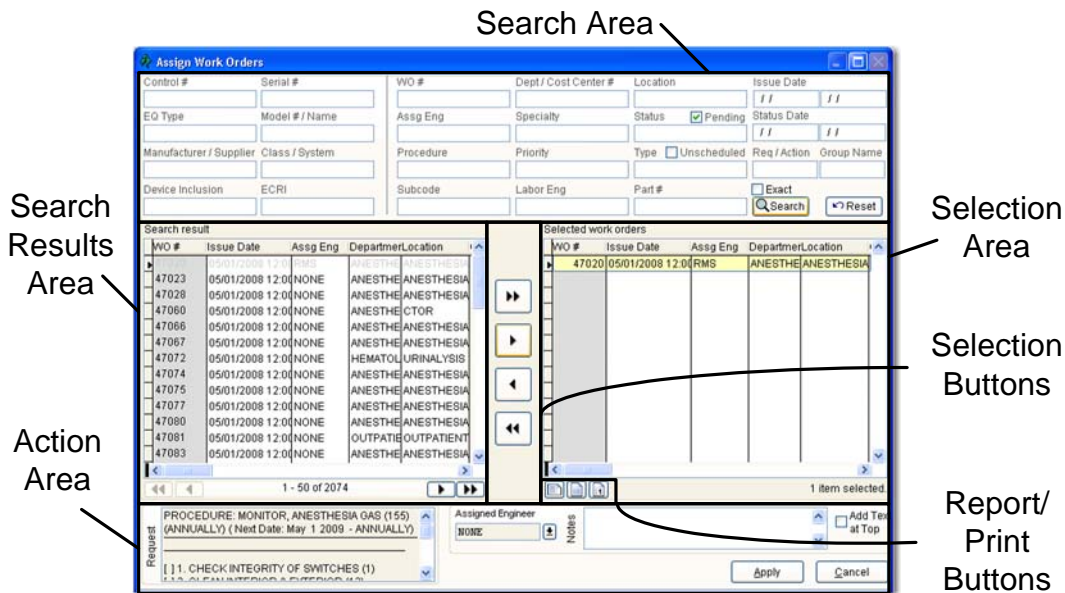
To use the **Assign Work Orders** window:

1. Search for the work order(s) you want to assign or reassign using the Search Area.

2. Select the work order(s) to assign in the Search Results Area and then move that information to the Selection Area using the following **Selection** buttons:

   - Clicking the **>>** button moves all of the work orders in the Search Result Area to the Selection Area.

   - Clicking the **>** button moves the currently selected work order in the Search Result Area to the Selection Area.

   - Clicking the **<** button removes the currently selected work order from the Selection Area back to the Search Results Area.

   - Clicking the **<<** button removes all of the work orders in the Selection Area back to the Search Results Area.

3. Assign the work order(s) by entering the appropriate technician's name in the **Assigned Engineer** field.

4. Add any extra information needed in the **Notes** field, such as the reason for assigning or reassigning the work order(s). Checking the **Add Text At Top** checkbox places this information at the top of the **Action Text** field in the work order(s).

5. Click the **Apply** button to finish assigning the selected work order(s) to the selected techni-
cian.

The **Report/Print** buttons provide quick access to relevant reports. From the left to right, the
buttons are:

- **List Report:** Clicking the **List Report** button opens a summary report for all of the work orders
  in the Selection Area.

- **Detail Report - All:** Clicking the **Detail Report - All** button opens a detailed report for all of
  the work orders in the Selection Area.

- **Detail Report - Current:** Selecting a work order in the Selection Area and then clicking the
  Detail Report - Current button opens a report that provides detailed information about the
  currently selected work order.

Reports appear in a separate browser window. You can print and/or export these reports, as
described in "CHAPTER 12: Printing & Exporting Data" on page 233.

The Select Equipment Window

The **Select Equipment** window allows you to search for and add one or more equipment item(s)
to a work order. You can open the **Select Equipment** window by clicking the **Select Equipment**
button in the **Equipment** tab of the **Work Order** window, as described in "Equipment Tab" on
page 62.

The **Select Equipment** window appears as follows:
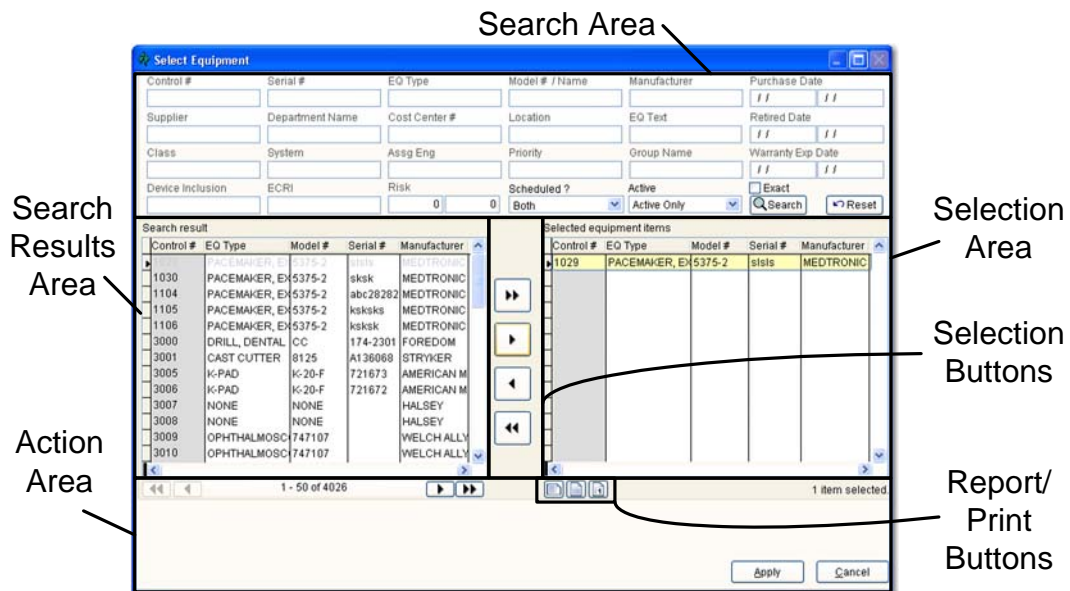
To use the **Select Equipment** window:

1. Search for the equipment item(s) you want to add to the work order using the Search Area.

2. Select the equipment item(s) to add in the Search Results Area and then move that information to the Selection Area using the following **Selection** buttons:

   - Clicking the **>>** button moves all of the equipment items in the Search Result Area to the Selection Area.

   - Clicking the **>** button moves the currently selected equipment item in the Search Result Area to the Selection Area.

   - Clicking the **<** button removes the currently selected equipment item from the Selection Area back to the Search Results Area.

   - Clicking the **<<** button removes all of the equipment items in the Selection Area back to the Search Results Area.

3. Add the equipment item(s) to the work order by clicking the **Apply** button.

The **Report/Print** buttons provide quick access to relevant reports. From the left to right, the buttons are:

• **List Report:** Clicking the **List Report** button opens a summary report for all of the equipment items in the Selection Area.

• **Detail Report - All:** Clicking the **Detail Report - All** button opens a detailed report for all of the equipment items in the Selection Area.

• **Detail Report - Current:** Selecting an equipment item in the Selection Area and then clicking the **Detail Report - Current** button opens a report that provides detailed information about the currently selected equipment item.

Reports appear in a separate browser window. You can print and/or export these reports, as described in "CHAPTER 12: Printing & Exporting Data" on page 233.

Working with Work Orders

This section describes how to work with work orders including opening new work orders, editing and closing existing work orders, and generating scheduled work orders.

Viewing Work Orders

HEMS allows you to view work orders in two ways:

- Using the **Work Orders** dashboard to find specific work orders.

- Using the **Equipment History** window from the **Equipment Inventory** dashboard for a selected equipment item, which displays that item's work order history.

Viewing from the Work Orders Dashboard

To view a work order using the **Work Orders** dashboard:

1. Open the **Work Orders** dashboard by either:

    - Clicking the **Work Orders** tab on the right of the HEMS application.

    - Clicking the **Work Orders** button in the HEMS **Home** screen.

    - Selecting **Activities>Work Orders**.

    - Pressing [CTRL]+[W].

2. Search for and select the work order you want to view. The selected work order information appears in the Selection Area. Please see "The Work Orders Dashboard" on page 17 for more information about the **Work Orders** dashboard.

Viewing from the Equipment History Window

To view a work order using the **Equipment History** window:

1. Open the **Equipment Inventory** dashboard by either:

    - Clicking the **Equipment Inventory** tab on the right of the HEMS application.

    - Clicking the **Equipment Inventory** button in the HEMS **Home** screen.

    - Selecting **Activities>Equipment Inventory**.

    - Pressing [CTRL]+[I].

2. Search for the equipment for which you want to view the work order and then select that equipment item in the Search Results Area. Please see "Search Area (Find Mode)" on page 23 for more information about searching for equipment using the **Equipment Inventory** dashboard.

3. Click the **H** button in the Action Area to open the **Equipment History** window, which displays all of the work orders for the current equipment item. Please see "The Equipment History Window" on page 103 for more information about the **Equipment History** window.

4. Open the work order you want to view by selecting the desired work order and then either double-clicking it or clicking the **Edit** button to open the **Work Order** window for the selected work order. Please see "The Work Order Window" on page 60 for more information about the **Work Order** window.

Creating a Work Order

HEMS allows you to create work orders from either the **Work Orders** dashboard or the **Equipment Inventory** dashboard.

Creating a work order from the **Work Orders** dashboard allows you to open a work order with or without equipment. Work order fields may automatically fill in based on your individual user work order defaults and department/location defaults. Please see "Configuring User Defaults" on page 246 for information about configuring user work order defaults and "Service Area Configuration" on page 263 for information about configuring Service Area department/location defaults.

Creating a work order from the **Equipment Inventory** dashboard automatically adds equipment information (control number, equipment type, department, location, assigned engineer, and work order type) to the work order. Please see "Opening from the Equipment Inventory Dashboard" on page 74 for more information about opening work orders from the **Equipment Inventory** dashboard.

Creating from the Work Orders Dashboard

To open an unscheduled work order using the **Work Orders** dashboard:

1. Open the **Work Orders** dashboard by either:

   - Clicking the **Work Orders** tab on the right of the HEMS application.

   - Clicking the **Work Orders** button in the HEMS **Home** screen.

   - Selecting **Activities>Work Orders**.

   - Pressing [CTRL]+[W].

   > *Note: These instructions assume that you have not defined any individual user or department/location work order defaults. Work order defaults save you time when opening unscheduled work orders from the **Work Orders** dashboard. Please see "Configuring User Defaults" on page 246 for information about configuring user work order defaults and "Service Area Configuration" on page 263 for configuring Service Area department/location preferences.*

2. In the **Work Orders** dashboard, open the **Work Order** window by either:

   - Clicking the **New** button in the Action area.

   - Pressing [ALT]+[N].

3. Select the initials of the person requesting the work order using the **Requester** field. If the requester is not entered in the **Employees** Information List, enter that person's name in the **Name** field. This will also add the person's name to the **Request Text** field.

4. Enter the **Cost Center** and **Department** information for the department making the request in the appropriate fields (if they were not automatically filled in).

Note: You may either click a field or press [TAB] to move from field to field.

5. Select the equipment location using the **Location** field (if this work order is for equipment). This will help the assigned technician locate the equipment.

6. Define the work order priority using the **Priority** field (if not automatically filled in).

7. Checking the **Print After Save** button prints a technician's copy of the current work order after you save that work order.

8. Select the work order type using the **Work Order Types** field. Please see "Managing Work Orders" on page 56 and "Work Order Types List" on page 158 for more information about work order types.

9. Estimate the hours to complete the work using the **Est Hours** field. For preventive work orders, this field uses values from the **Procedures** Information List (if defined), which is described in "Procedures List" on page 146. You may enter estimated hours manually for corrective work.

10. The **Issue Date** is the date and time the work order was issued.

11. Select the technician to assign to this work order using the **Assigned Engineer** field. The **Speciality** field will automatically fill depending on the assigned engineer. You can also manually select the specialty, if needed.

12. Select the appropriate subcode using the **Subcode** field. For preventive maintenance work orders, this field documents the outcome, such as "PM Successful." For corrective work orders, this field documents the cause, such as "Battery Failure."

13. The **Status Date** field displays the time and date the work order was closed. If the work order is still pending, you may manually enter the date and time of the last action taken.

14. Enter the most recent work order status in the **Status** field, such as "Awaiting Parts," "Device in Use," etc. until work is completed and the **Status** is Closed.

15. The preventive maintenance procedure. HEMS automatically enters this information for system-generated work orders and on-demand preventive maintenance work orders. You may manually define a procedure for corrective work orders.

16. For corrective work orders, enter your request in the **Request Text** field, making sure to be as detailed as possible so that the technician can better diagnose and repair any problem. This field contains the procedures and tasks for preventive maintenance work orders. You may right-click in this field or press [F2] to add predefined text, which saves time and increases consistency. Please see "CHAPTER 3: Adding Values to Fields" on page 49 for more information about predefined text. You may also press [F10] to expand this field.

17. The **Action Text** field is where action taken is documented. You may use predefined text for commonly used text. You may right-click this field or press [F2] to add predefined text to this field. You may also press [F8] to enter your signature (HEMS user ID and date/time stamp) in this field. Please see "CHAPTER 3: Adding Values to Fields" on page 49 for more information about predefined text. To expand this field, press [F10].

18. If this work order includes equipment, go to the **Equipment** tab and then either enter the control number of the equipment item to add in the **Control #** field or click the **Select Equipment** button (down arrow) to open the **Select Equipment** window and add one or more equipment item(s). Please see "The Select Equipment Window" on page 69 for more information about the **Select Equipment** window.

19. You may add a labor entry in the **Labor** tab. Please see "Adding/Editing Labor Entries" on page 77 if you need to add a labor entry.

20. You may add a part entry in the **Parts** tab. Please see "Adding/Editing Part Entries" on page 78 if you need to add parts information.

21. You may add attachments such as field reports, photos of damaged equipment, etc. in the **Attachments** tab. Please see "Attachment Tab" on page 65 for more information about the **Attachments** tab.

22. Save your work order by clicking the **Save** button in the **Toolbar**. You are also prompted to save any unsaved changes if you exit without saving.

Opening from the Equipment Inventory Dashboard

To open a work order using the **Equipment Inventory** dashboard:

1. Open the **Equipment Inventory** dashboard by either:
   - Clicking the **Equipment Inventory** tab on the right of the HEMS application.
   - Clicking the **Equipment Inventory** button in the HEMS **Home** screen.
   - Selecting **Activities>Equipment Inventory**.
   - Pressing [CTRL]+[I].

2. Search for the equipment for which you want to open the work order and select that equipment item in the Search Results Area. Please see "Search Area (Find Mode)" on page 18 for more information about searching for equipment using the **Equipment Inventory** dashboard.

3. In the Action Area, check the radio button that corresponds to the type of work order you are creating for the current equipment item. Please see "Managing Work Orders" on page 56 for more information about work order types.

4. Click the **Create WO** button to open the **Work Order** window with the current equipment item and type information already filled in. Please see "The Work Order Window" on page 60 for more information about the **Work Order** window.

5. Complete Steps 3-22 of the procedure outlined in "Creating from the Work Orders Dashboard" on page 72, above, being sure to verify the equipment information in Step 18.

Copying Work Orders

Opening a new work by copying and editing an existing work order can save time and improve information accuracy. HEMS allows you to copy work orders from either the **Work Orders** dashboard or the **Equipment Inventory** dashboard.

Copying from the Work Orders Dashboard

To copy a work order using the **Work Orders** dashboard:

1. Open the **Work Orders** dashboard by either:

    - Clicking the **Work Orders** tab on the right of the HEMS application.

    - Clicking the **Work Orders** button in the HEMS **Home** screen.

    - Selecting **Activities>Work Orders**.

    - Pressing [CTRL]+[W].

2. Search for and select the work order you want to copy.

3. Click the **Copy** button in the Action Area to open the **Work Order** window with the values from the copied work order already filled in.

4. Edit the work order as appropriate.

5. Save your work order by clicking the **Save** button in the **Toolbar**. You are also prompted to save any unsaved changes if you exit without saving.

Copying from the Equipment Inventory Dashboard

To copy a work order using the **Equipment Inventory** dashboard:

1. Open the **Equipment Inventory** dashboard by either:

    - Clicking the **Equipment Inventory** tab on the right of the HEMS application.

    - Clicking the **Equipment Inventory** button in the HEMS **Home** screen.

    - Selecting **Activities>Equipment Inventory**.

    - Pressing [CTRL]+[I].

2. Search for the equipment for which you want to copy the work order and then select that equipment item in the Search Results Area. Please see "Search Area (Find Mode)" on page 18 for more information about searching for equipment using the **Equipment Inventory** dashboard.

3. Click the **H** button in the Action Area to open the **Equipment History** window, which displays all of the work orders for the current equipment item. Please see "The Equipment History Window" on page 103 for more information about the **Equipment History** window.

4. Select the work order you want to copy and then click the **Copy WO** button to open the **Work Order** window for the selected work order with the values from the copied work order already filled in.

5. Edit the work order as appropriate.

6. Save your work order by clicking the **Save** button in the **Toolbar**. You are also prompted to save any unsaved changes if you exit without saving.

Updating/Editing a Work Order

HEMS allows you to edit or update work orders from either the **Work Orders** dashboard or the **Equipment Inventory** dashboard. You will typically do this when adding parts and/or labor entries to a work order, but you can edit or update a work order for any reason.

*Note: You can quickly edit multiple work orders at once using the **Quick Work Orders** window, such as adding the same labor or action entries. Please see "The Quick Work Orders Window" on page 66 for more information about the **Quick Work Orders** window.*

Updating from the Work Orders Dashboard

To edit or update an unscheduled work order using the **Work Orders** dashboard:

1. Open the **Work Orders** dashboard by either:

    -   Clicking the **Work Orders** tab on the right of the HEMS application.

    -   Clicking the **Work Orders** button in the HEMS **Home** screen.

    -   Selecting **Activities>Work Orders**.

    -   Pressing [CTRL]+[W].

2. Search for and select the work order you want to edit or update.

3. Highlight the selected work order in the Search Results Area and then click the **Edit** button. This opens the **Work Order** window for the current work order. Please see "The Work Order Window" on page 60 for more information about the **Work Order** window.

4. Update the work order as described in "Creating from the Work Orders Dashboard" on page 72.

Updating from the Equipment Inventory Dashboard

To edit or update a work order using the **Equipment Inventory** dashboard:

1. Open the **Equipment Inventory** dashboard by either:

    -   Clicking the **Equipment Inventory** tab on the right of the HEMS application.

    -   Clicking the **Equipment Inventory** button in the HEMS **Home** screen.

    -   Selecting **Activities>Equipment Inventory**.

    -   Pressing [CTRL]+[I].

2. Select the equipment item for which you want to update the work order, and then click the **H** button to open the **Equipment History** window for that equipment item.

3. Select the work order you want to update, and then click the **Edit** button. This opens the **Work Order** window for the current work order. Please see "The Work Order Window" on page 60 for more information about the **Work Order** window.

4. Update the work order as described in "Opening from the Equipment Inventory Dashboard" on page 74.

General

After opening the work order as described above:

1. Enter all of the updated information for the work order you are editing in the appropriate fields. Please see "The Work Order Window" on page 60 for information about the work order fields.

2. Add any labor or part entries as described in "Adding/Editing Labor Entries" on page 77 and "Adding/Editing Part Entries" on page 78, respectively.

3. Either click the **Save** button in the **Toolbar** or press [CTRL]+[S] to save the edited work order.

Adding/Editing Labor Entries

The **Labor** tab of the **Work Order** window allows technicians to record labor performed on the current work order. To add a labor entry to a work order:

1. Open the **Work Order** window for the work order you want to update, as described above, and then go to the **Labor** tab.

2. You may either:

    -   Click the **New** button to add a new labor entry to the current work order.

    -   Select an existing labor entry and modify it by entering updated values in the fields. The fields automatically fill with the information from the selected labor entry.

    -   Select an existing labor entry and click the **Delete** button to remove it from the current work order.

3. Enter the information for the current labor entry in the appropriate fields. See "Labor Tab" on page 62 for more information about the **Labor** tab fields.

4. Enter the action(s) taken during this time in the **Action Text** field, making sure to be as detailed as possible. You may right-click in this field or press [F2] to add predefined text, which saves time and increases consistency. You may also add your signature (HEMS user ID and date/time stamp) by pressing [F8]. Please see "CHAPTER 3: Adding Values to Fields" on page 49 for more information about predefined text. To expand this field, press [F10].

5. Repeat Steps 2-4 if you are entering multiple labor entries.

6. Either click the **Save** button in the **Toolbar** or press [CTRL]+[S] to save the edited work order.

Adding/Editing Part Entries

The **Parts** tab of the **Work Order** window allows technicians to record parts used while responding to the current work order. To add a part entry to a work order:

1. Open the **Work Order** window for the work order you want to update, as described above, and then go to the **Parts** tab.

2. You may either:

   - Click the **New** button to add a new part entry to the current work order.

   - Select an existing part entry and modify it by entering updated values in the fields. The fields automatically fill with the information from the selected part entry.

   - Select an existing part entry and click the **Delete** button to remove it from the current work order.

3. Enter the information for the current part entry in the appropriate fields. See "Parts Tab" on page 64 for more information about the **Part** tab fields.

4. Repeat Step 2-3 for each part you used.

5. Either click the **Save** button in the **Toolbar** or press [CTRL]+[S] to save the edited work order.

Closing Work Orders

HEMS allows you to close work orders from either the **Work Orders** dashboard, the **Equipment Inventory** dashboard, or the **Quick Work Orders** window.

Closing from the Work Orders Dashboard

To close a work order from the **Work Orders** dashboard:

1. Open the **Work Orders** dashboard by either:

   - Clicking the **Work Orders** tab on the right of the HEMS application.

   - Clicking the **Work Orders** button in the HEMS **Home** screen.

   - Selecting **Activities>Work Orders**.

   - Pressing [CTRL]+[W].

2. Search for and select the work order you want to close.

3. Highlight the selected work order in the Search Results Area and then click the **Close WO** button to open the **Work Order** window for the selected work order with the **Labor** tab selected. Please see "Labor Tab" on page 62 for more information about the **Labor** tab of the **Work Order** window. HEMS automatically updates the **Status Date** to the most recent **Labor Date** and changes the work order **Status** to **Closed**.

4. Update the work order as necessary (such as by adding a labor entry and updating the action text).

5. Save your changes by clicking the **Save** button in the **Toolbar**.

Closing from the Equipment Inventory Dashboard

To close a work order using the **Equipment Inventory** dashboard:

1. Open the **Equipment Inventory** dashboard by either:

   - Clicking the **Equipment Inventory** tab on the right of the HEMS application.

   - Clicking the **Equipment Inventory** button in the HEMS **Home** screen.

   - Selecting **Activities>Equipment Inventory**.

   - Pressing [CTRL]+[I].

2. Search for the equipment for which you want to close the work order and then select that equipment item in the Search Results Area. Please see "Search Area (Find Mode)" on page 18 for more information about searching for equipment using the **Equipment Inventory** dashboard.

3. Click the **H** button in the Action Area to open the **Equipment History** window, which displays all of the work orders for the current equipment item. Please see "The Equipment History Window" on page 103 for more information about the **Equipment History** window.

4. Select the work order you want to close and then click the **Close WO** button to open the **Work Order** window for the selected work order with the **Labor** tab selected. Please see "Labor Tab" on page 62 for more information about the **Labor** tab of the **Work Order** window. HEMS automatically updates the **Status Date** to the most recent **Labor Date** and changes the work order **Status** to **Closed**.

5. Update the work order as necessary (such as by adding a labor entry and updating the action text).

6. Save your changes by clicking the **Save** button in the **Toolbar**.

Closing from the Quick Work Orders Window

The **Quick Work Orders** window allows you to close multiple work orders at once that have the same action and labor by selecting the work order(s) to close and then setting the **Status** field to **Closed**. Please see "The Quick Work Orders Window" on page 66 for information about using the **Quick Work Orders** window.

Deleting a Work Order

HEMS allows you to delete work orders from either the **Work Orders** dashboard or the **Equipment Inventory** dashboard.

Deleting from the Work Orders Dashboard

To delete a work order from the **Work Orders** dashboard:

1. Open the **Work Orders** dashboard by either:

   - Clicking the **Work Orders** tab on the right of the HEMS application.

   - Clicking the **Work Orders** button in the HEMS **Home** screen.

   - Selecting **Activities>Work Orders**.

   - Pressing [CTRL]+[W].

2. Locate the work order you want to delete and select it in the Search Results Area.

3. Click the **Delete** button in the Action Area.

Deleting from the Equipment Inventory Dashboard

To delete a work order using the **Equipment Inventory** dashboard:

1. Open the **Equipment Inventory** dashboard by either:

   - Clicking the **Equipment Inventory** tab on the right of the HEMS application.

   - Clicking the **Equipment Inventory** button in the HEMS **Home** screen.

   - Selecting **Activities>Equipment Inventory**.

   - Pressing [CTRL]+[I].

2. Search for the equipment for which you want to delete the work order and then select that equipment item in the Search Results Area. Please see "Search Area (Find Mode)" on page 18 for more information about searching for equipment using the **Equipment Inventory** dashboard.

3. Click the **H** button in the Action Area to open the **Equipment History** window, which displays all of the work orders for the current equipment item. Please see "The Equipment History Window" on page 103 for more information about the **Equipment History** window.

4. Select the work order you want to delete and then click the **Delete** button.

Generating Scheduled Work Orders

The **Generate Scheduled Work Orders** window allows you to generate your scheduled work orders. You should generally do this at regular intervals such as at the beginning of the month.

*Note: When multiple users are using the **Generate Scheduled Work Orders** window at once, the first user to begin scheduling work orders may proceed or cancel. Other users receive a prompt that someone else is generating work orders. If the first user decides to cancel, the next user can then generate scheduled work orders.*

To generate scheduled work orders:

1. Open the **Generate Scheduled Work Orders** window by either selecting **Activities>Generate Scheduled Work Orders** or by clicking the **Generate Scheduled WO** button in the HEMS **Home** screen.

2. Set the period for which you want to generate scheduled work orders by either:

   - Entering the number of weeks from the current date in the **Weeks to Run** field, or

   - Entering the end date through which to generate scheduled work orders in the **Date Through** field. This generates all scheduled work orders through the specified date.
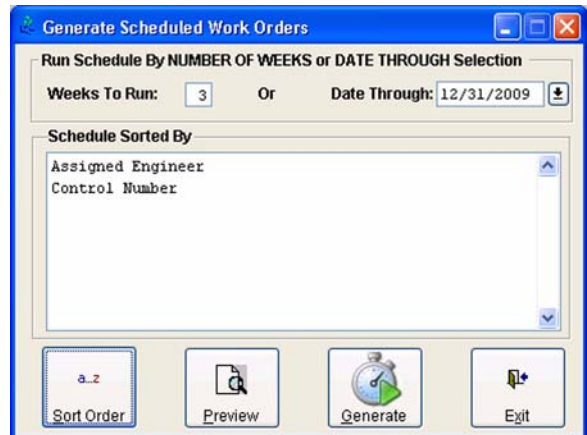
*Note: The **Date Through** field automatically fills in when you enter a number in the **Weeks to Run** field.*

3. Click the **Sort Order** button to open the **Select Sort Order** window, which allows you to specify how to sort the generated work orders. You can sort by one or more of the following:

   - **Assigned Engineer:** Engineer assigned to the work order or equipment.

   - **Control Number:** Equipment control number.

   - **Department Name:** Name of the department that owns the scheduled equipment.

   - **Issue Date:** Date the work order was issued. For scheduled work orders, the issue date is based on your schedules.

   - **Location:** Where the equipment is located.

   - **Priority:** Work order priority.

-   **Procedure Name:** Name of the maintenance procedure.

-   **Specialty:** Maintenance technician specialty or trade (such as BMET or Carpenter).

4. Select one or more values by which to sort the scheduled work orders as follows:

    -   Clicking the **>** button moves the selected sort type into the **Selected Sort Orders** list.

    -   Clicking the **>>** button moves all of the sort types into the **Selected Sort Orders** list.

    -   Clicking the **<** button removes the selected sort type back to the **Available Sort Orders** list.

    -   Clicking the **<<** button removes all of the sort types back to the **Available Sort Orders** list.

5. Rearrange the selected sort orders using the up and down arrows to specify the order in which HEMS will sort the generated work orders. For example, if you are sorting by Department Name and then Control Number, your results will be sorted by department (such as Dermatology, Internal Medicine, and Pediatrics) and then by control number.

6. Click **OK** to close the **Select Sort Order** window and return to the **Generate Scheduled Work Orders** window with your selected sort order listed in the **Schedule Sorted By** list.

7. Click the **Preview** button to open a separate browser window with a summary of the scheduled work orders that will be generated. This allows you to review your scheduled work orders and make any needed changes before generating the work orders.

8. Click the **Generate** button to generate the scheduled work orders. These work orders appear in a separate browser window. You may print these work orders by clicking the **Print** button in the browser window.

> *Note: You may print and/or export scheduled work orders at any time by using the **Work Orders** dashboard. Search for work orders with the **Scheduled** type (WO Type=Scheduled), **Pending** status, (**Pending** checkbox checked) and an **Issue Date** within your desired date range (Issue Date=is Between). Click the **Technician's Copy (Actual) - All** button to run the report from which to print or export. Please see "CHAPTER 12: Printing & Exporting Data" on page 233 for more information about printing and exporting data in HEMS.*

9. Click the **Exit** button to close the **Generate Scheduled Work Orders** window.

Assigning Work Orders

The **Assign Work Orders** window allows you to assign or reassign multiple work orders to a maintenance technician at once. You can open the **Assign Work Orders** window by either selecting **Activities>Assign Work Orders** or by clicking the **Assign Work Orders** button in the HEMS **Home** screen.

Please see "The Assign Work Orders Window" on page 68 for more information about assigning work orders.

Updating/Closing Multiple Work Orders

You can quickly update and/or close multiple work orders at once using the **Quick Work Orders** window (such as adding the same labor and action entries). Please see "The Quick Work Orders Window" on page 66 for more information about the **Quick Work Orders** window.

Configuring Work Order Defaults

You can save time when opening work orders from the **Work Orders** dashboard by configuring work order default values and department/location preferences. To configure work order defaults, select **Utilities>User Configuration** to open the **User Configuration** window, and then go to the **Work Order Defaults** tab.

Please see "Work Order Defaults" on page 247 for more information about customizing work order defaults.

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CHAPTER 5:
Managing Equipment

Managing Equipment

Managing equipment is the core HEMS function. This section describes control numbers, how HEMS classifies equipment for easy management, and the ways in which you can schedule preventive maintenance.

Control Numbers

Control numbers are unique numbers assigned to individual pieces of equipment. The numbers may be alphanumeric and up to twelve characters in length. You should use a consistent numbering system to make tracking and managing equipment faster and easier. Some ideas include:

• A purely numerical system, such as 0001 through x.

• An alphanumeric system with a prefix indicating the type of equipment, such as AHU01 to indicate an air handling unit in a facility with fewer than 100 air handling units.

• An alphanumeric system that incorporates location as well as equipment type, such as AHU01-2, to indicate an air handling unit on the second floor.

These are just a few examples of the many options available to you. Create and implement the equipment numbering policy that best suits your needs.

> *Note: Consistency is the single most important factor when entering information for easy retrieval and management. Be sure to address potential issues such as "O" versus "0", "l" versus "I" versus "1", etc. as interchanging these values can cause problems when running reports and searches.*

How HEMS Classifies Equipment

HEMS uses the following categories to classify equipment to manage, schedule, and/or report on:

• **System:** Equipment systems offer a larger group that equipment items can belong to, such as HVAC, Water System, or Electrical System, if applicable. HEMS does not schedule by system.

• **Class:** Equipment classes identify equipment such as Life Support, Diagnostic, Non-patient Care, Laboratory Equipment, Electrical, Patient Support, or Cooling. HEMS odes not schedule by class.

• **Type:** Equipment types identify and group like pieces of equipment, such as defibrillators that are not all necessarily of the same make and model. EQ2 can provide a standard list of equipment types that includes life expectancy, equipment class, system, ECRI number, and ECRI name information. EQ2 can also provide standard schedule information that includes standard maintenance procedures and maintenance schedule interval and risk related to equipment types. Please contact EQ2 for more information.

- **Model:** Equipment models identify specific models within a type. This makes it easy to schedule maintenance, purchase parts in volume, respond to recalls and alerts, compare the reliability of an individual item against other identical items in your inventory, and salvage parts when an item is taken out of service.

- **Equipment:** Equipment is made up of a relationship of type and manufacturer/model. HEMS maintains a dedicated record of every piece of equipment in your inventory. This record includes particulars about the equipment item (such as serial number, cost, etc.), the maintenance and service contract histories, and where the item is used or stored.

- **Group:** Equipment groups allow you to schedule preventive maintenance on groups of equipment where scheduling by type or model is difficult. For example, you may have hundreds of fire extinguishers and may decide to create a number of manageably-sized groups for scheduling purposes. Individual preventive maintenance work orders will be created for each equipment item within the group.

HEMS Equipment Windows

HEMS includes the following equipment windows:

- **Equipment Inventory dashboard:** The **Equipment Inventory** dashboard allows you to find, view, edit, add, remove, and view equipment items and item history. Please see "The Equipment Inventory Dashboard" on page 22 for more information about the **Equipment Inventory** dashboard.

- **Equipment Inventory window:** The **Equipment Inventory** window is where you add or edit information for a single equipment item record. Please see "The Equipment Inventory Window" on page 89 for more information about the **Equipment Inventory** window.

- **Equipment History window:** The **Equipment History** window lets you view and update work order information for the selected equipment item. Please see "The Equipment History Window" on page 103 for more information about the **Equipment History** window

- **Equipment Contract History window:** The **Equipment Contract History** window lets you view and update contract information for the selected equipment item. Please see "The Equipment Contract History Window" on page 104 for more information about the **Equipment Contract History** window.

- **Quick Equipment Activities window:** The **Quick Equipment Activities** window allows technicians to edit multiple equipment items at once. Please see "The Quick Equipment Activities Window" on page 101 for more information about the **Quick Equipment Activities** window.

- **Equipment Management window:** The **Equipment Management** window allows managers to edit multiple equipment items at once, such as updating scheduling information. Please see "Equipment Management" on page 260 for more information about the E**quipment Management** window.

The Equipment Inventory Dashboard

The **Equipment Inventory** dashboard allows you to search for and update equipment records. You can also view equipment history and contract history, and can also open work orders for equipment items.
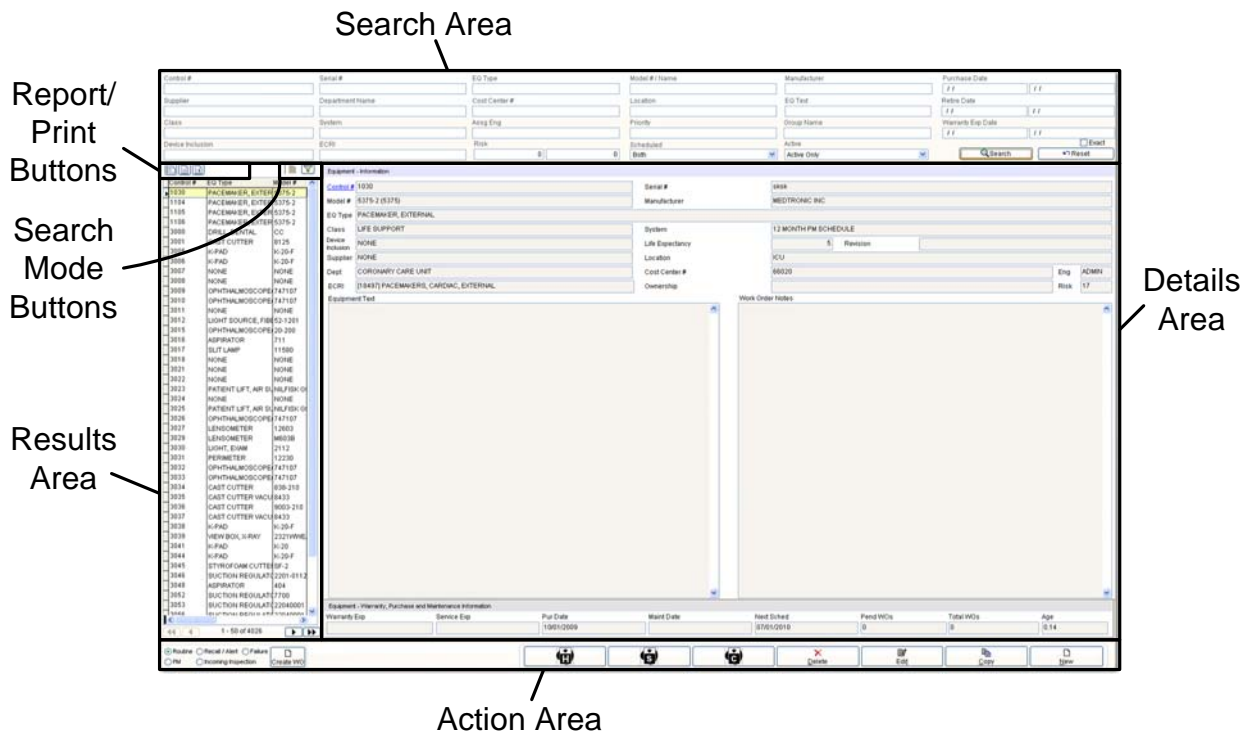
Search Area

Report/
Print
Buttons

Search
Mode
Buttons

Details
Area

Results
Area

Action Area

Please see "The Equipment Inventory Dashboard" on page 22 for more information about the **Equipment Inventory** dashboard layout.

The Equipment Inventory Window

The **Equipment Inventory** window allows you to add or edit information for a single equipment item record. This window consists of the following tabs:

- **Main:** The **Main** tab contains detailed information about the current equipment item.

- **Schedule:** The **Schedule** tab displays the preventive maintenance schedule for the current equipment item. Please see "Scheduling Equipment" on page 107 for more information about scheduling equipment.

- **Other Details:** The **Other Details** tab displays risk information as well as the incoming inspection and retirement procedure. Please see "CHAPTER 8: Managing Risk" on page 179 for more information about managing risk in HEMS.

- **Parts:** The **Parts** tab displays parts defined for the equipment model plus any additional parts for the current equipment item. Please see "CHAPTER 7: Managing Parts" on page 169 for more information about managing parts in HEMS.

- **Attachments:** The **Attachments** tab allows you to scan and/or attach documents and/or images to the current equipment item. If you have added attachments to the item's model or type, those attachments will be visible here as well.

Main Tab

The **Main** tab of the **Equipment Inventory** window contains the following information about the current equipment item:

- **Control #:** Unique number assigned to the equipment item. Clicking the **Control #** link opens a window that displays the equipment history (work orders opened for the equipment item). Please see "Control Numbers" on page 86 for more information about control numbers.

- **Serial #:** Unique number assigned to the equipment item by the manufacturer.

- **Model #:** Equipment model number. Equipment models group multiple identical equipment items. This field uses values from the **Equipment Models** Information List. Please see "Equipment Models List" on page 131 for more information about the **Equipment Models** Information List. HEMS links types, manufacturers, and models.

- **Manf:** Equipment manufacturer. This field uses values from the **Vendors** Information List. Please see "Vendors List" on page 153 for more information about the **Vendors** Information List. HEMS links types, manufacturers, and models.

- **Type:** Equipment type. Equipment types identify and group like pieces of equipment, such as defibrillators that are not all necessarily of the same make and model. This field uses values from the **Equipment Types** Information List. Please see "Equipment Types List" on page 134 for more information about the **Equipment Types** Information List. HEMS links types, manufacturers, and models.

- **Class:** Equipment class. Equipment classes identify equipment such as Life Support, Diagnostic, Non-patient Care, Laboratory Equipment, Electrical, Patient Support, or Cooling. This field uses values from the **Equipment Classes** Information List. Please see "Equipment Classes List" on page 139 for more information about the **Equipment Classes** Information List.

- **System:** Equipment system. Equipment systems offer a larger group that equipment items can belong to, such as HVAC, Water System, or Electrical System, if applicable. This field uses values from the **Equipment Systems** Information List. Please see "Equipment Systems List" on page 139 for more information about the Equipment Systems Information List.

- **Device Inclusion:** Device inclusion category for the equipment item. Device inclusions allow you to classify equipment for identification purposes such as, "Utility Management," "Fire Safety," etc. This field uses values from the **Device Inclusions** Information List. Please see "Device Inclusions List" on page 126 for more information about the **Device Inclusions** Information List.

- **Life Expectancy:** Life expectancy of the equipment item, in years.

- **Supplier:** Vendor who supplies the equipment item. This field uses values from the **Vendors** Information List. Please see "Vendors List" on page 153 for more information about the **Vendors** Information List.

- **Revision:** The software/firmware version that is running on the equipment. You may use this as a custom field if revision is not applicable.

- **Department:** Department that owns the equipment item. This field uses values from the **Departments** Information List. Please see "Departments List" on page 124 for more information about the **Departments** Information List.

- **Location:** Physical location of the equipment item. This field uses values from the **Locations** Information List. Please see "Locations List" on page 140 for more information about the **Locations** Information List.

- **Active:** When checked, indicates that the equipment item is active.

- **UPS:** When checked, indicates that the equipment item is connected to an Uninterruptible Power Supply.

- **Emergency Power:** When checked, indicates that the equipment item is connected to an emergency power source (such as a generator).

- **Service Manual:** When checked, indicates that there is a service manual available for the equipment item. This is defined by equipment model.

- **Operator Manual:** When checked, indicates that the there is an operator manual available for the equipment item. This is defined by equipment model.

- **Alarm:** When checked, indicates that the equipment item has a failure alarm. This is defined by equipment model.

- **Warranty Exp Date:** Date the warranty for the equipment item expires.

- **Service Exp Date:** Date the service contract for the equipment item expires. If configured, this field will automatically update from the contract end date. Please see "CHAPTER 9: Managing Contracts" on page 183 for information about managing service contracts in HEMS.

- **Purchase Date:** Date the equipment item was purchased.

- **Purchase Price:** How much the equipment item cost to purchase.

- **PO:** Purchase order that covered the purchase of the equipment item. This field uses values from the **Purchase Orders** Information List. Please see "Purchase Orders List" on page 150 for more information about the **Purchase Orders** Information List.

- **Retire Date:** Date the equipment item was retired from service.

- **Last Maintenance:** Date the equipment item was last maintained.

- **Storage Date:** Date the equipment item was placed into storage.

- **Storage Location:** Location where the equipment item is stored.

- **ECRI#:** ECRI's Universal Medical Device Nomenclature System™ (UMDNS™) number. This field uses values from the **Equipment Models** Information Lists. Please see "Equipment Models List" on page 131 for more information about the **Equipment Models** Information List.

- **ECRI Name:** ECRI name from ECRI's Universal Medical Device Nomenclature System (UMDNS). This field uses values from the **Equipment Models** Information Lists. Please see "Equipment Models List" on page 131 for more information about the **Equipment Models** Information List.

> *Note: Entering the ECRI # and type from ECRI's Universal Medical Device Nomenclature System (UMDNS) in the **ECRI #** and **ECRI Name** fields allows you to efficiently open and respond to work orders for device recall and alerts.*

- **Ownership:** Entity that owns the equipment item.

- **Placed in Service Date:** Date the equipment item was placed into service.

- **Equipment Text:** Additional information about the equipment item.

- **Work Order Notes: T**ext to display in the **Request Text** field of work orders for the equipment item.

Schedule Tab

*Note: The **Schedule** tab displays schedule information, including how an equipment item is scheduled. Define your preventive maintenance template by equipment item when scheduling by type or model does not fit your needs. Scheduling by type or model takes full advantage of HEMS automatic scheduling functions and ensures that all of the items of a particular type or model are consistently maintained according to the same schedule template and frequency.*

The **Schedule** tab of the **Equipment Inventory** window displays schedule information for the current equipment item. Please see "Scheduling Equipment" on page 107 for more information about scheduling equipment.

The **Schedule** tab contains the following information:

• **Schedule by Date:** The **Schedule by Date** checkbox indicates where the schedule date is defined and displays the schedule date. You may use schedule dates defined by **EQ Type**, **Manf/Model**, **Department**, **Location**, and **Equipment**.

• **Schedule Template:** The **Schedule Template** displays where the preventive maintenance template is defined, including the procedure, interval, and assigned engineer. If necessary, you may manually define a schedule template for the equipment item by checking the **Schedule Template** checkbox.

• **PM Procedure:** Displays the preventive maintenance procedure. If necessary, you may define a different preventive maintenance procedure for the equipment item. Procedures are drawn from the **Procedures** Information List. Please see "Procedures List" on page 146 for more information about the **Procedures** Information List.

• **Assigned Engineer:** Displays the assigned engineer based on the schedule template.

• **Priority:** The **Priority** field displays the priority for the equipment item based on risk if you have risk defined. If you have minimum frequency for scheduling based on risk configured, the maintenance interval may vary depending on the risk factor; review risk-related maintenance intervals using the **Risk Interval** report, which is described in "Risk Interval" on page 216. You may also define the priority manually if you are not using risk. Please see "Other Details Tab" on page 94 for information about the **Other Details** tab of the **Equipment Inventory** window.

- **Schedule Frequency:** The Schedule Frequency Area of the **Schedule** tab indicates schedule interval(s) for the equipment item.

    - Clicking the **New** button opens the **Schedule Frequency** window, which allows you to define an interval for the equipment item. Please see "The Schedule Frequency Window" on page 97 for more information about the **Schedule Frequency** window.

    - Double-clicking an existing schedule frequency opens the **Schedule Frequency** window for the selected frequency and allows you to make edits.

    - Clicking the **Delete** button deletes the selected schedule frequency.

- **Schedule Date for Multi Year:** The seed date for multi year-scheduling based on the equipment item's **Placed in Service Date** or **Purchase Date**. For example, you may need to replace batteries every two years based on the date the equipment was purchased.

- **Groups:** Displays the group(s) that the equipment item belongs to, if any. To add or remove groups, click the button to open the **Select groups** window. Please see "The Select Groups Window" on page 99 for more information about the **Select groups** window.

Other Details Tab

The **Other Details** tab of the **Equipment Inventory** window displays where the risk information is defined as well as the incoming inspection and retirement procedures. Please see "Service Area Configuration" on page 263 for more information about setting up the default **Incoming Inspection** and **Retirement Procedures** for the current Service Area. You may define the risk and/or procedures for the current equipment item, if required.

Note: In general, both the risk and incoming inspection/retirement procedures are defined by equipment type or model, and not by individual equipment item. For consistency and convenience, defining these items for an individual equipment item should be the exception and not the norm.

This tab contains the following information:

- **Risk Assessment:** Checking the **Risk Assessment** checkbox allows you to assign risk to the equipment item when the item's risk is different from the risk defined for the equipment type or model. Please see "CHAPTER 8: Managing Risk" on page 179 for more information about managing risk in HEMS.

- **Risk Statement Groups:** If you are assigning risk by equipment item, use the pull-down menu to answer each of the five following statements. HEMS calculates the risk factor, which determines the priority.

  - **Equipment Function:** What the equipment item is used for.

  - **Clinical Application:** How the equipment item impacts clinical functions.

  - **PM Requirement:** How often preventive maintenance needs to be performed.

  - **Likelihood of Failure:** How likely the equipment item is to fail. This is a measure of equipment reliability.

  - **Environment of Use:** Where the equipment is used.

- **Risk Factor:** HEMS displays the calculated risk factor in the **Risk Factor** field. HEMS calculates the risk factor, which determines the priority. Please see "CHAPTER 8: Managing Risk" on page 179 for information about managing risk in HEMS.

- **Incoming Inspection:** Checking the **Incoming Inspection** checkbox allows you to manually define the incoming inspection procedure for the equipment item, if necessary. You may also define a default incoming inspection by Service Area. Please see "General Service Area Options" on page 263 for more information about defining a default incoming inspection procedure. The current incoming procedure source (such as type, model, etc.) is also displayed here.

- **Retirement Procedure:** Checking the **Retirement Procedure** checkbox allows you to manually define the retirement procedures for the equipment item, if necessary. You may also define a default retirement procedure by Service Area. Please see "General Service Area Options" on page 263 for more information about defining a default retirement procedure. The current retirement procedure source (such as type, model, etc.) is also displayed here.

> *Note: In general, both the **Incoming Inspection** and **Retirement Procedure** are defined by equipment type or model. Defining these procedures by equipment item should be the exception. You may also define a default Incoming Inspection and Retirement Procedure by Service Area.*

Parts Tab

The **Parts** tab of the **Equipment Inventory** window lists all of the parts defined by the equipment model. You may define additional parts for the current equipment item, if needed.

To add, edit, or remove the parts associated with the equipment item, click the **Update Part Information** button to open the **Select Parts** window. Please see "The Select Parts Window" on page 98 for more information about the **Select Parts** window.

Attachments Tab

The **Equipment Inventory** window includes an **Attachments** tab that allows you to attach documents and/or images related to the current equipment item.

- To add an attachment, select **Attach** to open a standard Windows dialog that allows you to select the file name, type, and location to attach. HEMS supports the DOC, GIF, ICON, JPEG, PDF, TXT, XLS, and ZIP formats.

- To scan an image from a local scanner, select **Scan** to open a standard Windows dialog that allows you to scan and name the file. Click **OK** to scan the file.

- To delete an attached or scanned file, select the item to delete and then click the **Delete** button. You are prompted to confirm your decision.

> Note: To attach a file in a format that HEMS does not support, ZIP the file and then attach the ZIP file to the desired record.

The Schedule Frequency Window

The **Schedule Frequency** window allows you to review, add, or edit a schedule interval for the current equipment item. You may also schedule parts for an equipment item that have not been scheduled by model.

Please see "Scheduling Equipment" on page 107 for information about scheduling equipment and "Schedule Tab" on page 93 for more information about the **Schedule** tab of the **Equipment Inventory** window.
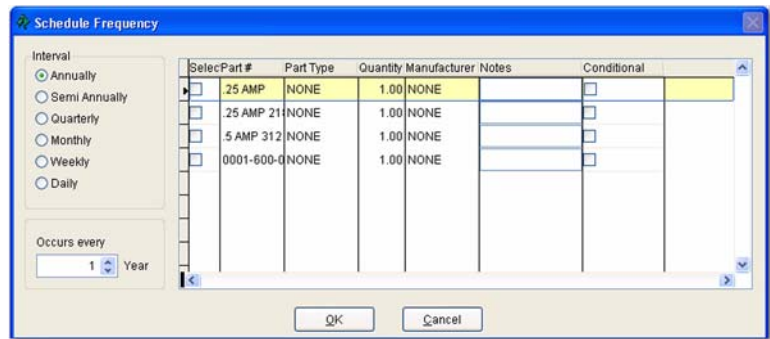
To review, add, or edit a schedule interval or schedule parts for an equipment item that have not been scheduled by model:

1. Open the **Schedule Frequency** window from the **Schedule** tab of the **Equipment Inventory** window by either:

    -   Clicking the **New** button in the Schedule Frequency Area to create a new schedule interval or,

    -   Double-clicking an existing schedule template in the Schedule Frequency Area to edit an existing schedule interval.

2. Select the interval and part, if required, by checking the **Select** checkbox(es) for the selected part(s).

3. Select the correct interval by checking the appropriate **Interval** radio button.

4. If necessary, adjust the frequency using the **Occurs Every** pull-down menu. For example, to schedule every 18 months, you would select **Monthly** and then **Occurs Every** 18.

5. Enter any additional information for a part in the **Notes** field for that part and, if necessary, check the **Conditional** checkbox to indicate any unique conditions.

6. Click **OK** to close the **Schedule Frequency** window and return to the **Schedule** tab of the **Equipment Inventory** window.

The Select Parts Window

The **Select Parts** window allows you to search for parts and select parts to add to or remove from association with the current equipment item or model. This window appears as follows:

Search Area

Selection Buttons

Search Results Area

Selection Area

Action Area

Report/ Print Buttons
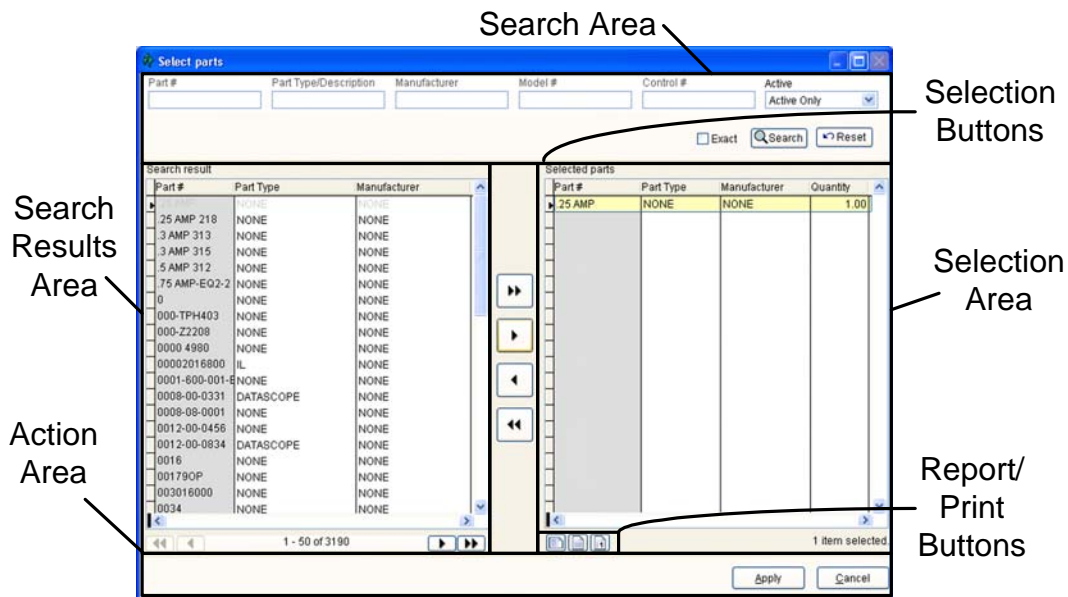
To use the **Select Parts** window:

1. Search for the part(s) you want to associate with the current equipment item or model using the Search Area.

2. Select the part(s) to associate in the Search Results Area and then move that information to the Selection Area using the following **Selection** buttons:

    - Clicking the **>>** button moves all of the parts in the Search Result Area to the Selection Area.

    - Clicking the **>** button moves the currently selected part in the Search Result Area to the Selection Area.

    - Clicking the **<** button removes the currently selected part from the Selection Area back to the Search Results Area.

    - Clicking the **<<** button removes all of the parts in the Selection Area back to the Search Results Area.

3. Add the selected part(s) to the **Parts** tab of the **Equipment Inventory** window by clicking the **Apply** button.

> *Note: To remove a part that is currently associated with the current equipment item or model, select the part to remove in the Selection Area and then click the < button. A warning message appears if you remove a part that is currently scheduled for the currently equipment item or model.*

The **Report/Print** buttons provide quick access to relevant reports. From the left to right, the buttons are:

- **List Report:** Clicking the **List Report** button opens a summary part inventory report for all of the parts in the Selection Area.

- **Detail Report - All:** Clicking the **Detail Report - All** button opens a detailed part inventory report for all of the parts in the Selection Area.

- **Detail Report - Current:** Selecting a part in the Selection Area and then clicking the **Detail Report - Current** button opens a report that provides detailed inventory information about the currently selected part.

Reports appear in a separate browser window. You can print and/or export these reports, as described in "CHAPTER 12: Printing & Exporting Data" on page 233.

The Select Groups Window

The **Select Groups** window opens when you click the down arrow button in the **Schedule** tab of the **Equipment Inventory** window. This window allows you to add the current equipment item to a group or remove it from a group. You may schedule equipment in more than one group, if needed.

The **Select groups** window appears as follows:
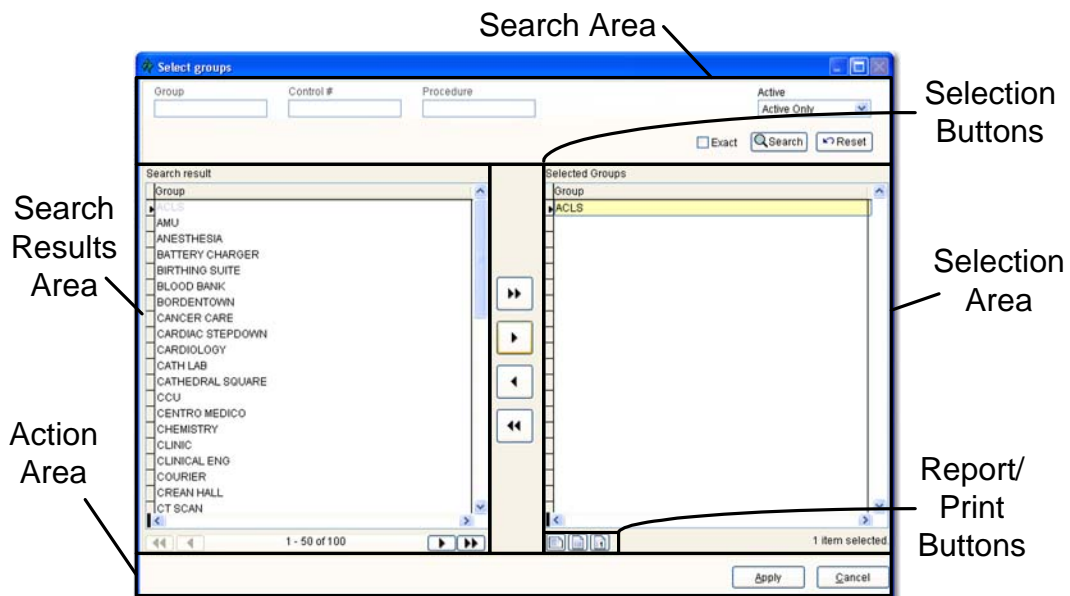
To use the **Select groups** window:

1. Search for the group(s) you want to update using the Search Area.

2. Select the group(s) to add in the Search Results Area and then move that information to the Selection Area using the following **Selection** buttons:

    -   Clicking the **>>** button moves all of the groups in the Search Result Area to the Selection Area.

    -   Clicking the **>** button moves the currently selected group in the Search Result Area to the Selection Area.

    -   Clicking the **<** button removes the currently selected group from the Selection Area back to the Search Results Area.

    -   Clicking the **<<** button removes all of the groups in the Selection Area back to the Search Results Area.

3. Add the selected equipment item to the group by clicking the **Apply** button.

4. Right-click the group name to preview, add, edit or copy the group.

The **Report/Print** buttons provide quick access to relevant reports. From the left to right, the buttons are:

•   **List Report:** Clicking the **List Report** button opens a summary report for all of the equipment items in the Selection Area.

•   **Detail Report - All:** Clicking the **Detail Report - All** button opens a detailed report for all of the equipment items in the Selection Area.

•   **Detail Report - Current:** Selecting an equipment item in the Selection Area and then clicking the **Detail Report - Current** button opens a report that provides detailed information about the currently selected equipment item.

Reports appear in a separate browser window. You can print and/or export these reports, as described in "CHAPTER 12: Printing & Exporting Data" on page 233.

> *Note: Run the **Schedule** report from the **Equipment Inventory** dashboard to see how your equipment is scheduled.*

The Quick Equipment Activities Window

The **Quick Equipment Activities** window allows maintenance technicians to quickly update multiple equipment items at once, such as adding equipment text, adding work order notes, deactivating/retiring equipment, or placing equipment in storage. You can open the **Quick Equipment Activities** window by selecting **Activities>Quick Equipment Activities**.

> *Note: The **Equipment Management** window allows managers to perform all of the above actions as well as perform management tasks such as changing schedule information, departments, or assigned engineers. Select **Utilities>Management Tools>Equipment Management** to open the **Equipment Management** window. Please see "Equipment Management" on page 260 for more information about the **Equipment Management** window.*

The **Quick Equipment Activities** window appears as follows:
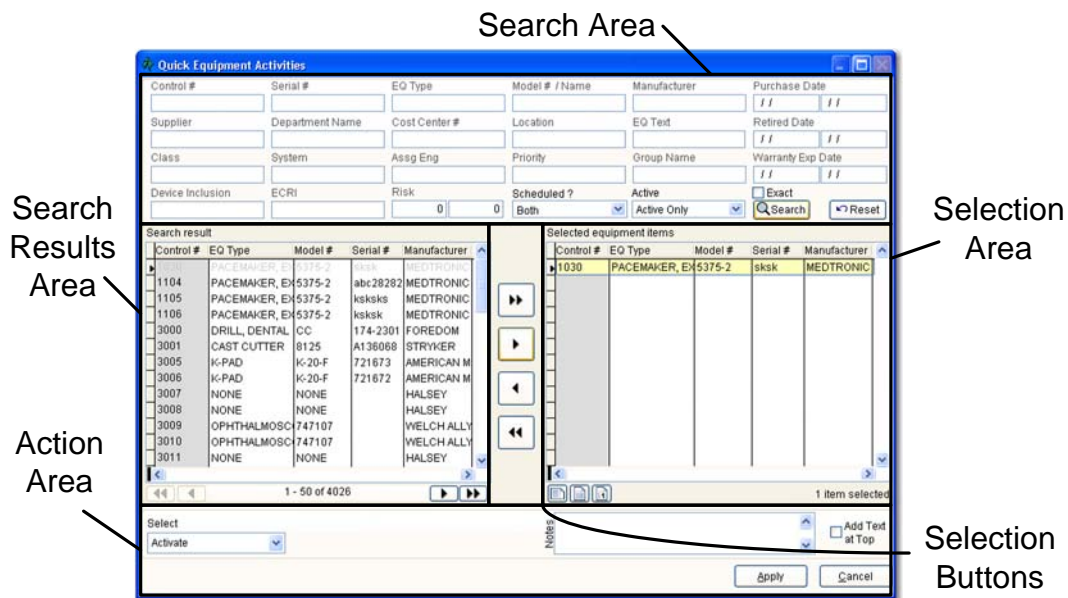
To use the **Quick Equipment Activities** window:

1. Search for the equipment item(s) you want to update using the Search Area.

2. Select the equipment item(s) to update in the Search Results Area and then move that information to the Selection Area using the following **Selection** buttons:

   - Clicking the **>>** button moves all of the equipment item records in the Search Result Area to the Selection Area.

   - Clicking the **>** button moves the currently selected equipment item record in the Search Result Area to the Selection Area.

   - Clicking the **<** button removes the currently selected equipment item record from the Selection Area back to the Search Results Area.

   - Clicking the **<<** button removes all of the equipment item records in the Selection Area back to the Search Results Area.

3. Update the equipment item(s) by using the **Selection** pull-down menu to select the information you want to update and then updating that information in the field(s) that appear. Available options are:

    -   **Activate:** Activate the selected equipment item(s).

    -   **Add Equipment Text:** Add notes to the **Equipment Text** field in the selected equipment item record(s).

    -   **Add Work Order Notes:** Add text to the **Work Order Notes** field. This text will appear in the work order **Request Text** field for work orders created for the selected equipment item(s).

    -   **Deactivate:** Deactivate the selected equipment item(s).

    -   **Retire:** Retire the selected equipment item(s) and assign an engineer to perform retirement maintenance on those items. Please see "Service Area Configuration" on page 263 for more information about default retirement procedures.

    -   **Storage In:** Date the selected equipment item(s) were moved into storage, and the location they were moved to.

    -   **Storage Out:** Date the selected equipment item(s) were moved from storage, and the location they were moved to.

4. Checking the **Add Text at Top** checkbox adds text to the top of the **Request Text** field in work orders created for the current equipment item.

5. Either click the **Apply** button or press [CTRL]+[S] to save your updates to the selected equipment item record(s).

The **Report/Print** buttons provide quick access to relevant reports. From the left to right, the buttons are:

•   **List Report:** Clicking the **List Report** button opens a summary report for all of the equipment items in the Selection Area.

•   **Detail Report - All:** Clicking the **Detail Report - All** button opens a detailed report for all of the equipment items in the Selection Area.

•   **Detail Report - Current:** Selecting an equipment item in the Selection Area and then clicking the **Detail Report - Current** button opens a report that provides detailed information about the currently selected equipment item.

Reports appear in a separate browser window. You can print and/or export these reports, as described in "CHAPTER 12: Printing & Exporting Data" on page 233.

The Equipment History Window

Clicking the **H** button in the Action Area of the **Equipment Inventory** dashboard opens the dynamic **Equipment History** window, which allows you to view, edit, copy, close, and delete work orders for the current equipment item. You can sort columns by clicking the desired column header and can also resize columns by clicking and dragging.

- To view a work order, click it to see the selected work order's request and action text in the **Req Text** and **Act Text** fields, respectively. You may expand these fields by either double-clicking or pressing [F10].

- To close a work order, select the work order and then click the **Close WO** button to open the **Work Order** window for the selected work order. HEMS automatically updates the **Status Date/Time** to the last **Labor Date/Time** and changes the work order status to **Closed**. Save your changes by either:

  - Clicking the **Save** button in the **Toolbar**, or

  - Pressing [CTRL]+[S].

  Please see "Closing Work Orders" on page 78 for more information about closing work orders.

- To edit a work order, either:

  - Select the work order and then click the **Edit** button, or

  - Double-click the selected work order.

  This opens the **Work Order** window with the current work order information listed. Please see "The Work Order Window" on page 60 for information about the **Work Order** window and "Updating/Editing a Work Order" on page 76 for information about editing work orders.

- To copy a work order, select the work order and then click the **Copy** button to open a new work order based on the current work order in the **Work Order** window. Please see "Copying Work Orders" on page 75 for more information about closing work orders.

Work Order Reports

To run a work order report from the **Equipment History** window:

1. Select the report type you want to run by checking the appropriate radio button. Your available options are:

    -   **List Report:** Checking the **List Report** radio button opens a summary report that lists all of the work order records in the **Equipment History** window.

    -   **Actual (Technician's Copy):** Checking the **Actual (Technician's Copy)** radio buttons opens a technician's copy of the currently selected work order.

    -   **Summary:** Checking the **Summary** radio button opens a report that provides summary information about the currently selected work order.

    -   Checking the **All** checkbox runs the reports for all of the listed work orders.

2. Click the **Preview** button to run the report. Reports appear in a separate browser window. You may print reports, as described in "CHAPTER 12: Printing & Exporting Data" on page 233.

The Equipment Contract History Window

Clicking the **C** button in the Action Area of the **Equipment Inventory** dashboard opens the **Equipment Contract History** window, which lists the service contract(s) that cover the current equipment item. Please see "CHAPTER 9: Managing Contracts" on page 183 for more information about managing contracts in HEMS.

-   To view a contract, click it to see the selected contract's notes and equipment coverage in the **Notes** and **Equipment Coverage** fields, respectively.

-   To delete a contract, select the contract and then click the **Delete** button. Review the contract before deletion, to make sure that no other pieces of equipment are affected.

> ⚠️ **CAUTION: DELETING A CONTRACT REMOVES THE CONTRACT IN ITS ENTIRETY, WHICH MAY IMPACT OTHER EQUIPMENT ITEMS.**

- To edit a contract, either:

  - Select the contract and then click the **Edit** button, or

  - Double-click the selected contract.

  This opens the **Contracts** window with the currently selected contract listed. Please see "The Contracts Window" on page 184 for information about the **Contracts** window.

- To copy a contract, select the contract and then click the **Copy** button to open a new contract based on the current contract in the **Contracts** window. Please see "Editing Contracts" on page 192 for more information about editing contracts.

Contract History Reports

To run a work order report from the **Equipment Contract History** window:

1. Select the report type you want to run by checking the appropriate radio button. Your available options are:

   - **List Report:** Checking the **List Report** radio button opens a summary report for the currently selected contract in the **Equipment Contract History** window.

   - **Detail:** Checking the **Detail** radio button opens a detailed report for the currently selected contract in the **Equipment Contract History** window.

   - Checking the **All** checkbox runs the reports for all of the listed contracts.

2. Click the **Preview** button to run the report. Reports appear in a separate browser window. You may print reports, as described in "CHAPTER 12: Printing & Exporting Data" on page 233.

The Equipment Models Window

The **Equipment Models** window automatically appears when you add a new equipment item into inventory. This window allows you to select an existing equipment model, which auto-fills information for the equipment item you are adding to inventory. If needed, you may also add a new equipment model record to the **Equipment Models** Information List.

To use the **Equipment Models** window:

1. Search for the model you want to select using the Search Area.

2. Select the model to add in the Search Results Area and then click the **Select** button.

To add a new equipment model, click the **->** button in the lower right corner to open the **Equipment Models** Information List. Please see "Equipment Models List" on page 131 for more information about the **Equipment Models** Information List.

The **Report/Print** buttons provide quick access to relevant reports. From the left to right, the buttons are:

- **List Report:** Clicking the **List Report** button opens a summary report for all of the equipment models in the Selection Area.

- **Detail Report - All:** Clicking the **Detail Report - All** button opens a detailed report for all of the equipment models in the Selection Area.

- **Detail Report - Current:** Selecting an equipment item in the Selection Area and then clicking the **Detail Report - Current** button opens a report that provides detailed information about the currently selected equipment model.

Reports appear in a separate browser window. You can print and/or export these reports, as described in "CHAPTER 12: Printing & Exporting Data" on page 233.

Scheduling Equipment

The ability to schedule equipment maintenance is a core HEMS feature. When scheduling equipment, you must define the following:

• The preventive maintenance template.

• The schedule date.

Defining Preventive Maintenance Templates

HEMS allows you to define preventive maintenance templates in several ways. Most templates (procedures and intervals) are defined by equipment type, model, or (less commonly) individual equipment item or group. You may define your template by equipment type but have particular models that require additional tasks or parts. You should define the preventive maintenance template by model for those particular models. There may also be rare cases when an equipment item requires even more specific tasks and/or parts.

If you have defined multiple possible templates for a given equipment item, HEMS will prioritize the preventive maintenance for that item as follows (in order of increasing precedence):

• **By Equipment Type:** Defining a preventive maintenance template by equipment type is the most efficient when you have many like equipment items.

• **By Equipment Model:** Define the preventive maintenance template by model when you have particular models that require additional tasks than other items of the same type and/or have model-specific parts.

• **By Equipment Item(s):** Define the preventive maintenance template by equipment item when you have particular items that require additional tasks and/or parts than other items of the same model or type.

Defining Preventive Maintenance Templates by Equipment Type

Preventive maintenance templates are normally defined by equipment type using the **Equipment Types** Information List. All equipment inherits the preventive maintenance template for its assigned type.

To define a preventive maintenance template by equipment type:

1. Select **Information Lists>Equipment Inventory Lists>Equipment Types** to open the **Equipment Types** Information List.

2. Search for and select the equipment type for which you want to define a preventive maintenance template.

3. Go to the **Schedule** tab.

4. Select the maintenance procedure using the **PM Procedure** pull-down menu.

5. Define how often the selected procedure should be performed by adding one or more schedule intervals in the **Schedule Frequency** window.

6. Define the **Assigned Engineer** if all of the equipment items of this type are assigned to a particular technician.

7. The **Priority** is defined by the equipment type's risk score in the **Other Details** tab.

8. Either click the **Save** button in the **Toolbar** or press [CTRL]+[S].

Defining Preventive Maintenance Templates by Equipment Model

You can define preventive maintenance templates by equipment model using the **Equipment Models** Information List. All equipment inherits the maintenance schedule for its assigned model.

To define a preventive maintenance template by equipment model:

1. Select **Information Lists>Equipment Inventory Lists>Equipment Models** to open the **Equipment Models** Information List.

2. Go to the **Schedule** tab.

3. Search for and select the equipment model for which you want to define a preventive maintenance template. If a preventive maintenance template is already defined for the equipment type, this will be indicated. To proceed with defining the template by model, check the **Schedule Template** checkbox.

4. Select the maintenance procedure using the **PM Procedure** pull-down menu.

5. Define how often the selected procedure should be performed by adding one or more schedule intervals in the **Schedule Frequency** window.
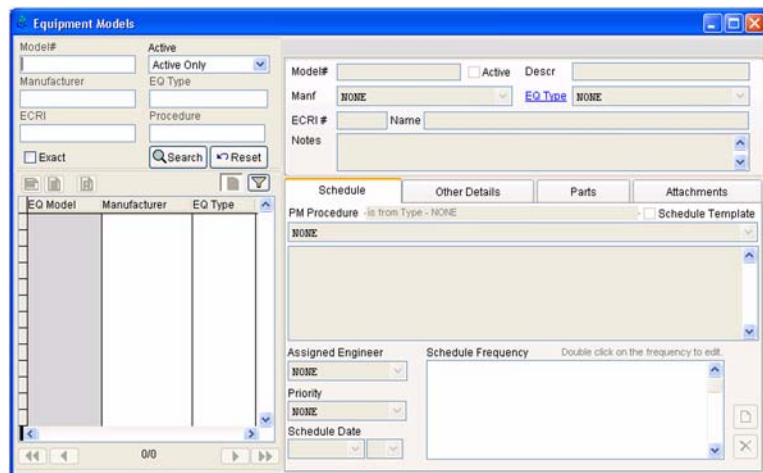
6. Define the **Assigned Engineer** if all of the equipment items of an equipment model are assigned to a particular technician.

7. If necessary, schedule parts as described below.

8. Either click the **Save** button in the **Toolbar** or press [CTRL]+[S].

Scheduling Parts

Equipment items inherit part schedule information defined by the equipment model. To schedule parts for an equipment model:

1. In the **Equipment Models** Information List, go to the **Parts** tab.

2. Assign a part to the model by clicking the **Update Part** Information button to open the **Select Parts** window.

3. Select the part(s) to add as described in "The Select Parts Window" on page 98.

4. Go to the **Schedule** tab to schedule the selected part(s).

5. Either click the **New** button or double-click an existing frequency to open the **Schedule Frequency** window.

6. Schedule the part by clicking the part's checkbox and then entering the required quantity.

7. Add any notes that apply for replacing this part during preventive maintenance, and check the **Conditional** checkbox if this part is to be replaced based on a condition.

> Note: The schedule date for multi-year part scheduling is defined in the **Schedule** tab of the **Equipment Inventory** window. Please see "Defining the Multi-Year Seed Date for Equipment with Parts" on page 110 for more information about defining the multi-year seed date for parts.

Defining Preventive Maintenance Templates by Equipment Item

If necessary, you may easily define a preventive maintenance template for an individual equipment item that requires a different maintenance procedure, additional maintenance interval(s), parts, and/or a different assigned technician using the **Schedule** tab of the **Equipment Inventory** window.

To define a preventive maintenance template for an equipment item:

1. Select the equipment item in the **Equipment Inventory** dashboard, as described in "The Equipment Inventory Dashboard" on page 22.

2. Click the **Edit** button to open the **Equipment Inventory** window for the selected item.

3. Go to the **Schedule** tab.

4. Check the **PM Template** checkbox to define the preventive procedure for equipment, change the schedule frequency for the equipment, or change the assigned engineer.

Defining the Multi-Year Seed Date for Equipment with Parts

Parts that require multi-year scheduling (such as battery replacement) will automatically be scheduled on a cycle based on the **Seed Date for Multi Year date** in the **Schedule** tab of the **Equipment Inventory** window. By default, this date is selected from either the **Placed in Service** date (if specified) or the equipment **Purchase Date**. You may manually enter a different date by checking the checkbox and entering a date, if needed.

Defining Preventive Maintenance Templates by Equipment Group

Equipment items should only be scheduled using groups if the equipment item has multiple schedules with different procedures.

To define a preventive maintenance template by equipment group:

1. Select **Information Lists>Equipment Inventory Lists>Equipment Groups** to open the **Equipment Groups** Information List.

2. Search for and select the equipment group for which you want to define a preventive maintenance template. If a preventive maintenance template is already defined for the equipment group, this will be indicated. To proceed with defining the template by group, check the **Schedule Template** checkbox.

3. Check the **Schedule** checkbox and then go to the **Schedule Template** tab.

4. Select the maintenance procedure using the **PM procedure** pull-down menu.

5. Define the **Schedule Frequency** by either double-clicking an entry or clicking the **New** button.

6. Define the **Assigned Engineer**, if you want to assign by group.

7. Enter the **Schedule Date**.

8. Define the **Priority**, if required.

9. Either click the **Save** button in the **Toolbar** or press [CTRL]+[S].
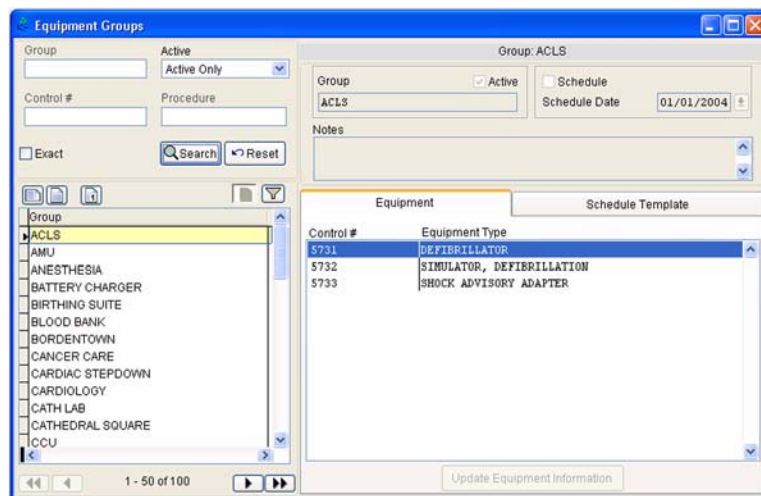
Defining Schedule Dates

HEMS allows you to define the schedule date by department, location, or equipment type, model, item, or group. The schedule date is the base date for generating your schedules. For example, if you set a department's schedule date to February 1, then:

- The annual preventive maintenance will be scheduled for February 1.

- The semi-annual preventive maintenance will be scheduled six months from February 1 (August 1).

- The quarterly preventive maintenance will be scheduled three months from February 1 (May 1).

Schedule dates are most commonly defined by department, location, or equipment type. If needed, schedule dates may also be defined by equipment model, item, or group.

*Note: The **Schedule by Date** field in the **Schedule** tab of the **Equipment Inventory** window indicates how an equipment item is scheduled and the date.*

Defining the Schedule Date by Department

You can define a schedule date for a department to meet your requirements.

To define a schedule date by department:

1. Select **Information Lists>Departments** to open the **Departments** Information List.

2. Select the department and click the **Edit** button in the **Toolbar**.

3. Select the schedule date using the **Start Date** field.

4. Either click the **Save** button in the **Toolbar** or press [CTRL]+[S].

Defining the Schedule Date by Location

You can define a schedule date for a location to meet your requirements.

To define a schedule date by location:

1. Select **Information Lists>Locations>Locations** to open the **Locations** Information List.

2. Select the location and click the **Edit** button in the **Toolbar**.

3. Select the schedule date using the **Start Date** field.

4. Either click the **Save** button in the **Toolbar** or press [CTRL]+[S].
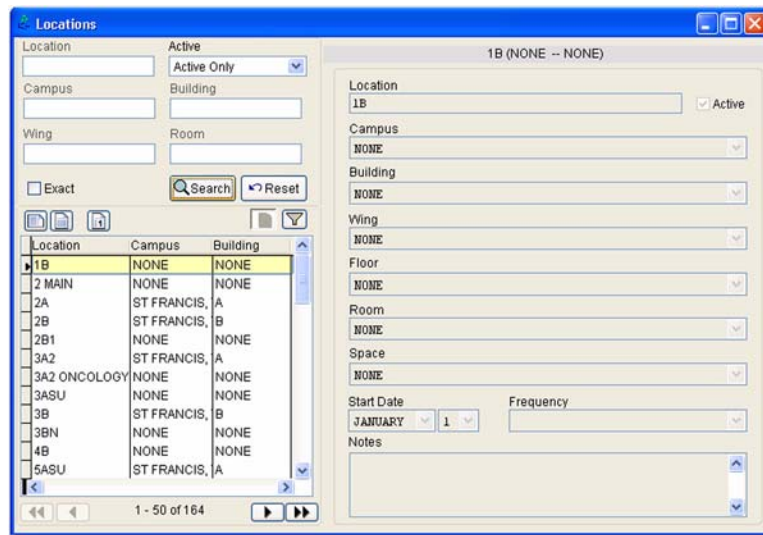
Defining the Schedule Date by Equipment Type

You can define a schedule date for an equipment type to meet your requirements.

To define a schedule date by equipment type:

1. Select **Information Lists>Equipment Inventory Lists>Equipment Types** to open the **Equipment Types** Information List.

2. Select the type and click the **Edit** button in the **Toolbar**.

3. Go to the **Schedule** tab.

4. Select the schedule date using the **Schedule Date** field.

5. Either click the **Save** button in the **Toolbar** or press [CTRL]+[S].
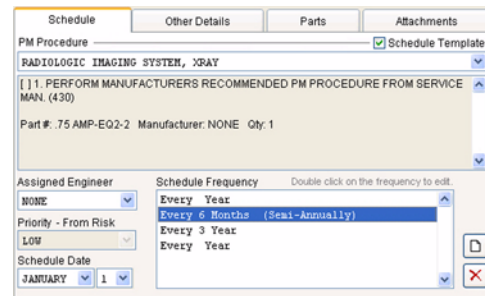
Defining the Schedule Date by Equipment Model

If required, you can define a schedule date for an equipment model to meet your requirements.

To define a schedule date by equipment model:

1. Select **Information Lists>Equipment Inventory Lists>Equipment Models** to open the **Equipment Models** Information List.

2. Select the model and click the **Edit** button in the **Toolbar**.
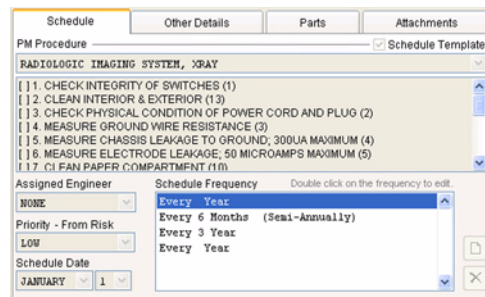
3. Go to the **Schedule** tab.

4. Select the schedule date using the **Schedule Date** field.

5. Either click the **Save** button in the **Toolbar** or press [CTRL]+[S].

Defining the Schedule Date by Equipment Group

If required, you can define a schedule date for an equipment group to meet your requirements.

To define a schedule date by equipment group:

1. Select **Information Lists>Equipment Inventory Lists>Equipment Groups** to open the **Equipment Groups** Information List.

2. Select the group and click the **Edit** button in the **Toolbar**.

3. Go to the **Schedule** tab.

4. Select the schedule date using the **Schedule Date** field.

5. Either click the **Save** button in the **Toolbar** or press [CTRL]+[S].
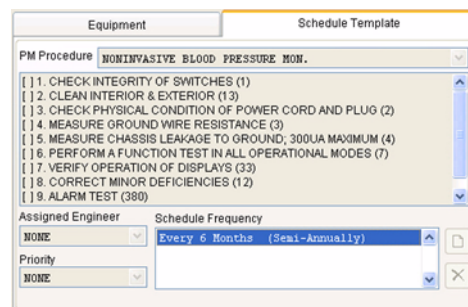
Defining the Schedule Date by Equipment Item

If required, you can define a schedule date for an equipment item to meet your requirements.

To define a schedule date by equipment item:

1. Locate the equipment item for which you want to update in the **Equipment Inventory** dashboard and then click the **Edit** button in the Action Area to open the **Equipment Inventory** window for the selected item.

2. Go to the **Schedule** tab. Please see "Schedule Tab" on page 93.

3. Check the **Schedule by Date** checkbox.

4. Check the **Equipment** radio button.

5. Select the schedule date using the **Schedule Date** fields.

6. Either click the **Save** button in the **Toolbar** or press [CTRL]+[S].

Scheduling by Season

You may schedule by season (such as maintaining cooling equipment from April to October) using the **Seasons** Information List. When the season is over, the schedule date automatically advances to the next season. Please see "Seasons List" on page 151 for more information about the **Seasons** Information List.

To schedule by season:

1. Select **Information>Seasons** to open the **Seasons** Information List.

2. Define your season.

3. Select **Information Lists>Procedures & Tasks>Procedures** to open the **Procedures** Information List.

4. Either select an existing procedure or create a new procedure and then select the season for that procedure using the **Seasons** field.

5. Select a schedule interval.

6. Define your preventive maintenance template by equipment type, model, or item.

7. Open the **Schedule** tab of the **Equipment Inventory** window for the desired equipment item and then check the **Equipment** radio button in the **Schedule by Date** area.

8. Define the base date for which to base your schedules in the **Schedule By Date** field. This date should be the same as the season start date you defined in Step 2.

Scheduling Multiple Equipment Items

You can quickly define or edit how equipment is scheduled (such as by department, type, or location) and assigned engineer using the **Equipment Management** window. Please see "Equipment Management" on page 260 for more information about the **Equipment Management** window.

To schedule multiple equipment items:

1. Select **Utilities>Management Tools>Equipment Management** to open the **Equipment Management** window.

2. Search for the desired equipment items.

3. Select the appropriate items.

4. Select the **Schedule By Date** in the Action Area, select the schedule date to use (such as by **Department**, **Equipment**, etc.), and then enter a date. Click the **Apply** button to apply your changes.

5. Select an **Assigned Engineer** in the Action Area, and then click the **Apply** button.

Defining Frequency for Department or Location

If required, you can define a preventive maintenance frequency for a department or location (to ensure that all of the scheduled equipment has at least this frequency) using the **Schedule Frequency** field in the **Departments** or **Locations** Information Lists. Please see "Departments List" on page 124 and "Locations List" on page 140 for more information about the Departments and Locations Information Lists, respectively.

Defining a preventive maintenance frequency by department or location will assign the selected frequency to all equipment assigned to that department or location. This frequency will override any higher frequency assigned for the equipment. For example, if the department frequency is quarterly but the equipment preventive maintenance frequency is semi-annual, the new frequency for the equipment will be quarterly. If only some of the equipment in a department require a different interval, then use the **Equipment Inventor**y dashboard to add the new interval for these equipment items. Please see "Defining Preventive Maintenance Templates by Equipment Item" on page 109 for more information about scheduling by equipment item.

Generating Scheduled Work Orders

Please see "Generating Scheduled Work Orders" on page 81 for information on generating scheduled work orders.

*Note: When multiple users are using the **Generate Scheduled Work Orders** window at once, the first user to begin scheduling work orders may proceed or cancel. Other users receive a prompt that someone else is generating work orders. If the first user decides to cancel, the next user can then generate scheduled work orders.*

Working with Equipment

This section describes how to work with equipment including viewing equipment, adding a new equipment item to inventory, editing, deactivating, and retiring equipment. It also includes information on creating work orders from the **Equipment Inventory** dashboard and viewing the interactive equipment history.

Viewing Equipment

Find and view equipment using the **Equipment Inventory** dashboard. Please see "The Equipment Inventory Dashboard" on page 22 for more information about the **Equipment Inventory** dashboard.

Adding Equipment

HEMS allows you to add a new equipment item to inventory either directly or by copying an existing equipment item.

> *Note: These instructions assume that you have built your Information Lists, as described in "CHAPTER 6: Information Lists" on page 123.*

New

To add an equipment item to inventory:

1. Open the **Equipment Inventory** dashboard by either:

    - Clicking the **Equipment Inventory** tab on the right of the HEMS application.

    - Clicking the **Equipment Inventory** button in the HEMS **Home** screen.

    - Selecting **Activities>Equipment Inventory**.

    - Pressing [CTRL]+[I].

2. In the **Equipment Inventory** dashboard, open the **Equipment Inventory** window by either:

    - Clicking the **New** button in the Action area.

    - Pressing [ALT]+[N].

    By default, the **Equipment Inventory** window appears with the **Main** tab selected. The **Equipment Models** window also appears.

3. Select the equipment model using the **Equipment Models** window. If necessary, you may add a new equipment model. Please see "The Equipment Models Window" on page 105 for more information about the **Equipment Models** window.

4. Enter a unique control number for the equipment item you are adding in the **Control #** field.

Note: You may either click a field or press [TAB] to move from field to field.

5. Enter the unique serial number assigned to the equipment item by the manufacturer in the **Serial Number** field.

6. Enter the remaining equipment information in all of the **Equipment Inventory** window tabs. Please see:

    -   "Main Tab" on page 90 for information about the **Main** tab of the **Equipment Inventory** window.

    -   "Schedule Tab" on page 93 for information about the **Schedule** tab of the **Equipment Inventory** window. Please also see "Scheduling Equipment" on page 107 for information about scheduling equipment in HEMS.

    -   "Other Details Tab" on page 94 for information about the **Other Details** tab of the **Equipment Inventory** window. Please also see "CHAPTER 8: Managing Risk" on page 179 for information about managing risk in HEMS.

    -   "Parts Tab" on page 96 for information about the **Parts** tab of the **Equipment Inventory** window. Please also see "CHAPTER 7: Managing Parts" on page 169 for information about managing parts in HEMS.

    -   "Attachments Tab" on page 96 for information about the **Attachments** tab of the **Equipment Inventory** window.

7. Save the newly added equipment item by either clicking the **Save** button in the **Toolbar** or pressing [CTRL]+[S]. You are also prompted to save any unsaved changes if you exit without saving.

Copying Equipment

Adding a new equipment item to inventory by copying and editing an existing equipment item can save time and improve information accuracy. To add a new equipment item to inventory based on an existing equipment item:

1. Open the **Equipment Inventory** dashboard by either:

    -   Clicking the **Equipment Inventory** tab on the right of the HEMS application.

    -   Clicking the **Equipment Inventory** button in the HEMS **Home** screen.

    -   Selecting **Activities>Equipment Inventory**.

    -   Pressing [CTRL]+[I].

2. Search for and select the equipment you want to copy.

3. Click the **Copy** button in the Action Area to open the **Equipment Inventory** window with the values from the copied equipment item already filled in.

4. Enter the unique control and serial numbers for the new equipment item in the **Control #** and **Serial #** fields.

5. Edit the remaining fields in all tabs as appropriate.

6. Save the new equipment item by either clicking the **Save** button in the **Toolbar** or pressing [CTRL]+[S]. You are also prompted to save any unsaved changes if you exit without saving.

Editing Equipment

To edit an equipment item:

1. Locate the equipment item you want to update in the **Equipment Inventory** dashboard and then clicking the **Edit** button in the Action Area. Please see "The Equipment Inventory Dashboard" on page 22 for more information about the **Equipment Inventory** dashboard.

   This opens the **Equipment Inventory** window for the current equipment item. Please see "The Equipment Inventory Window" on page 89 for more information about the **Equipment Inventory** window.

   > *Note: The technician can edit multiple equipment items at once using the **Quick Equipment Activities** window. Managers can edit multiple equipment items, including scheduling information, using the **Equipment Management** window. Please see "The Quick Equipment Activities Window" on page 101 and "Equipment Management" on page 260 for more information about the **Quick Equipment Activities** and **Equipment Management** windows.*

2. Edit the equipment item as needed.

3. Either click the **Save** button in the **Toolbar** or press [CTRL]+[S] to save the edited equipment item.

Active/Inactive Equipment

HEMS allows you to mark equipment as active or inactive. Newly added equipment items are active by default.

Activating Equipment

Marking an equipment item active signifies that the item is in service. Active items appear in searches and are scheduled for preventive maintenance.

To mark an equipment item as active:

1. Locate the equipment item you want to update in the **Equipment Inventory** dashboard and then clicking the **Edit** button in the Action Area. Please see "The Equipment Inventory Dashboard" on page 22 for more information about the **Equipment Inventory** dashboard.

   This opens the **Equipment Inventory** window with the currently selected equipment item information already filled in. Please see "The Equipment Inventory Window" on page 89 for more information about the **Equipment Inventory** window.

2. Check the **Active** checkbox in the **Main** tab of the **Equipment Inventory** window.

3. Either click the **Save** button in the **Toolbar** or press [CTRL]+[S] to save the edited equipment item.

> *Note: You can activate multiple equipment items at once by using the **Quick Equipment Activities** window and selecting **Activate** in the **Selection** menu. Please see "The Quick Equipment Activities Window" on page 101 for more information about the **Quick Equipment Activities** window.*

Deactivating Equipment

Marking an equipment item as inactive prevents that equipment item from appearing in searches or being scheduled for preventive maintenance unless you have set your HEMS defaults to show both active and inactive records. Please see "General Service Area Options" on page 263 for information about customizing HEMS defaults.

To mark an equipment item as inactive:

1. Locate the equipment item you want to update in the **Equipment Inventory** dashboard and then click the **Edit** button in the Action Area. Please see "The Equipment Inventory Dashboard" on page 22 for more information about the **Equipment Inventory** dashboard.

    This opens the **Equipment Inventory** window with the currently selected equipment item information already filled in. Please see "The Equipment Inventory Window" on page 89 for more information about the **Equipment Inventory** window.

2. Clear the **Active** checkbox in the **Main** tab of the **Equipment Inventory** window.

3. Either click the **Save** button in the **Toolbar** or press [CTRL]+[S] to save the edited equipment item.

> *Note: You can deactivate multiple equipment items at once using the **Quick Equipment Activities** window and selecting **Deactivate** in the **Selection** menu. Please see "The Quick Equipment Activities Window" on page 101 for more information about the **Quick Equipment Activities** window.*

Retiring/Storing/Deleting Equipment

HEMS allows you to retire equipment items, place equipment into and out of storage, and delete equipment items.

Retiring Equipment

Retiring an equipment item removes that equipment item from service. To retire an equipment item:

1. Select **Activities>Quick Equipment Activities** to open the **Quick Equipment Activities** window.

2. Locate the equipment item(s) you want to retire and move that information to the **Selection Area**.

3. Select **Retire** using the **Select** pull-down menu and then enter the following information:

   - **Retire:** Enter the retirement date for the equipment item(s) in the **Retire** field.

   - **Total Time:** Enter the total time to perform any required retirement procedure on the equipment item(s) in the **Total Time** field.

   - **Assigned Engineer:** Select the engineer responsible for retiring the equipment item(s) using the **Assigned Engineer** field.

4. Click **Apply** to retire the equipment item(s) and close the **Quick Equipment Activities** window.

> *Note: You can define equipment retirement procedures by Service Area or equipment type, model, or item. Please see "General Service Area Options" on page 263 for information on defining default retirement procedures by Service Area.*

Storing Equipment

Storing an equipment item indicates that it is being kept in storage for possible future use. To store equipment:

1. Select **Activities>Quick Equipment Activities** to open the **Quick Equipment Activities** window.

2. Locate the equipment item(s) you want to store and move that information to the **Selection Area**.

3. Select **Storage - In** using the **Select** pull-down menu and then enter the following information:

   - **Storage Date:** Enter the date on which the equipment item(s) were placed in storage using the **Storage Date** field.

   - **Storage Location:** Enter the location where the equipment item(s) are being stored in the **Storage Location** field.

4. Click **Apply** to store the equipment item(s) and close the **Quick Equipment Activities** window.

Removing Equipment from Storage

Removing an equipment item indicates that it is no longer being stored and may be in the process of being returned to active service. To store an equipment item:

1. Select **Activities>Quick Equipment Activities** to open the **Quick Equipment Activities** window.

2. Locate the equipment item(s) you want to remove from storage and move that information to the **Selection Area**.

3. Select **Storage - Out** using the **Select** pull-down menu and then enter the following information:

   - **Date:** Enter the date on which the equipment item(s) were placed in storage using the **Date** field.

4. Click **Apply** to remove the equipment item(s) from storage and close the **Quick Equipment Activities** window.

Deleting an Equipment Item.

Deleting an equipment item from HEMS removes the item from inventory. To delete an equipment item, locate the equipment item you want to delete in the **Equipment Inventory** dashboard and then click the **Delete** button in the Action Area. Please see "The Equipment Inventory Dashboard" on page 22 for more information about the **Equipment Inventory** dashboard.

> *Note: You cannot delete equipment if any action has been performed on it, because that action is part of your maintenance history, which includes work orders, equipment assigned to a contract, etc.*

Opening a Work Order from the Equipment Inventory Dashboard

You can open a work order for the current equipment item in the **Equipment Inventory** dashboard. Opening a work order from the **Equipment Inventory** dashboard automatically fills the equipment information into the work order for you.

To open a work order for the current equipment item:

1. Locate the equipment item you want to update in the **Equipment Inventory** dashboard. Please see "The Equipment Inventory Dashboard" on page 22 for more information about the **Equipment Inventory** dashboard.

2. In the Action Area, check the radio button that corresponds to the type of work order you are creating for the equipment item. Please see "Managing Work Orders" on page 56 for more information about work order types.

3. Click the **Create WO** button to open the **Work Order** window with the equipment item and type information already filled in. Please see "The Work Order Window" on page 60 for more information about the **Work Order** window.

4. Edit the work order as necessary.

5. Either click the **Save** button in the **Toolbar** or press [CTRL]+[S] to save the newly opened work order.

Viewing Equipment History

Clicking the **H** button in the Action Area of the **Equipment Inventory** dashboard opens the **Equipment History** window, which allows you to view, edit, copy, close, and delete work orders for the current equipment item. Please see "The Equipment History Window" on page 103 for more information about the **Equipment History** window.

Viewing Equipment Contract History

Clicking the **C** button in the Action Area of the **Equipment Inventory** dashboard opens the **Equipment Contract History** window, which lists the service contract(s) that cover the current equipment item. Please see "The Equipment Contract History Window" on page 104 for more information about the **Equipment Contract History** window and "CHAPTER 9: Managing Contracts" on page 183 for more information about managing contracts in HEMS.

Viewing Equipment Schedule Information

Clicking the **S** button in the Action Area of the **Equipment Inventory** dashboard opens the selected equipment item's maintenance schedule(s) in a separate browser window.

CHAPTER 6:
Information Lists

The HEMS Information Lists

This section describes each of the HEMS Information Lists.

*Note: All Information Lists contain **NONE** and **Not Found** values. These are fixed system values that cannot be edited, deleted, or replaced. Some Information Lists also contain additional fixed system values that are described where appropriate in this chapter.*

Departments List

Selecting **Information Lists>Departments** opens the **Departments** Information List.

All of the facility's departments must be entered into the **Departments** Information List for purposes such as:

*   "Charge back" systems that transfer costs from the engineering department to the department using their materials and services.

*   Determining ownership of hospital equipment and charges for repairs to that equipment.

The **Departments** Information List contains the following information for each record:

*   **Shared:** Whether or not the department is shared across Service Areas.

*   **Active:** Whether or not the department is currently active.

*   **Department Name:** Name of the department.

*   **Cost Center #:** This number is used for accounting purposes.

*   **Department Head Initials:** Initials of the department head.

*   **Phone:** Department's main or primary contact phone number.

*   **Budget:** Amount that the department allocates for labor and parts expenditures to maintain the equipment for which it is responsible, such as defibrillators or equipment owned by the facilities department that services a clinical or other department within the hospital, such as HVAC, medical gas, electrical power, etc.

*   **Footage:** The department's total square footage. This is useful when utility costs are charged back to departments.

- **Schedule Date:** If you schedule some or all of your equipment by department, this is the date used to base the date for generating your schedules.

- **Schedule Frequency:** Preventive maintenance frequency for equipment in this department. Defining a preventive frequency by department will assign the selected frequency to all equipment assigned to the department. This frequency will override any higher frequency assigned for the equipment. For example, if the department frequency is quarterly but the equipment preventive maintenance frequency is semi-annual, the new frequency for the equipment will be quarterly. If only some of the equipment in a department require a different interval, then use the **Equipment Inventory** window to add the new interval for these equipment items. Please see "Defining Preventive Maintenance Templates by Equipment Item" on page 109 for information about scheduling by equipment item.

> *Note: Only define the frequency by departments if this is an exception to your standard preventive maintenance template, which is defined by equipment type, model, equipment item and/or groups. For example, you may have a state requirement to perform more frequent preventive maintenance for a particular department, such as OR.*

- **Shift:** The department's hours of operation. This information is shared with the **Employees** Information List.

> *Note: You need to define a Department shift in order to report equipment down time.*

- **Notes:** Additional information about the department.

Please see "Working with Information Lists" on page 159 for information about working with Information Lists.

Device Inclusions List

Selecting **Information Lists>Device Inclusions** opens the **Device Inclusions** Information List.

The **Device Inclusions** Information List allows you to classify equipment in inventory for identification purposes. For example, you can fulfill the requirement to maintain a utility management list by using this Information List and identifying all equipment you define as "Utility" by selecting **Utility** from the device inclusion list when adding equipment to inventory. Other potential groups may include "Clinical," "Critical Care," "General Equipment," "Fire Safety," "Life Safety," and any other type of equipment that would be beneficial for you to group.
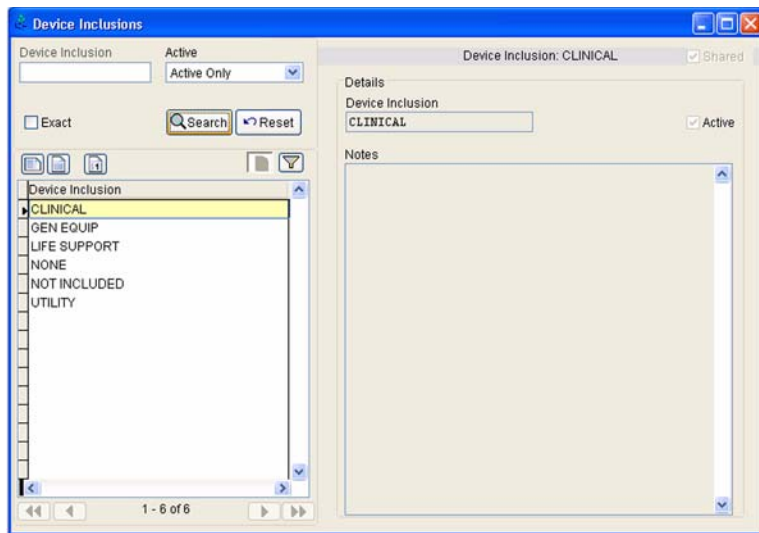
The **Device Inclusions** Information List contains the following information for each record:

• **Shared:** Whether or not the device inclusion is shared across Service Areas.

• **Active:** Whether or not the device inclusion is active.

• **Device Inclusion:** Name of the device inclusion group.

• **Notes:** Additional information about the device inclusion group.

Employees List

Selecting **Information Lists>Employees** opens the **Employees** Information List.

The **Employees** Information List contains detailed information on staff and contractor (vendor) personnel. Personnel must be entered into this Information List in before they can become authorized HEMS users, have work orders assigned to them, and have their hours tracked for reporting purposes.

The **Employees** Information List contains the following information for each record:
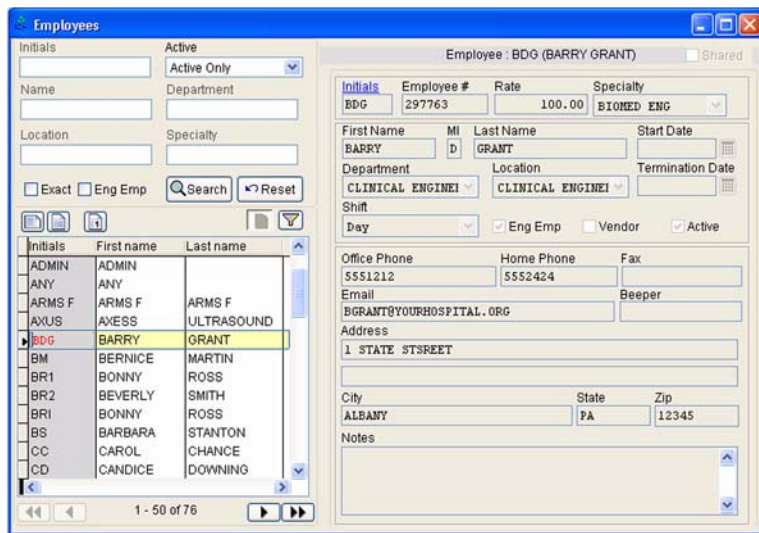
- **Shared:** Whether or not the employee record is shared across Service Areas.

- **Initials:** The employees' initials or an abbreviation used to designate a group of employees. Clicking the blue **Initials** link opens the **Labor Hours** report for the selected employee or employee group. You must enter shift information in this Information List in order to compare labor hours against shift hours.

- **Employee #:** Individual number assigned to each employee.

- **Rate:** The employee's hourly pay rate. This information is used to generate costs on work orders and may be entered as a department-wide average in order to protect confidentiality.

> *Note: Adding or editing an employee's pay rate after the employee has been assigned work orders will not affect past (or closed) work orders; the updated pay rate will appear on future work orders.*

- **Specialty:** The employee's professional specialty (such as plumbing, electrical, BMET, etc.). This field uses values from the **Maintenance Specialties** Information List, which is described in "Maintenance Specialties List" on page 144.

- **First Name:** The employee's first name.

- **Middle Initial:** The employee's middle initial.

- **Last Name:** The employee's last name.

- **Start Date:** Date the employee started work.

- **Department:** Department the employee is assigned to. This field uses values from the **Departments** Information List, which is described in "Departments List" on page 124.

- **Location:** Location of the department. This field uses values from the **Locations** Information List, which is described in "Locations List" on page 140.

- **Termination Date:** Date the employee terminated employment.

- **Shift:** Shift that the employee normally works. You must define a shift for this employee in order to compare labor hours against shift hours when running the **Labor Hours** report as described above. This field uses values from the **Shifts** Information List, which is described in "Shifts List" on page 152.

- **Eng Emp:** If this checkbox is checked, the selected employee is an engineering employee who can be assigned to or perform labor on work orders. Employees who do not have this checkbox checked cannot be assigned work or have labor entered on work orders; they can open work orders, if they have the appropriate permissions.

- **Vendor:** Check this checkbox to indicate that the selected employee is an independent contractor.

- **Active:** Whether or not the employee is active.

- **Office Phone:** Employee's office phone number.

- **Home Phone:** Employee's home phone number.

- **Fax:** Employee's fax number.

- **Email:** Employee's email address.

- **Beeper:** Employee's pager/beeper number. The employee will receive a pager notification when a work order is assigned to them if the HEMS server is configured to support this option. The work coordinator must have a valid email address in order for this service to be active. Please see "Pager/Email Service Area Options" on page 265 for more information about configuring beeper and email notifications.

- **Address/City/State/Zip:** Employee's complete street, city, state, and ZIP code

- **Notes:** Additional information about the employee such a degrees, special training, etc.

This Information list has the following fixed system values: Admin, and Guest.

Equipment Lists

The equipment inventory is the central focus of the entire HEMS system. The combination of information such as equipment type, manufacturer, model, etc. uniquely identifies the characteristics of each equipment item. Careful equipment inventory planning and design is crucial for efficient and accurate equipment management.

Equipment Inventory Form (Plant)

Use one copy of the following form (or similar) to gather information for each piece of Plant equipment if no equipment inventory is available from a manual system or archived CMMS when building the HEMS database.

HEMS PLANT EQUIPMENT INVENTORY SURVEY FORM			
Control #		**Equipment Type**	
Device Inclusion		**Manufacturer**	
Model Number		**Serial Number**	
Revision		**Supplier**	
Department Name		**Campus**	
Building		**Floor**	
Wing		**Room**	
Space		**Location Code**	
Warranty Date		**Service Date**	
Purchase Date		**Purchase Price**	
P.O. Number		**Documentation?**	**None**
UPS? Yes No			**Service Manual**
Emergency Power? Yes No			**User Manual**
Active? Yes No			

SUBSYSTEM INFORMATION

MOTOR		COMPRESSOR		COMPUTER		STEAM TRAP	
Tag #		**Tag #**		**Hard Drive**		**Tag #**	
Manf.		**Manf.**		**RAM**		**Manf.**	
Mod #		**Mod #**		**CD-R**		**Mod #**	
Ser #		**Ser #**				**Type**	
Frame		**Frame**				**Press.**	
H.P.		**H.P.**				**Size**	
Volts		**Volts**				**Location**	
Amps		**Amps**					
Phase		**Phase**					
RPM		**RPM**					

REHEAT		UPS		VAV		COMPONENTS	
Tag #		**Tag #**		**Tag #**		**Filter #1**	
Manf.		**Manf.**		**Manf.**		**Filter #2**	
Mod #		**Mod #**		**Mod #**		**Filter #3**	
Size		**Input V**		**Size**		**Belts**	
CFM		**Capacity**		**Style**		**Bearings**	
Supply		**Battery**		**CFM**		**Tools 1**	
Location		**# of Batts.**		**Damper**		**Tools 2**	
		Outlets		**Location**		**Other 1**	
		Location				**Other 2**	
Equipment Text				**Work Order Notes**			

Equipment Inventory Form (Biomed)

Use one copy of the following form (or similar) to gather information for each piece of Biomedical Engineering equipment if no equipment inventory is available from a manual system or another CMMS when building the HEMS database.

HEMS BIOMEDICAL ENGINEERING EQUIPMENT INVENTORY SURVEY FORM					
Control #			**Equipment Type**		
Device Inclusion			**Manufacturer**		
Model Number			**Serial Number**		
Revision			**Supplier**		
Department Name			**Campus**		
Building			**Floor**		
Wing			**Room**		
Space			**Location Code**		
Warranty Date			**Service Date**		
Purchase Date			**Purchase Price**		
P.O. Number			**Documentation?**	**None**	
UPS?	**Yes**	**No**		**Service Manual**	
Emergency Power?	**Yes**	**No**		**User Manual**	
Active?	**Yes**	**No**	**ECRI Name**		
ECRI #			**Ownership**		

SUBSYSTEM INFORMATION							
MOTOR		**COMPRESSOR**		**COMPUTER**		**UPS**	
Tag #		**Tag #**		**Hard Drive**		**Tag #**	
Manf.		**Manf.**		**RAM**		**Manf.**	
Mod #		**Mod #**		**CD-R**		**Mod**	
Ser #		**Ser #**				**Input V**	
Frame		**Frame**				**Capacity**	
H.P.		**H.P.**				**# Batts.**	
Volts		**Volts**				**Outlets**	
Amps		**Amps**				**Location**	
Phase		**Phase**					
RPM		**RPM**					
COMPONENTS		**OTHER**		**OTHER**		**COMPONENTS**	
Filter #1							
Filter #2							
Filter #3							
Belts							
Bearings							
Tools 1							
Tools 2							
Other 1							
Other 2							
Equipment Text				**Work Order Notes**			

Equipment Models List

Selecting **Information Lists>Equipment Inventory Lists>Equipment Models** opens the **Equipment Models** Information List.

The **Equipment Models** Information List list identifies equipment by model and divides equipment into categories to facilitate purchasing similar parts in volume. It is also essential for efficiently opening and responding to work orders for device recalls and alerts. You can also use it to help in salvaging parts when a unit is taken out of service.

The **Equipment Models** Information List contains the following general information for each record:

- **Model #:** Equipment model number.

- **Active:** Whether or not the equipment model is active.

- **Name:** Equipment model name.

- **Manf:** Equipment manufacturer.

- **EQ Type:** Type of equipment. This field uses values from the **Equipment Types** Information List, which is described in "Equipment Types List" on page 134. Clicking the **EQ Type** hyperlink runs the **Scheduling Impact** report, which lists all the equipment assigned to this type so you can review the impact on scheduling before making an equipment type change. For example, you can review the impact of schedule frequency changes, scheduling or unscheduling equipment, or changing the schedule start date.

- **ECRI#:** Emergency Care Research Institute (ECRI) manufacturer number assigned to the equipment model.

- **Name:** ECRI name of the equipment model.

> *Note: Entering the ECRI # and type from ECRI's Universal Medical Device Nomenclature System™ (UMDNS™) in the **ECRI #** and **ECRI Name** fields allows Biomedical Engineering staff to efficiently open and respond to work orders for device recall and alerts.*

- **Notes:** Additional information about the equipment model.

The **Equipment Models Schedule** tab allows you to enter a preventive maintenance schedule template (preventive maintenance procedure, interval, and assigned engineer) for the equipment model. In general, you will schedule equipment by equipment type; however, if there are particular equipment models that require a different preventive maintenance procedure, interval, or assigned engineer, this is where they are scheduled. Please see "Scheduling Equipment" on page 107 for more information about scheduling.

This tab contains the following additional information:

- **Schedule Template:** When you need to define a preventive maintenance template by equipment model, checking the **Schedule Template** checkbox allows you to define the **PM Procedure**, **Assigned Engineer**, **Schedule Date**, and/or **Schedule Frequency** at the equipment model level. To define the procedure for the equipment model, click the **Edit** button in the **Toolbar** and then check the **Schedule Template** checkbox.

- **PM Procedure:** Preventive maintenance procedure to use for the equipment model. Preventive maintenance is usually defined by equipment type; however, you may define the procedure by equipment model, if needed.

- **Assigned Engineer:** Name of the engineer assigned to work on the equipment model. The assigned engineer is usually defined by equipment type; however, you may assign an engineer by equipment model, if needed. This field uses values from the **Employees** Information List, which is described in "Employees List" on page 126.

- **Priority:** The **Priority** field displays the priority for the equipment model based on risk if you have risk defined. If you have minimum frequency for scheduling based on risk configured, the maintenance interval may vary depending on the risk factor; review risk-related maintenance intervals using the **Risk Interval** report, which is described in "Risk Interval" on page 216. You may also define the priority manually if you are not using risk.

- **Schedule Date:** When scheduling by model, this is the date used to base the date for generating your schedules for the equipment model. Please see "Scheduling Equipment" on page 107 for more information about scheduling.

- **Schedule Frequency:** How frequently (i.e. the intervals) you are going to perform preventive maintenance on the equipment model. In general, frequency is defined by equipment type; however, you may schedule by model if necessary. Use one frequency for every maintenance interval. For example, if maintenance must be done monthly, semi-annually, and annually, you will need to add three frequency entries.

  - Clicking the **New** button to the right of the **Schedule Frequency** field opens the **Schedule Frequency** window, which allows you to add a schedule frequency to the preventive maintenance procedure for the equipment model.

  - Double-clicking an existing schedule frequency opens the **Schedule Frequency** window for the selected frequency and allows you to make edits.

  - Highlighting a frequency and then clicking the **Delete** button next to the selected frequency removes that frequency from the equipment model.
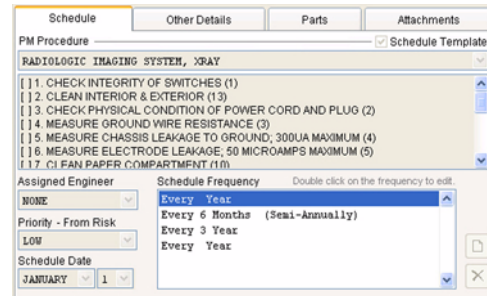
Please see "Scheduling Equipment" on page 107 for more information about working with schedule frequencies.

The **Equipment Models Other Details** tab contains the following additional information:

- **Risk Assessment:** If the equipment model has different risk factors than the equipment type this model belongs to, then check the **Risk Assessment** checkbox to define the risk for this model. Defining risk by equipment model overrides the risk assigned to the equipment type, and also assigns this risk level to all equipment items assigned to the equipment model. HEMS can be configured to base minimum schedule frequencies on the assigned risk factor. For example, you may have defined an annual preventive maintenance procedure that, due to a high risk factor, must be performed semiannually.

- **Risk Statement Groups:** If you are assigning risk by equipment model, use the pull-down menu to answer each of the five following statements. HEMS calculates the risk factor, which determines the priority.

    - **Equipment Function:** What the equipment is used for.

    - **Clinical Application:** How the equipment model impacts clinical functions.

    - **PM Requirement:** How often preventive maintenance needs to be performed.

    - **Likelihood of Failure:** How likely the equipment is to fail. This is a measure of equipment reliability.

    - **Environment of Use:** Where the equipment is used.

- **Risk Factor:** HEMS displays the calculated risk factor in the **Risk Factor** field. HEMS calculates the risk factor, which determines the priority. Please see "CHAPTER 8: Managing Risk" on page 179 for information about managing risk in HEMS.

- **Support End Date:** Last date that the manufacturer (OEM) will support this equipment model.

- **Last Production Date:** Date that the manufacturer has (or will) stop manufacturing this equipment model.

- **Max Replace Date:** Last date by which this equipment model must be retired or replaced.

- **Service Manual:** Checking the **Service Manual** checkbox indicates that a service manual is available for this equipment model and includes this information on individual equipment item records. Scan or attach manuals using the **Attachments** tab, described below.

- **Operator Manual:** Checking the **Operator Manual** checkbox indicates that an operator manual is available for this equipment model and includes this information on individual equipment item records. Scan or attach manuals using the **Attachments** tab, described below.

- **Obsolete:** Checking the **Obsolete** checkbox means that this equipment model is considered obsolete.

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- **Prohibited:** Checking the **Prohibited** checkbox means that the equipment model is prohibited in the health care facility and must be removed from the facility.

- **Alarm:** Checking the **Alarm** checkbox means that this equipment model includes one or more alarms that indicate equipment failure, as described in ASHE Safety Goal #6.

- **Incoming Inspection:** Checking the **Incoming Inspection** checkbox allows you to select the desired inspection that applies to newly acquired equipment items of this model, using the pull-down menu. Please see "General Service Area Options" on page 263 for more information about defining a default incoming inspection procedure.

- **Retirement Procedure:** Checking the **Retirement Procedure** checkbox allows you to select the desired procedure that applies when retiring equipment items of this model from service, using the pull-down menu. Please see "General Service Area Options" on page 263 for more information about defining a default retirement procedure.

The **Equipment Models Parts** tab allows you to assign parts to the equipment model for preventive maintenance. Please see "Adding Equipment Models" on page 161 for information about updating the parts assigned to the current equipment model.

The **Equipment Models Attachments** tab allows you to scan and/or attach documents such as manuals or images related to the current equipment model. Attachments included here are also available at the equipment item level. Please see "Attaching or Scanning Files" on page 168 for more information about working with scanned and attached files in HEMS Information Lists.

Equipment Types List

Selecting **Information Lists>Equipment Inventory Lists>Equipment Types** opens the **Equipment Types** Information List.

The **Equipment Types** Information List allows you to identify and group like pieces of equipment. EQ2 supports and will integrate any of the standard equipment nomenclatures (ASHE, AAMI, or ECRI) and procedures to your standardization process. Please contact EQ2 directly for information and a quote for standardizing processes for existing data.

The **Equipment Types** Information List contains the following general information for each record:

- **Type:** Name of the selected equipment type (from a standard list such as ASHE).

- **Active:** Whether or not the equipment type is active or not.

- **Class:** Equipment class that the equipment type belongs to. This field uses values from the **Equipment Classes** Information List, which is described in "Equipment Classes List" on page 139.

- **Life Expectancy:** Life expectancy of the equipment type, in years. The **Maximum Expenditure Limit (MEL)** report uses this information, which is one of the criteria for determining when to replace equipment. Please see "Maximum Expenditure Limit" on page 211 for more information about the **Maximum Expenditure Limit (MEL)** report.

- **System:** Equipment system that the equipment type belongs to. This field uses values from the **Equipment Systems** Information List, which is described in "Equipment Systems List" on page 139.

- **ECRI#:** Emergency Care Research Institute (ECRI) number assigned to the equipment type.

- **Name:** ECRI name of the equipment type.

> *Note: Entering the ECRI # and type from ECRI's Universal Medical Device Nomenclature System™ (UMDNS™) in the **ECRI #** and **ECRI Name** fields allows Biomedical Engineering staff to efficiently open and respond to work orders for device recall and alerts.*

- **Notes:** Additional information about the equipment type.

The **Equipment Types Schedule** tab contains the following additional information:

- **PM Procedure:** Preventive maintenance procedure to use for the equipment type. This field uses values from the **Procedures** Information List, which is described in "Procedures List" on page 146.

- **Assigned Engineer:** Name of the engineer assigned to the equipment type. This field uses values from the Employees Information List, which is described in "Employees List" on page 126.

- **Priority:** The **Priority** field displays the priority for the equipment type based on risk if you have risk defined. If you have minimum frequency for scheduling based on risk configured, the maintenance interval may vary depending on the risk factor; review risk-related maintenance intervals using the **Risk Interval** report, which is described in "Risk Interval" on page 216. You may also define the priority manually if you are not using risk.

- **Schedule Date:** Date from which to base the date for generating your schedules for the equipment type. Please see "Scheduling Equipment" on page 107 for more information about scheduling.

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- **Schedule Frequency:** How frequently (i.e. the intervals) you are going to perform preventive maintenance on the equipment type. Use one frequency for every maintenance interval. For example, if maintenance must be done monthly, semi-annually, and annually, you will need to add three frequency entries.

  - Clicking the **New** button to the right of the **Schedule Frequency** field opens the **Schedule Frequency** window, which allows you to add a schedule frequency to the preventive maintenance procedure for the equipment type.

  - Double-clicking an existing schedule frequency opens the **Schedule Frequency** window for the selected frequency and allows you to make edits.

  - Highlighting a frequency and then clicking the **Delete** button removes that frequency from the equipment type.

  Please see "The Schedule Frequency Window" on page 97 for more information about working with schedule frequencies.

The **Equipment Types Other Details** tab contains the following additional information:

- **Risk Assessment:** Checking the **Risk Assessment** checkbox allows you to define risk for the equipment type. Defining risk by equipment type also assigns this risk level to all equipment models and items assigned to this type. HEMS automatically calculates the risk factor based on how you answer the risk statements. HEMS can be configured to base minimum schedule frequencies on the assigned risk factor. For example, you have an annual preventive maintenance procedure, but risk factor determines it should be performed semiannually.

> Note: Risk is normally defined by equipment type; all equipment models and items assigned to the equipment type will inherit the risk factor defined for this type. If necessary, risk may be defined by equipment model and/or equipment item. Defining risk for an equipment model overrides the risk factor defined for the equipment type. Defining risk for an equipment item overrides the risk defined for both the equipment type and model.

- **Risk Statement Groups:** If you are assigning risk by equipment type, use the pull-down menu to answer each of the five following statements. HEMS calculates the risk factor, which determines the priority.

  - **Equipment Function:** What the equipment is used for.

  - **Clinical Application:** How the equipment model impacts clinical functions.

  - **PM Requirement:** How often preventive maintenance needs to be performed.

  - **Likelihood of Failure:** How likely the equipment is to fail. This is a measure of equipment reliability.

  - **Environment of Use:** Where the equipment is used.

- **Risk Factor:** HEMS displays the calculated risk factor in the **Risk Factor** field. HEMS calculates the risk factor, which determines the priority. Please see "CHAPTER 8: Managing Risk" on page 179 for information about managing risk in HEMS.

- **Incoming Inspection:** Checking the **Incoming Inspection** checkbox allows you to select the desired inspection that applies to newly acquired equipment items of this type, using the pull-down menu. Please see "General Service Area Options" on page 263 for more information about defining a default incoming inspection procedure.

- **Retirement Procedure:** Checking the **Retirement Procedure** checkbox allows you to select the desired procedure that applies when retiring equipment items of this type from service, using the pull-down menu. Please see "General Service Area Options" on page 263 for more information about defining a default retirement procedure.

The **Equipment Types Attachments** tab allows you to scan and/or attached documents such as manuals or images related to the current equipment type. Attachments included here are also available at the equipment item level. Please see "Attaching or Scanning Files" on page 168 for more information about working with scanned and attached files in HEMS Information Lists.

Equipment Groups List

Selecting **Information Lists>Equipment Inventory Lists>Equipment Groups** opens the **Equipment Groups** Information List.

The **Equipment Groups** Information List allows you to perform preventive maintenance on groups of equipment where scheduling by type or model is difficult. For example, you may have hundreds of fire extinguishers and may decide to create a number of manageable sized groups for scheduling purposes. Individual preventive maintenance work orders will be created for each equipment item within the group.
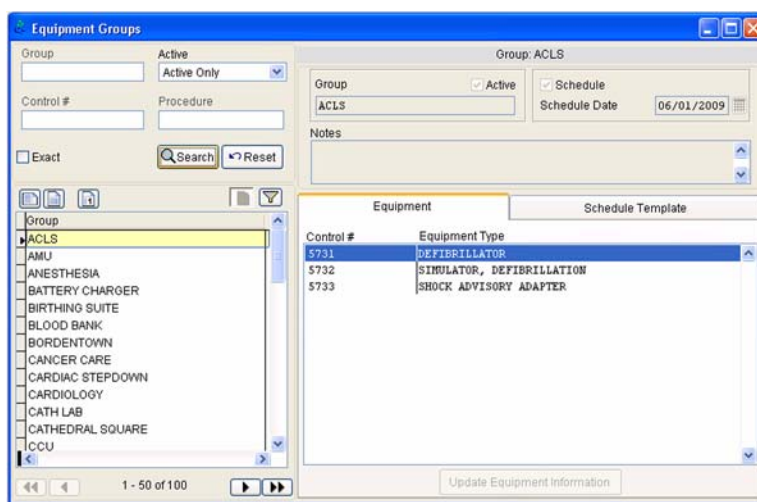
The **Equipment Groups** Information List contains the following general information for each record:

- **Group:** Name of the selected equipment group.

- **Active:** Whether or not the equipment group is active.

- **Schedule:** Checking the **Schedule** checkbox allows you to schedule the equipment belonging to the equipment group as a group and also enables the Schedule Templates tab, described below.

- **Schedule Date:** Date from which to base the date for generating your schedules for the equipment group. Please see "Scheduling Equipment" on page 107 for more information about scheduling.

- **Notes:** Additional information about the equipment group.

The **Equipment Groups Equipment** tab lists the equipment assigned to the group.

When the **Schedule** checkbox is checked as described above, the **Equipment Groups Schedule Template** tab contains the following additional information:

- **PM Procedure:** Preventive maintenance procedure to use for the equipment group. This field uses values from the **Procedures** Information List, which is described in "Procedures List" on page 146.

- **Assigned Engineer:** Name of the engineer assigned to perform preventive maintenance on the equipment group. This field uses values from the **Employees** Information List, which is described in "Employees List" on page 126.

- **Priority:** Priority of the equipment group. This appears on scheduled work orders for each equipment item in this equipment group. You may select a priority by using the pull-down menu or by right-clicking or pressing [F2], as described in "CHAPTER 3: Adding Values to Fields" on page 49.

- **Schedule Date:** Date from which to base the date for generating your schedules for this equipment group. Please see "Scheduling Equipment" on page 107 for more information about scheduling.

- **Schedule Frequency:** How often the preventive maintenance procedure should occur for the equipment group (i.e. the interval). Use one frequency for every maintenance interval. For example, if maintenance must be done monthly, semi-annually, and annually, you will need to add three frequency entries.

  - Clicking the **New** button opens the **Schedule Frequency** window, which allows you to add a schedule frequency to the preventive maintenance procedure for the equipment group.

  - Double-clicking an existing schedule frequency opens the **Schedule Frequency** window for the selected frequency and allows you to make edits.

  - Highlighting a frequency and then clicking the **Delete** button removes that frequency from the equipment group.

  Please see "The Schedule Frequency Window" on page 97 for more information about working with schedule frequencies.

Please see "Adding a Record" on page 161 and "Adding Equipment Groups" on page 164 for information about adding equipment groups.
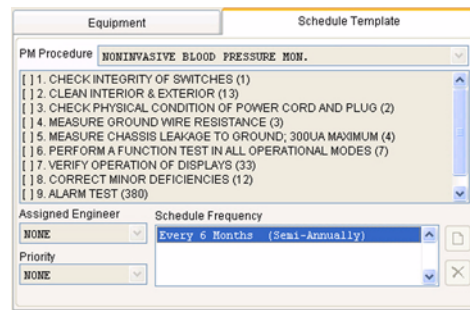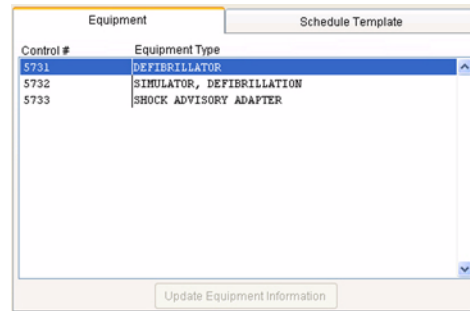
Equipment Classes List

Selecting **Information Lists>Equipment Inventory Lists>Equipment Classes** opens the **Equipment Classes** Information List.

The **Equipment Classes** Information List allows you to identify equipment such a Life Support, Diagnostic, Non-patient Care, Laboratory Equipment, Electrical, Patient Support, or Cooling.

The **Equipment Classes** Information List contains the following general information for each record:

*   **Name:** Name of the equipment class.

*   **Active:** Whether or not the equipment class is active.

*   **Notes:** Additional information about the equipment class.
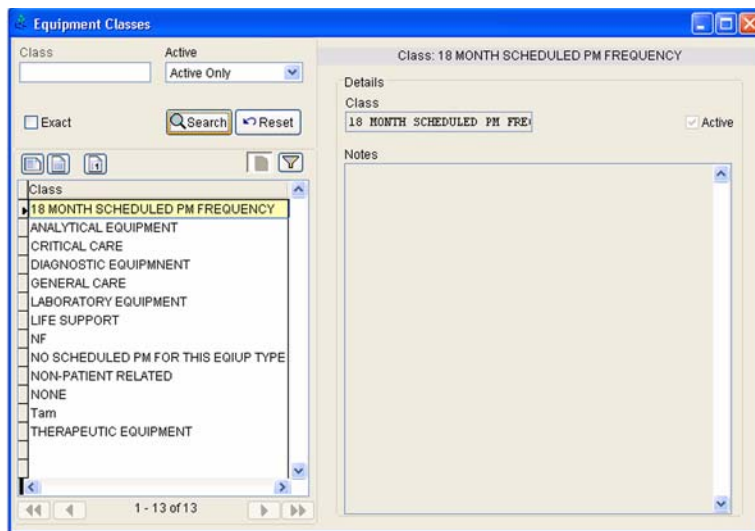
Equipment Systems List

Selecting **Information Lists>Equipment Inventory Lists>Equipment Systems** opens the **Equipment System** Information List.

The **Equipment Systems** Information List offers a larger group that equipment items can belong to, such as HVAC, Water System, or Electrical System, if applicable. It is yet another way of grouping like equipment together.

The **Equipment Systems** Information List contains the following general information for each record:

*   **Name:** Name of the equipment system.

*   **Active:** Whether or not the equipment system is active.

*   **Notes:** Additional information about the equipment system.
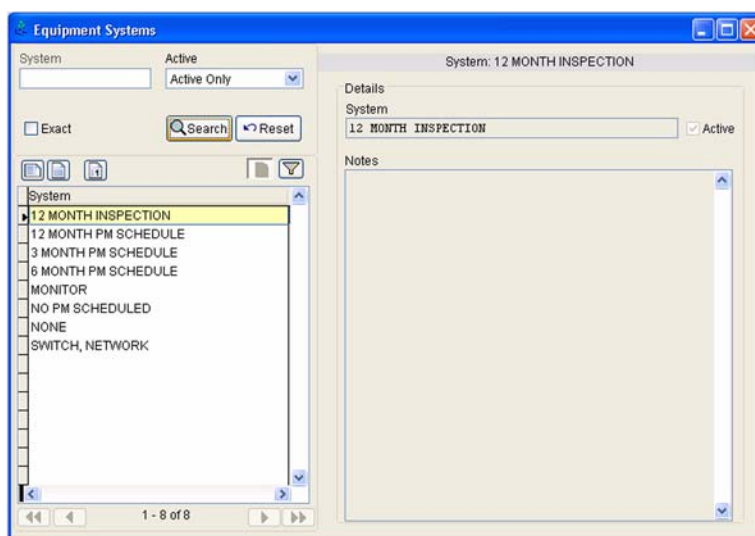
Locations Lists

The **Locations** Information Lists define specific locations within your facility or facilities. These locations are used to record equipment locations for inventory and tracking purposes. You can also schedule preventive maintenance by location.

Locations List

Selecting **Information Lists>Locations>Locations** opens the **Locations** Information List. This is a very important Information List because technicians use the location description to locate the equipment on work orders. A location may be a specific room or where a piece of inventoried equipment is located or stored. Knowing where equipment is becomes especially important in large or multi-building facilities because this information can save a lot of time and confusion.
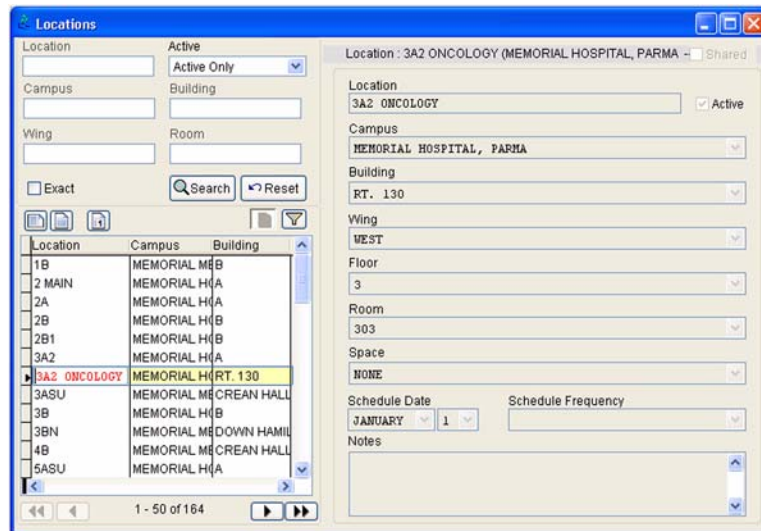
The **Locations** Information List contains the following information for each record:

- **Shared:** Whether or not the location is shared across Service Areas.

- **Location:** Name of the location.

- **Active:** Whether or not the location is active.

- **Campus:** Name of the campus associated with the location. This field uses values from the **Campuses** Information List, which is described in "Campuses List" on page 141.

- **Building:** Name or number of the building associated with the location. This field uses values from the **Buildings** Information List, which is described in "Buildings List" on page 142.

- **Wing:** Name or number of the wing associated with the location. This field uses values from the **Wings** Information List, which is described in "Wings List" on page 142.

- **Floor:** Name or number of the floor associated with the location. This field uses values from the **Floors** Information List, which is described in "Floors List" on page 143.

- **Room:** Name or number of the room associated with the location. This field uses values from the **Rooms** Information List, which is described in "Rooms List" on page 143.

- **Space:** Name or number of the space associated with the location. This field uses values from the **Spaces** Information List, which is described in "Spaces List" on page 144.

- **Start Date:** Date from which to base the date for generating your schedules for equipment that is scheduled by this location. Please see "Scheduling Equipment" on page 107 for information about scheduling equipment.

- **Schedule Frequency:** Preventive maintenance frequency for equipment at this location. Defining a preventive maintenance frequency by location will assign the frequency selected to all equipment assigned to the location. This frequency will override any higher frequency assigned for the equipment. For example, if the location frequency is quarterly but the equipment preventive maintenance frequency is semi-annual, the new frequency for the equipment will be quarterly. If only some of the equipment in a location require a different interval, then use the **Equipment Inventory** window to add the new interval for these equipment items. See "Defining Preventive Maintenance Templates by Equipment Item" on page 109 for information about scheduling by equipment item.

> *Note: Only define the frequency by locations if this is an exception to your standard preventive maintenance template, which is defined by equipment type, model, equipment item and/or groups. For example, you may have a state requirement to perform more frequent preventive maintenance for a particular location.*

- **Notes:** Additional information about the location.

Campuses List

Selecting **Information Lists>Locations>Campuses** opens the **Campuses** Information List. Campuses are typically clusters of buildings within the same vicinity of each other.

The **Campuses** Information List contains the following information for each record:

- **Shared:** Whether or not the campus is shared across Service Areas.

- **Campus:** Name of the campus.

- **Active:** Whether or not the campus is active.

- **Notes:** Additional information about the campus.
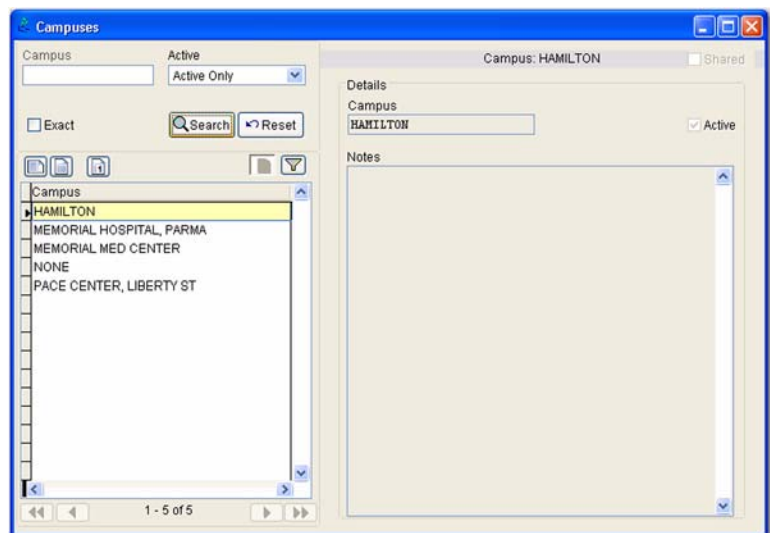
Buildings List

Selecting **Information Lists>Locations>Buildings** opens the **Buildings** Information List. Buildings are typically freestanding structures that may be either standalone or grouped into a campus.

The **Buildings** Information List contains the following information for each record:

- **Shared:** Whether or not the building is shared across Service Areas.

- **Building:** Name or number of the building.

- **Active:** Whether or not the building is active.

- **Notes:** Additional information about the building.
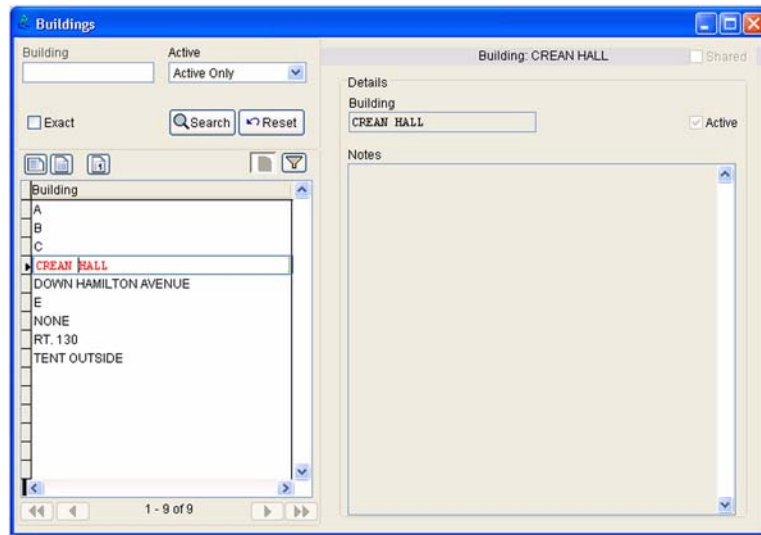
Wings List

Selecting **Information Lists>Locations>Wings** opens the **Wings** Information List.

Wings typically designate separate sections of buildings that can span multiple floors.

The **Wings** Information List contains the following information for each record:

- **Shared:** Whether or not the wing is shared across Service Areas.

- **Wing:** Name or number of the wing.

- **Active:** Whether or not the wing is active.

- **Notes:** Additional information about the wing.
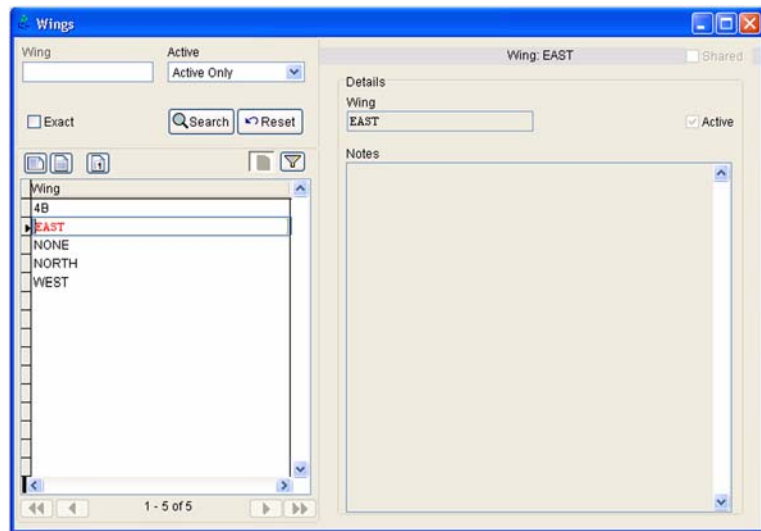
Floors List

Selecting **Information Lists>Locations>Floors** opens the **Floors** Information List. Floors typically designate a given floor number. A floor may span one or more wings.

The **Floors** Information List contains the following information for each record:

- **Shared:** Whether or not the floor is shared across Service Areas.

- **Floor:** Name or number of the floor.

- **Active:** Whether or not the floor is active.

- **Notes:** Additional information about the floor.
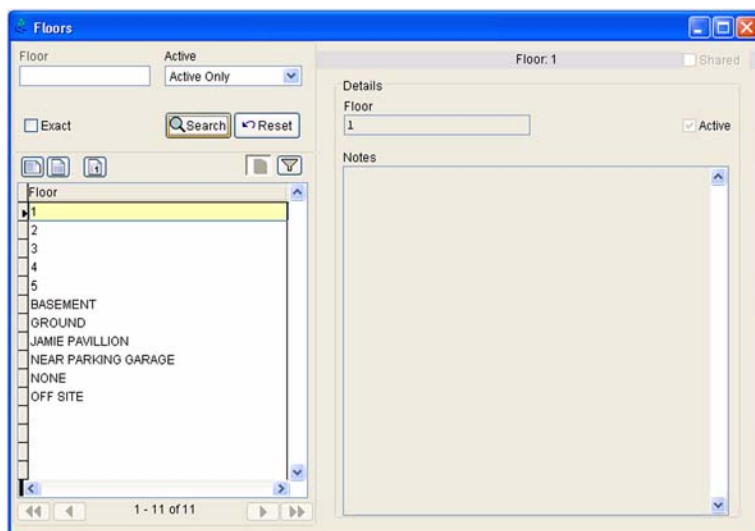
Rooms List

Selecting **Information Lists>Locations>Rooms** opens the **Rooms** Information List. Rooms are typically enclosed spaces on a certain floor.

The **Rooms** Information List contains the following information for each record:

- **Shared:** Whether or not the room is shared across Service Areas.

- **Room:** Name or number of the room.

- **Active:** Whether or not the room is active.

- **Notes:** Additional information about the room.
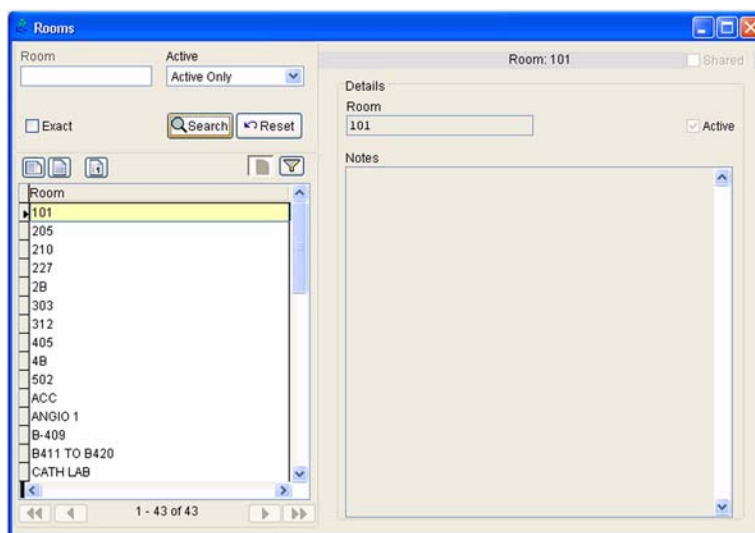
Spaces List

Selecting **Information Lists>Locations>Spaces** opens the **Spaces** Information List. Spaces are typically areas within a room.

The **Spaces** Information List contains the following information for each record:

- **Shared:** Whether or not the space is shared across Service Areas.

- **Space:** Name or number of the space.

- **Active:** Whether or not the space is active.

- **Notes:** Additional information about the space.
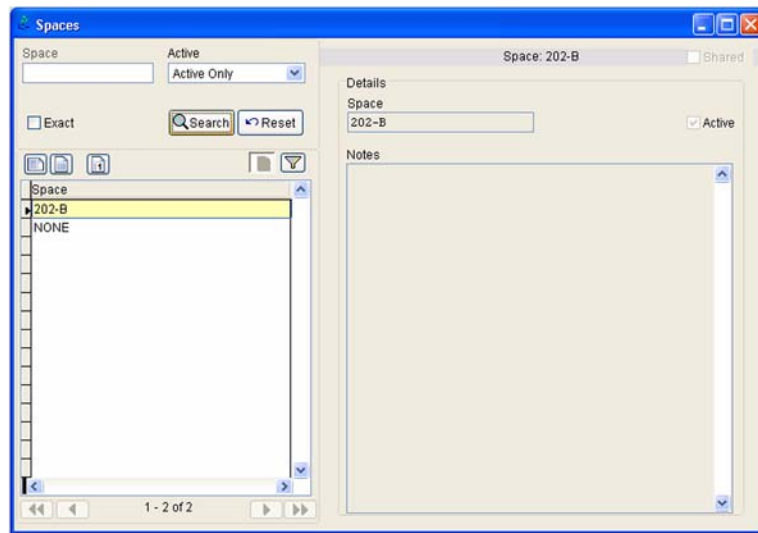
Maintenance Specialties List

Selecting **Information Lists>Maintenance Specialties** opens the **Maintenance Specialties** Information List.

The **Maintenance Specialties** Information List contains the trades, crafts, or other functions of the employees who perform the work generated through work orders (such as BMET, Biomedical Technician, Imaging, Carpenter, Plumber, or Painter). This list may also include administration and management functions.
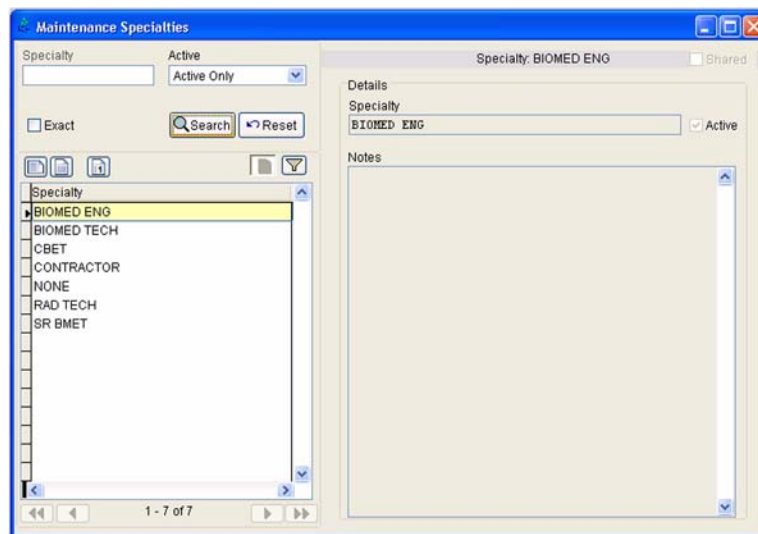
The **Maintenance Specialties** Information List contains the following information for each record:

- **Shared:** Whether or not the maintenance specialty is shared across Service Areas.

- **Specialty:** Name of the maintenance specialty.

- **Active:** Whether or not the maintenance specialty is active.

- **Notes:** Additional information about the maintenance specialty.

Part Types List

Selecting **Information Lists>Part Types** opens the **Part Types** Information List.

The **Part Types** Information List is a category used to describe like parts in the HEMS **Parts Inventory** window, such as: Ballasts, fluorescent; Cable, romex; Elbows, copper; and Lamps, incandescent. Please see "CHAPTER 7: Managing Parts" on page 169 for more information about managing parts within HEMS.

The **Part Types** Information List contains the following information for each record:

- **Part Type:** Name of the part type.

- **Active:** Whether or not the part type is active.

- **Notes:** Additional information about the part type.
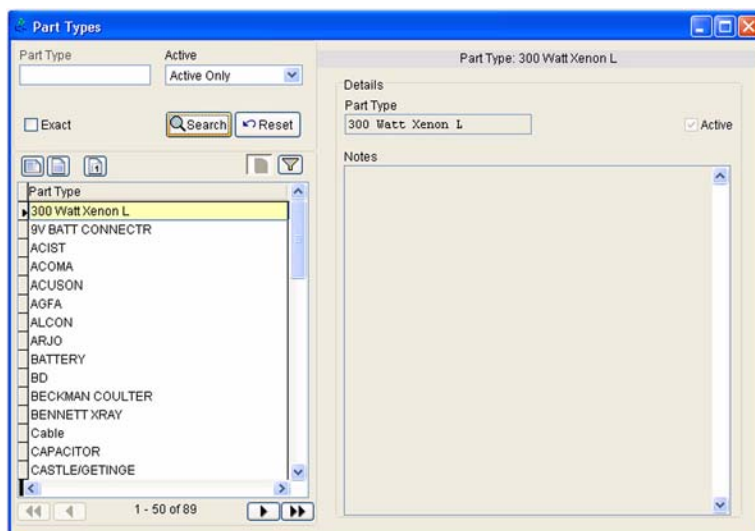
Predefined Text List

Selecting **Information Lists>Predefined Text** opens the **Predefined Text** Information List.

The **Predefined Text** Information List makes the data entry process simpler, faster, and more accurate by storing text for quick use when adding or editing information in the **Work Order**, **Equipment Inventory**, **Contract**, and **Maintenance Task** windows. Please see "Using Predefined Text" on page 50 for more information about using predefined text in fields.
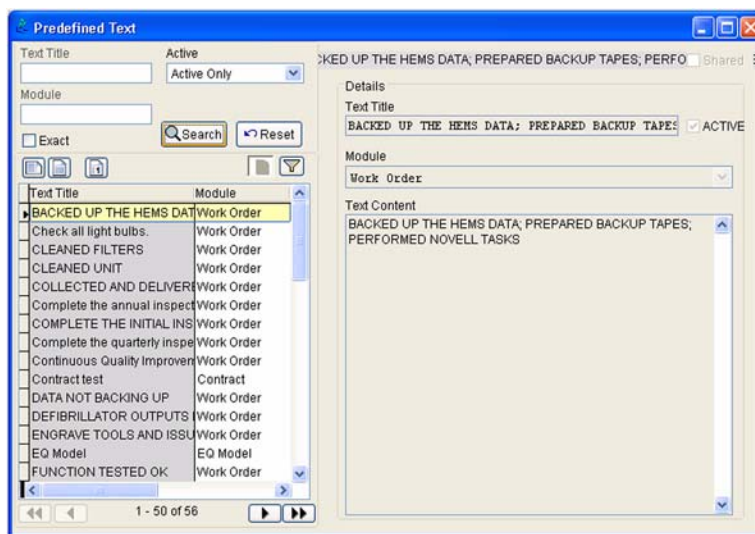
The continuing trend toward having mechanics and technicians enter their own work order data makes the **Predefined Text** Information List even more valuable. For example, consider the common occurrence of replacing a light bulb. A predefined text string that says, "Remove diffuser and replace the 32 watt, 48 inch fluorescent tube" contains over 60 characters that the mechanic or technician can enter with just a few mouse clicks. Reusing this text string every time the identical function is performed ensures consistency across records over time, which increases the value of reports that in turn increase efficiency and quality.

The **Predefined Text** Information list contains the following information for each record:

• **Shared:** Whether or not the predefined text record is shared across Service Areas.

• **Text Title:** Name of the predefined text string.

• **Active:** Whether or not the predefined text string is active.

• **Module:** Window in which the predefined text string applies. Users adding or editing information in a HEMS window/module will only see the predefined text strings that are available for that window, to avoid confusion.

• **Text Content:** The actual text string that will be entered into fields in the selected window when selected by the technician or engineer.

Procedure & Task Lists

Procedures and tasks describe the preventive maintenance performed on scheduled work orders. The **Procedures** and **Tasks** Information Lists are therefore critical to the core HEMS functions.

In general, a task is an individual work function such as, "test lead input voltage." A procedure is an ordered collection of tasks designed to accomplish a certain function, such as completing preventive maintenance or a specific repair on an equipment item. In this example, testing the lead input voltage could be the third step in a procedure that begins with plugging in and powering up the equipment item, then making sure that various indicator lamps are lit. Tasks and procedures can be further classified by type for organization, tracking, and reporting purposes.

Procedures List

Selecting **Information Lists>Procedures & Tasks>Procedures** opens the **Procedures** Information List.

Each procedure in the **Procedures** Information List is a group of tasks that accomplish a specific goal such as a preventive maintenance cycle or repair action. EQ2 supports and will integrate any of the standard equipment nomenclatures (ASHE, AAMI, or ECRI) and procedures to your standardization process.
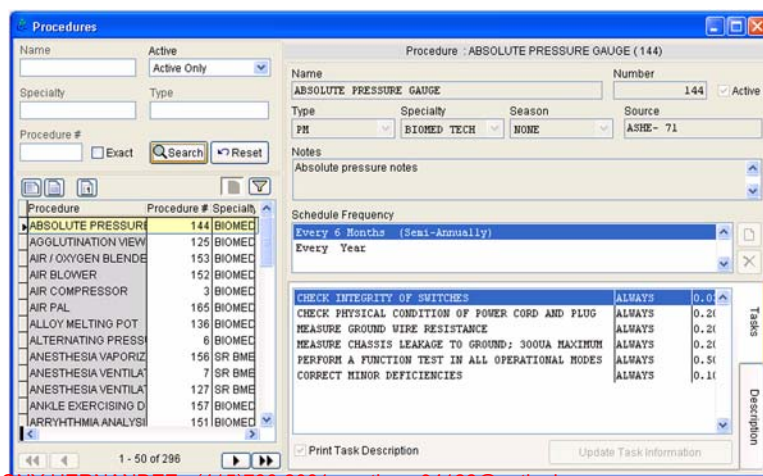
Please contact EQ2 directly for information and a quote for standardizing processes for existing data.

If service manuals are not available for a particular equipment item, use a manual from a related equipment item or a reputable book on related maintenance/repair procedures.

> ⚠️ **CAUTION: IMPROPERLY DESIGNED PROCEDURES CAN CAUSE DAMAGE TO EQUIPMENT AND/OR REDUCED EQUIPMENT OPERATIONAL LIFE SPAN.**

Procedures may contain tasks with multiple intervals, such as semi-annual, quarterly and monthly. Schedules incorporate multiple task intervals. Please see "Scheduling Equipment" on page 107 for more information about scheduling equipment.

The **Procedures** Information List contains the following general information for each record:

- **Name:** Name of the procedure.

- **Number:** Number of the procedure. This number must be unique for each HEMS procedure.

- **Active:** Whether or not the procedure is active.

- **Type:** Type of the procedure. This field uses values from the **Procedure Types** Information List, which is described in "Procedure Types List" on page 148.

- **Specialty:** Maintenance or trade specialty required to perform the procedure. This field uses values from the **Maintenance Specialties** Information List, which is described in "Maintenance Specialties List" on page 144.

- **Season:** If a preventive maintenance procedure is performed during a season and not year-round, such as snow plowing, enter the **Season** here for scheduling purposes. This field uses values from the **Seasons** Information List, which is described in "Seasons List" on page 151.

- **Source:** Source used as reference material when designing the selected procedure.

- **Schedule Frequency:** How often you will perform preventive maintenance using this procedure (i.e. the interval). Use one frequency for every maintenance interval. For example, if maintenance must be done monthly, semi-annually, and annually, you will need to add three frequency entries.

  - Clicking the **New** button to the right of the **Schedule Frequency** field opens the **Schedule Frequency** window, which allows you to add a schedule frequency to the procedure.

  - Double-clicking an existing schedule frequency opens the **Schedule Frequency** window for the selected frequency and allows you to make edits.

  - Highlighting a frequency and then clicking the **Delete** button removes that frequency from the procedure.

Please see "Adding Procedures" on page 165 for more information about adding tasks to a procedure and "The Schedule Frequency Window" on page 166 for information about assigning a frequency to each task.

The **Tasks** tab contains the following additional information:

- Each task in the procedure.

- The frequency of each task.

- The estimated time for each task.

- **Print Task Description:** Checking the **Print Task Description** checkbox prints the information on your scheduled work orders.

Please see "Adding Procedures" on page 165 for information about adding tasks to a procedure.

The **Description** tab contains the following information:

- All of the tasks that make up the procedure.

- The total estimated time to complete all of the tasks in the procedure (based on the time for each task).

- A frequency-by-frequency breakdown of the tasks and total estimated time to complete the procedure.

- Any procedure notes and task text (from the **Tasks** Information List). Please see "Tasks List" on page 149 for more information about the **Tasks** Information List.

Procedure Types List

Selecting **Information Lists>Procedures & Tasks>Procedure Types** opens the **Procedure Types** Information List.

A procedure type classifies one or more individual procedures by overall function. You can create procedure types by trade (such as plumbing, electrical, etc.) or by work function (inspection, preventive maintenance, repair, etc.) to suit your organization's needs.

The **Procedure Types** Information List contains the following information for each record:

- **Procedure Type:** Name of the procedure type.

- **Active:** Whether or not the procedure type is active.

- **Notes:** Additional information about the procedure type.

Tasks List

Selecting **Information Lists>Proce-dures & Tasks>Tasks** opens the **Tasks** Information List.

In general, a task is an individual work function such as, "Test lead input voltage." A task might be as simple as a visual exterior inspec-tion or as complicated as a vibration test performed on a set of bearings.

Procedures group individual tasks into a complete maintenance job that is used when working on scheduled preventive maintenance work orders. Please see "Proce-dures List" on page 146 for more information about procedures.

The **Tasks** Information List contains the following information for each record:

*   **Name:** Name of the task.

*   **Active:** Whether or not the task is active.

*   **Type:** Type of the task. This field uses values from the **Task Types** Information List, which is described in "Task Types List" on page 150.

*   **Control:** Tasks associated with control or that interface with medTester or other equipment testers.

*   **Task #:** Number of the task. This number must be unique for each HEMS task.

*   **Min Task Value:** Lowest allowable result of this task. For example, the minimum allowable voltage might be 12.5V. Values below this limit indicate that the equipment may need repair.

*   **Max Task Value:** Highest allowable result of this task. For example, the maximum allowable voltage might be 13.2V. Values above this limit indicate that the equipment may need repair

*   **Estimated Hours:** Estimated amount of time, in hours and tenths, that the task should take to accomplish. The sum of all task times will be entered into work orders for workload monitor-ing and reporting.

*   **Task Text:** Full explanation of how to accomplish the task. You may enter predefined text into this field, as described in "Using Predefined Text" on page 50.

> *Note: You may list any special tool(s) required to accomplish this task (such as a voltmeter) as a reminder to the mechanic or technician.*

Task Types List

Selecting **Information Lists>Proce-dures & Tasks>Task Types** opens the **Task Types** Information List.

A task type classifies one or more individual tasks by overall function. You can create task types by trade (such a plumbing, electrical, etc.) or by work function (inspection, pre-ventive maintenance, repair, etc.) to suit your organization's needs.

The **Task Types** Information List contains the following information for each record:

- **Task Type:** Name of the task type.

- **Active:** Whether or not the task type is active.

- **Notes:** Additional information about the task type.
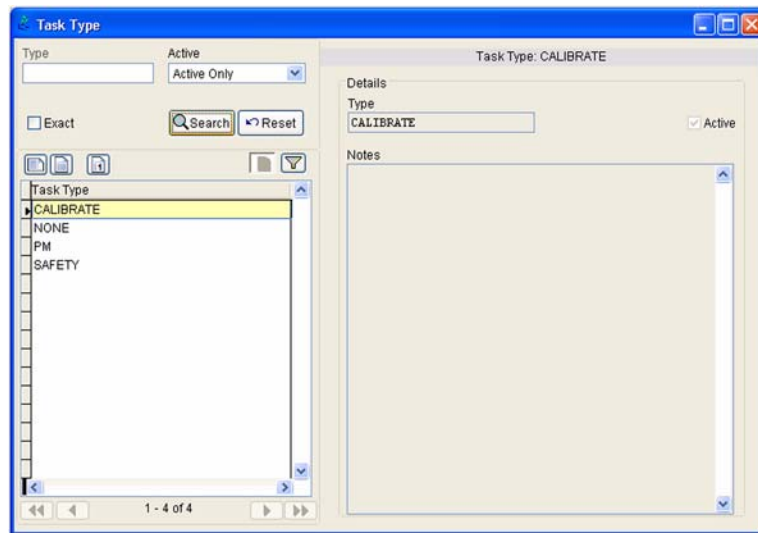
Purchase Orders List

Selecting **Information Lists>Pur-chase Orders** opens the **Purchase Orders** Information List.

The **Purchase Orders** Information List tracks purchase order numbers and their descriptions and is pri-marily used in equipment inventory and work orders.

The **Purchase Orders** Information List contains the following informa-tion for each record:

- **Shared:** Whether or not the purchase order is shared across Service Areas.

- **PO #:** Number of the purchase order.

- **Active:** Whether or not the purchase order is active.

- **Description:** Description of the purchase order.

- **Notes:** Additional information about the purchase order.
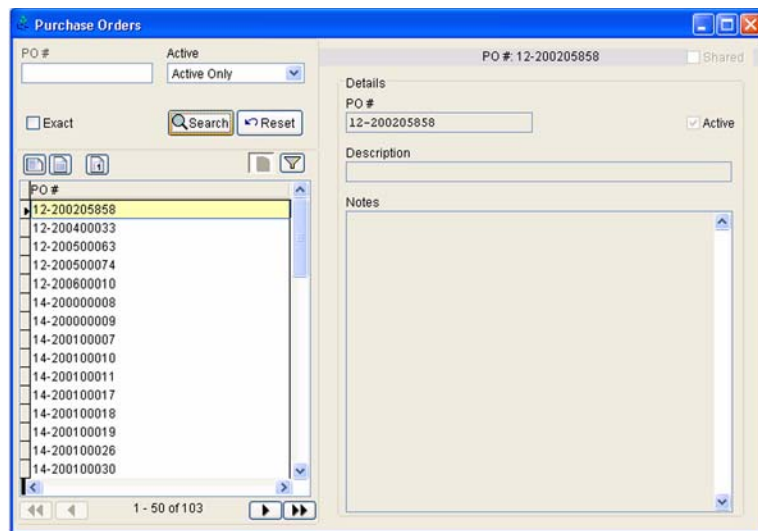
Seasons List

Selecting **Information Lists>Seasons** opens the **Seasons** Information List.

The **Seasons** Information List allows scheduled work orders to be generated only within a specific date range. For example:

- Cooling Season (April 15 through October 14) – A monthly work order might be generated, using this season, to change a filter in a window air conditioning unit, which is not required at any other time of the year.

- Heating Season (October 15 through April 14) – A monthly work order might be generated, using this season, to check the water level in a steam boiler.
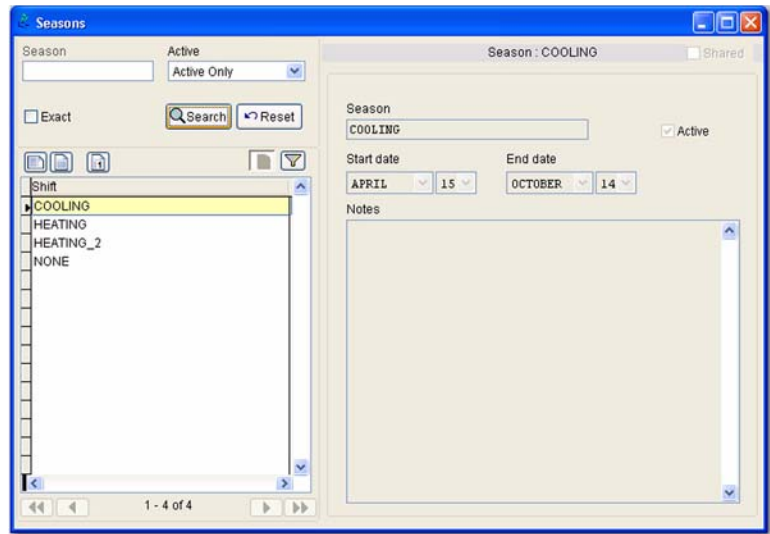
The **Seasons** Information List contains the following information for each record:

- **Shared:** Whether or not the season is shared across Service Areas.

- **Season:** Name of the season.

- **Active:** Whether or not the season is active.

- **Start Date:** Date on which the season begins each year.

- **End Date:** Date on which the season ends each year.

- **Notes:** Additional information about the season.

Shifts List

Selecting **Information Lists>Shifts** opens the **Shifts** Information List.

The **Shifts** Information List defines work shifts and department shifts (hours of operation).

The **Shifts** Information List contains the following detailed information about each designated work shift:

- **Shared:** Whether or not the shift is shared across Service Areas.

- **Name:** Name of the shift.

- **Active:** Whether or not the shift is active.

- **Days: T**hese seven checkboxes correspond to the days of the week. A checked checkbox indicates that the shift is scheduled to work that day.

- **Start Time:** Shift start time in military (24-hour) format. For example, if the shift starts at 2:00PM, enter 14:00.

- **End Time:** Shift end time in military (24-hour) format. For example, if the shift ends at 10:00PM, enter 22:00.

- **Notes:** Additional information about the shift.
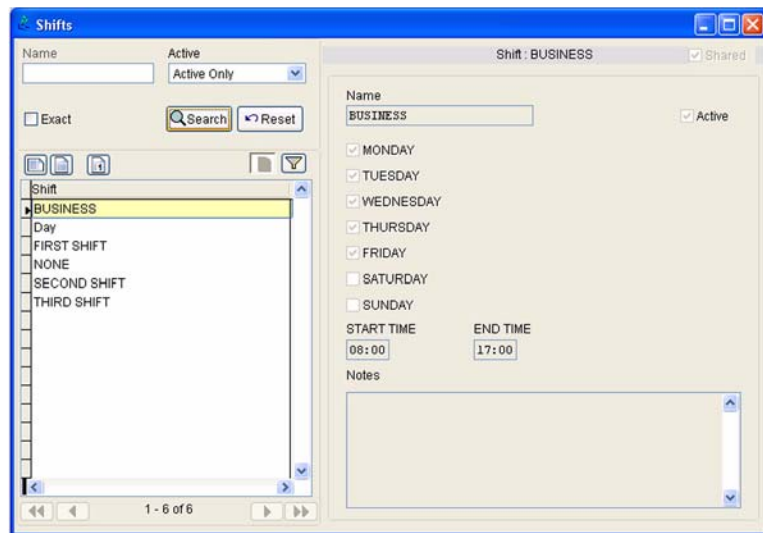
Subcodes List

Selecting **Information Lists>Subcodes** opens the **Subcodes** Information List.

The **Subcodes** Information List contains additional tracking information. For preventive maintenance work orders, this documents the outcome (such as "PM Successful"), as described in "Preventive Maintenance (WO Type = Scheduled)" on page 56. For corrective work orders, this field documents the cause (such as "Failure"), as described in "Corrective Maintenance (WO Type=Routine, Failure, etc.)" on page 57.
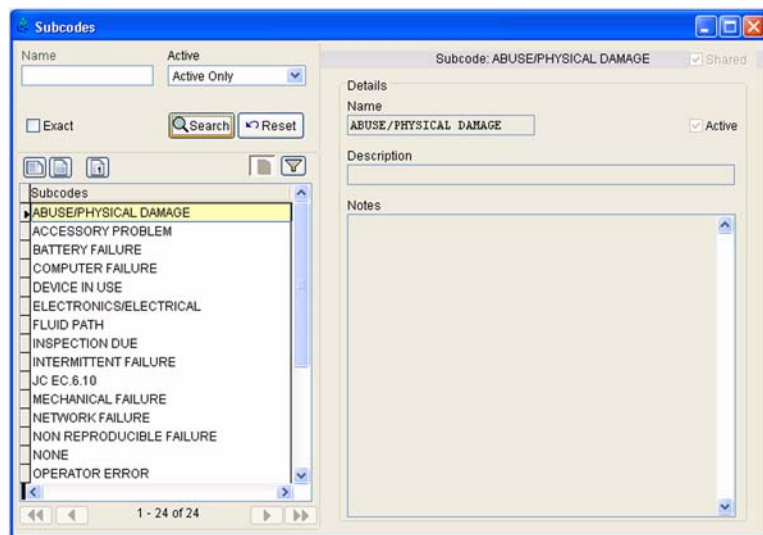
The **Subcodes** Information List contains the following information for each record:

- **Shared:** Whether or not the subcode is shared across Service Areas.

- **Name:** Name of the subcode.

- **Active:** Whether or not the subcode is active.

- **Description:** Describes the subcode.

- **Notes:** Additional information about the subcode.

This Information list has the following built-in system values:

- Abuse/Physical Damage

- Device in Use

- Not Found

- Operator Error

- PM Failure

- PM Successful

- Unable to Locate

- None

Vendors List

Selecting **Information Lists>Vendors** opens the **Vendors** Information List.

The **Vendors** Information List includes all equipment suppliers and manufacturers used by the biomedical/maintenance department in their day-to-day activities. It provides a convenient single source for all vendor contact information and also facilitates purchasing and management.

The **Vendors** Information List contains the following information for each record:

- **Vendor Type:** The following checkboxes indicate the vendor type:

  - **Supplier:** Checking the **Supplier** checkbox indicates that the vendor supplies (but does not necessarily manufacture) equipment.

  - **Manufacturer:** Checking the **Manufacturer** checkbox indicates that the vendor manufactures (but does not necessarily supply) equipment.

> *Note: It is possible for a vendor to both manufacture and supply equipment. In this case, check both checkboxes for that vendor.*

- **Active:** Whether or not the vendor is active.
- **Name:** Name of the vendor. Be sure to standardize your vendor list to avoid variant spelling and abbreviations for the same vendor (such as "GE", "Gen Elec", or "General Electric"), for ease of look-up and reporting.
- **Type:** Vendor types categorize vendors for quick look-up and filtering.
- **Address/City/State/Zip:** Vendor's complete street, city, state, and ZIP code.
- **Phone:** Vendors's primary phone number.
- **Phone 2:** Vendor's secondary phone number.
- **Fax:** Vendor's fax number.
- **Beeper:** Vendor's pager/beeper number.
- **Email:** Vendor's email address.
- **ECRI#:** Emergency Care Research Institute (ECRI) manufacturer number assigned to the vendor.
- **ECRI Name:** ECRI manufacturer name of the vendor.
- **Notes:** Additional information about the vendor.

> *Note: Entering the manufacturer's ECRI # and name from ECRI's Universal Medical Device Nomenclature System (UMDNS) in the **ECRI #** and **Name** fields allows Biomedical Engineering staff to efficiently open and respond to work orders for device recall and alerts.*

Work Order Lists

Opening, tracking, closing, and documenting work orders is another crucial HEMS function. The combination of work order code and types uniquely identifies the characteristics of each work order. Carefully setting up these Information Lists can help you monitor, track, and report on workload, equipment reliability, time spent on one or multiple work orders, types of work performed, etc.

Work Order Codes List

Selecting **Information Lists>Work Order Lists>Work Order Codes** opens the **Work Order Codes** Information List.

The **Work Order Codes** Information List adds additional labor information to the work order such as Locating Equipment, Wait Time, Travel Time, etc.

The **Work Order Codes** Information List contains the following information for each record:

- **Shared:** Whether or not the work order code is shared across Service Areas.

- **Code Name:** Name of the work order code.

- **Active:** Whether or not the work order code is active.

- **Notes:** Additional information about the work order code.

This Information list has the following fixed system values:

- Callback After Hours

- Incoming Inspection

- Locating Equipment

- Overtime

- PM

- Travel Time

- Wait Time

- Not Found

- None
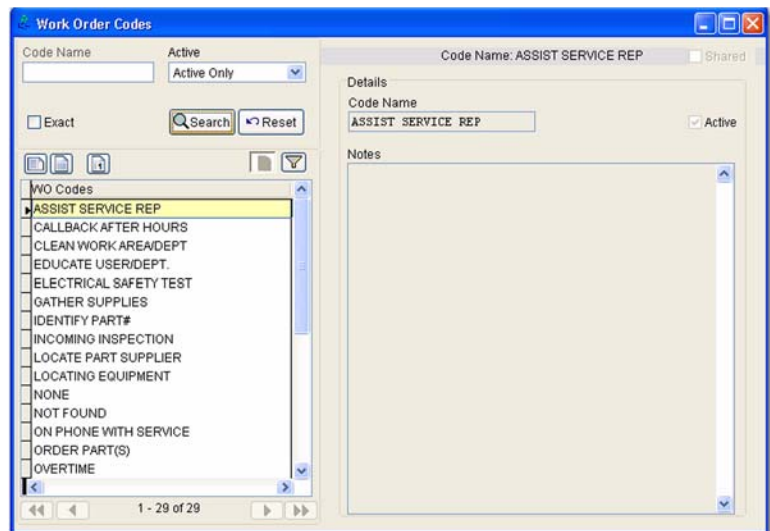
Work Order Priorities List

Selecting **Information Lists>Work Order Lists>Work Order Priorities** opens the **Work Order Priorities** Information List.

The **Work Order Priorities** Information List allows department managers to review open work orders and determine:

- The importance of the work order.

- Whether the work order can be delayed.

The **Work Order Priorities** Information List contains the following information for each record:

- **Shared:** Whether or not the work order priority is shared across Service Areas.

- **Priority Name:** Name of the work order priority.

- **Active:** Whether or not the work order priority is active.

- **Weight:** How much the work order priority affects overall work order prioritization.

- **Response Time:** Time within which work orders opened with this priority must be responded to by a technician.

- **Close Time:** Time within which work orders opened with this priority must be resolved and closed by a technician.

- **Notes:** Additional information about the work order priority.

This Information list has the following fixed system values:

- Low

- Standard

- High

- Not Found

- None
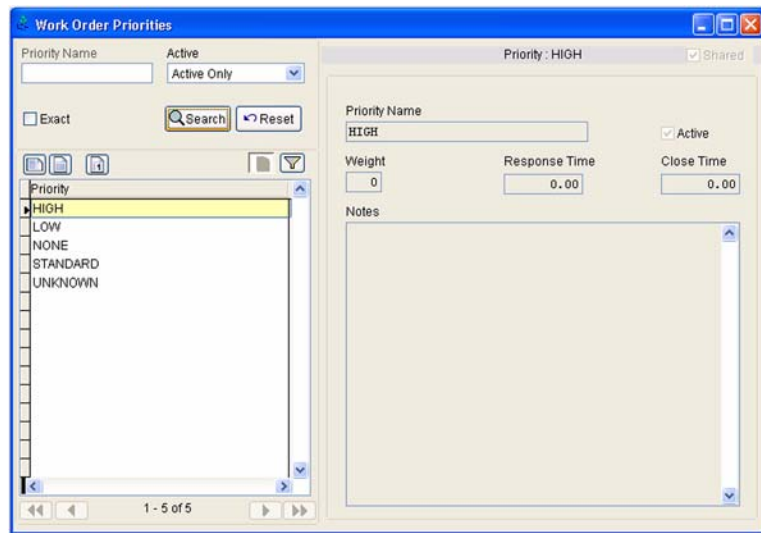
Work Order Status List

Selecting **Information Lists>Work Order Lists>Work Order Status** opens the **Work Order Status** Information List.

The **Work Order Status** Information List allows department managers to review open work orders and determine:

*   The workload for a particular group.

*   What is delaying a job.

*   How to determine staffing needs.
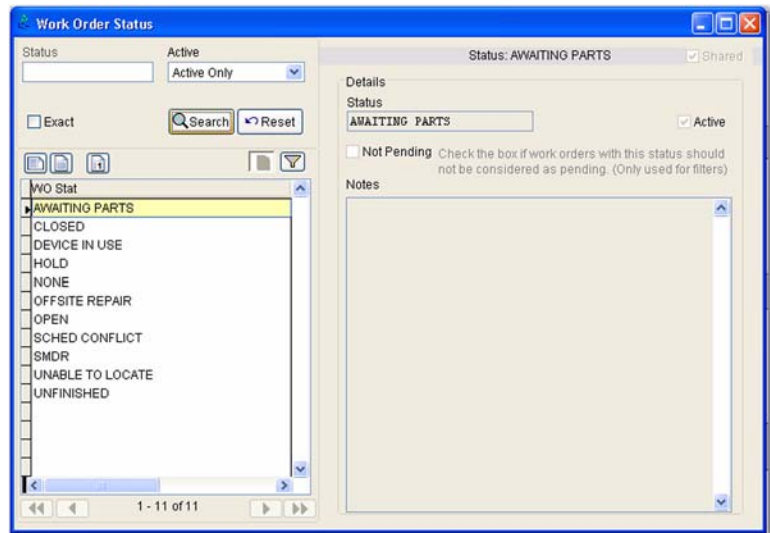
The **Work Order Status** Information List contains the following information for each record:

*   **Shared:** Whether or not the work order status is shared across Service Areas.

*   **Status:** Name of the work order status.

*   **Active:** Whether or not the work order status is active.

*   **Not Pending:** Checking the **Not Pending** checkbox indicates that work orders with the status are considered closed. This is important for searching, filtering and reporting on pending vs. closed work orders. HEMS considers work orders pending when they have any status except Closed.

*   **Notes:** Additional information about the work order status.

This Information list has the following fixed system values:

*   Open

*   Closed

*   Awaiting Parts

*   Device in Use

*   Hold

*   Schedule Conflict

*   Unable to Locate

*   Unfinished

*   Not Found

Work Order Types List

Selecting **Information Lists>Work Order Lists>Work Order Types** opens the **Work Order Types** Information List.

The **Work Order Types** Information List classifies work orders in a predetermined manner for tracking and regulatory management.

The **Work Order Types** Information List contains the following information for each record:

- **Shared:** Whether or not the work order status is shared across Service Areas.

- **WO Type:** Name of the work order type.

- **Active:** Whether or not the work order type is active.

- **Notes:** Additional information about the work order type.

This Information list has the following fixed system values:

- Scheduled

- Routine

- Education

- Failure

- Hazard

- Incoming Inspection

- MDSR (Medical Device Safety Report)

- Miscellaneous

- Project

- Recall/Alert

- Retired

- Web Assigned

- Not Found
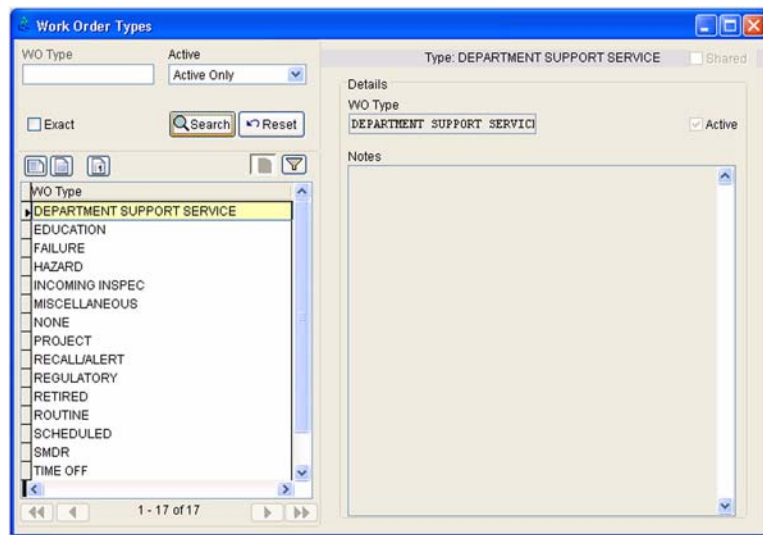
Working with Information Lists

Information Lists are the foundation of the HEMS database because they contain the records of the various departments, locations, employees, equipment, etc. in your organization.

Information List Windows

Selecting an Information List from the **Information Lists** menu opens a window for the selected Information List. The name and contents of each window depends on the Information List you selected, but all **Information List** windows contain the following functional areas:

Search Area

Report/ Print Buttons

Search Mode Buttons

Results Area

Details Area
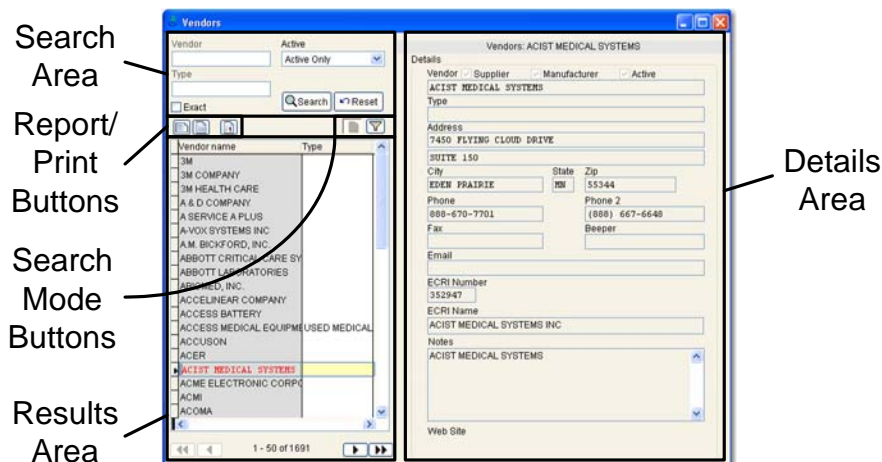
• **Search Area:** Allows you to search for records in the selected Information List. This image shows an example of a Find mode search area. The actual search options available will depend on the Information List you are working with.

• **Report/Print Buttons:** Allow you to run reports and print/export data. Please see "CHAPTER 12: Printing & Exporting Data" on page 233 for more information about printing and exporting data in HEMS.

• **Search Mode Buttons:** Switch between Find and Filter modes, and display records added during the current HEMS session.

• **Results Area:** Search results appear here.

• **Details Area:** Displays the currently selected Information List record.

Search Area (Find Mode)

When the **Information List** window is in Find mode (shown above), the Search Area contains various fields depending on the selected Information List. By default, entering one or more letters in one or more of the search fields returns results that begin with the text you entered. For example, entering "def" will return "defibrillator."

Entering values in multiple search field restricts results to values that match all of the search terms in all of the fields. For example, entering "def" in the **EQ Type** field and "phi" in the **Manufacturer** field would return defibrillators manufactured by Philips but not defibrillators from different manufacturers.

Checking the **Exact** checkbox returns only those results that contain the exact text you entered. If you select this option, then entering "def" will not return "defibrillator" because the two are not an exact match.

Enter your desired search terms and then click **Search** to return matching results, or **Reset** to clear the Search Area and begin a new search.

Please see "The Find Function" on page 221 for more information on using Find mode.

Search Area (Filter Mode)

When the **Information List** window is in Filter mode (not shown), the Search Area contains a list of selected filter conditions. Please see "Filters" on page 222 for more information about using filters.

Report/Print Buttons

The **Report/Print** buttons provide quick access to relevant reports. From the left to right, the buttons are:

- **List Report:** Clicking the **List Report** button opens a summary report that lists all of the records in the current Information List. For example, if you are in the **Equipment Models** Information List, then this button will display a summary of all equipment models.

- **Detail Report - All:** Clicking the **Detail Report - All** button opens a report that provides detailed information about each of the records in the current Information List.

- **Detail Report - Current:** Selecting an item in the Results Area and then clicking the **Detail Report - Current** button opens a report that provides detailed information about the currently selected Information List record.

Reports appear in a separate browser window. You can print and/or export these reports, as described in "CHAPTER 12: Printing & Exporting Data" on page 233.

Search Mode Buttons

The **Search Mode** buttons determine how Information List records will be retrieved. From left to right, the buttons are:

- **Show Newly Added Items:** If the **Show Newly Added Items** button is active, clicking it will display items added during your current HEMS session (from the time you logged into HEMS). Exiting HEMS ends your session. Clicking this button again returns you to normal Search mode.

- **Switch to Filter mode:** When the **Information List** window is in Find mode, the **Switch to Filter mode** button appears as a small funnel. Clicking this button switches the Search Area to Filter mode. Please see "Filters" on page 222 for more information on using filters.

- **Switch to Find mode:** When the **Information List** window s in Filter mode, the **Switch to Find mode** button appears as a small magnifying glass. Clicking this button switches the Search Area to Find mode. Please see "The Find Function" on page 221 for more information on using Find mode.

Details Area

The Details Area displays the information contained in the selected Information List record.

Adding a Record

This section describes how to add records to HEMS Information Lists. Most Information Lists use the general instructions. The **Equipment Models**, **Equipment Types**, **Equipment Groups**, and **Procedures** Information Lists have additional instructions that must be followed when adding records to these Information Lists. Please see:

- "Adding Equipment Models" on page 161 for information on adding equipment models.

- "Adding Equipment Types" on page 163 for information on adding equipment types.

- "Adding Equipment Groups" on page 164 for information on adding equipment groups.

- "Adding Procedures" on page 165 for information on adding procedures.

Adding Information List Records

To add a record to an Information List:

1. Select the correct Information List using the **Information Lists** menu.

2. EIther click the **New** button in the **Toolbar** or press [CTRL]+[N].

3. Enter all of the required information for the record you are creating in the appropriate fields.

4. The **Active** checkbox is checked by default, making this record active.

5. Enter any additional information as appropriate for the Information List you are working in.

> *Note: Don't forget to add information to tabs within the Information List you are working with, if applicable.*

6. Either click the **Save** button in the **Toolbar** or press [CTRL]+[S] to save the new record.

For detailed information about the contents of each field, please refer to the instructions for the Information List you are working with.

Adding Equipment Models

To add a new equipment model:

1. Open the **Equipment Models** Information List. See "Equipment Models List" on page 131 for information about the **Equipment Models** Information List.

2. Follow Steps 2-5, above.

3. In general, equipment is scheduled by type; however, you can schedule by model if needed (such as if a model has a different preventive maintenance procedure, interval, or assigned engineer). To add a preventive maintenance interval, go to the **Schedule** tab, check the **Schedule Template** checkbox, and then click the **New** button to open the **Schedule Frequency** window. Please see "The Schedule Frequency Window" on page 97 for information about using the **Schedule Frequency** window.

4. In general, risk is assigned by type, but you can also assign risk by model if needed. Enter risk information, if any, using the **Other Details** tab. Please see "CHAPTER 8: Managing Risk" on page 179 for more information about managing risk in HEMS.

5. Go to the **Parts** tab, and then click the **Update Part Information** button to open the **Select the parts to be added** window.

6. Search for the parts you want to add using the Search Area.

7. Select the part record(s) to add to the equipment model in the Search Results Area and then move that information to the Selection Area using the following **Selection** buttons:

    -   Clicking the **>>** button moves all of the records in the Search Result Area to the Selection Area.

    -   Clicking the **>** button moves the currently selected record in the Search Result Area to the Selection Area.

    -   Clicking the **<** button removes the currently selected record from the Selection Area back to the Search Results Area.

    -   Clicking the **<<** button removes all of the records in the Selection Area back to the Search Results Area.

8. Click **OK** to close the **Select Parts** window and return to the **Equipment Models** Information List with your selections added to the model you are adding.

9. If needed, go to the **Attachments** tab to attach documents (such as manuals) and/or scan images from a local scanner to the equipment model. Attachments added to equipment types and models appear as attachments in individual equipment item records of the same model or type.

10. Either click the **Save** button in the **Toolbar** or press [CTRL]+[S] to save the new equipment model record.
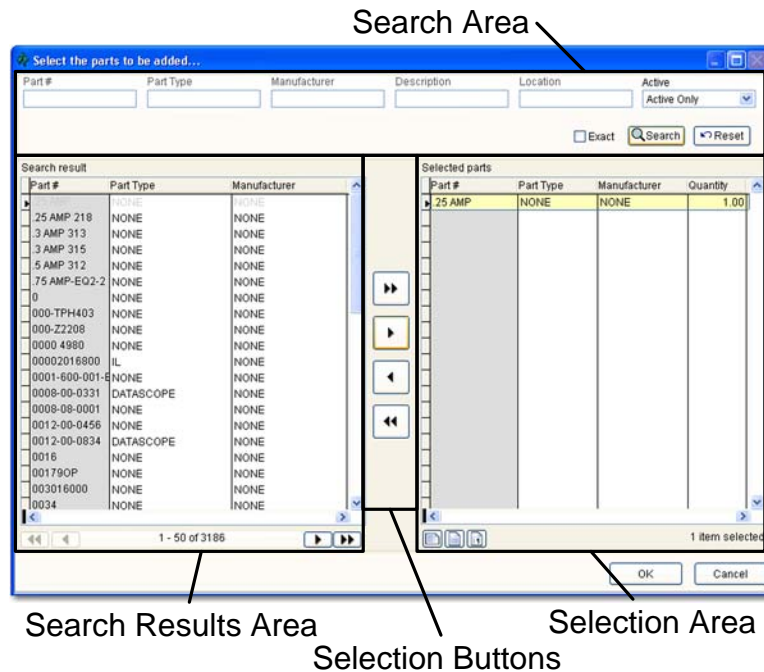
Adding Equipment Types

To add a new equipment type:

1. Open the **Equipment Types** Information List. See "Equipment Types List" on page 134 for information about the **Equipment Types** Information List.

2. Follow Steps 2-5 of the General procedure on page 161.

3. In general, equipment is scheduled by type. To add a preventive maintenance interval to the type you are adding, go to the **Schedule** tab, check the **Schedule Template** checkbox, and then click the **New** button to open the **Schedule Frequency** window. Please see "The Schedule Frequency Window" on page 166 for information about using the **Schedule Frequency** window.

4. Enter risk information, if any, using the **Other Details** tab. Please see "Equipment Types List" on page 134.

5. If needed, go to the **Attachments** tab to attach documents (such as manuals) and/or scan images from a local scanner to the equipment type. Attachments added to equipment types and models appear as attachments in individual equipment item records of the same model or type.

6. Either click the **Save** button in the **Toolbar** or press [CTRL]+[S] to save the new equipment type record.

Adding Equipment Groups

To add a new equipment group:

1. Open the **Equipment Groups** Information List. See "Equipment Groups List" on page 137 for information about the **Equipment Groups** Information List.

2. Follow Steps 2-5 of the General procedure on page "Adding a Record" on page 161.

3. Go to the **Equipment** tab, and then click the **Update Equipment Information** button to open the **Select Equipment** window.

4. Search for the equipment you want to add using the Search Area.

5. Select the equipment item(s) to add to the equipment group in the Search Results Area and then move that information to the Selection Area using the following **Selection** buttons:

    -   Clicking the **>>** button moves all of the records in the Search Result Area to the Selection Area.

    -   Clicking the **>** button moves the currently selected record in the Search Result Area to the Selection Area.

    -   Clicking the **<** button removes the currently selected record from the Selection Area back to the Search Results Area.

    -   Clicking the **<<** button removes all of the records in the Selection Area back to the Search Results Area.

6. Add a schedule date and define the preventive maintenance template by checking the **Schedule** button to access the **Schedule** tab. Enter the **PM Procedure** and **Assigned Engineer**. To define the schedule interval, go to the **Schedule** tab and either click the **New** button or double-click a frequency to open the **Schedule Frequency** window. Please see "The Schedule Frequency Window" on page 97 for information about using the **Schedule Frequency** window.

7. Click **OK** to close the **Select Equipment** window and return to the **Equipment Groups** Information List with your selections added to the model you are creating.

8. Either click the **Save** button in the **Toolbar** or press [CTRL]+[S] to save the new equipment group record.
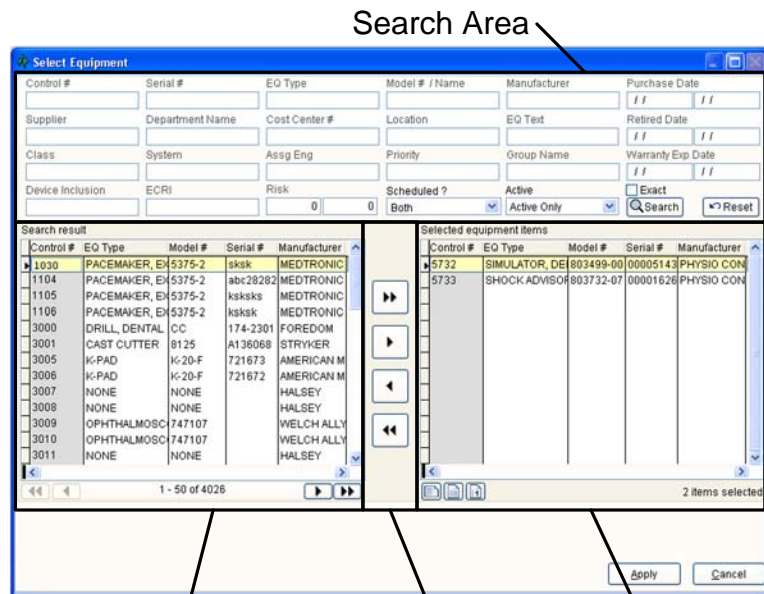
Adding Procedures

To add a new procedure:

1. Open the **Procedures** Information List. See "Procedures List" on page 146 for information about the **Procedures** Information List.

2. Follow Steps 2-5 of the General procedure on page "Adding a Record" on page 161.

> *Note: EQ2 supports and will integrate any of the standard equipment nomen-clatures (ASHE, AAMI, or ECRI) and procedures to your standardization process. Please contact EQ2 directly for information and a quote for standardizing pro-cesses for existing data.*

3. If desired, add a schedule frequency by checking the **New** button next to the **Schedule Frequency** checkbox to open the **Schedule Frequency** window. Please see "The Schedule Frequency Window" on page 166 for information about using the **Schedule Frequency** window.

4. Go to the **Tasks** tab, and then click the **Update Task Information** button to open the **Select the tasks to be added** window.

5. Search for the task you want to add using the Search Area.

6. Select the task record(s) to add to the procedure in the Search Results Area and verify that you have selected the correct task by reading its description in the **Task Description** field.

7. Move the selected task to the Selection Area using the following **Selection** buttons:

   - Clicking the **>>** button moves all of the records in the Search Results Area to the Selection Area.

   - Clicking the **>** button moves the currently selected record in the Search Result Area to the Selection Area.

   - Clicking the **<** button removes the currently selected record from the Selection Area back to the Search Results Area.

   - Clicking the **<<** button removes all of the records in the Selection Area back to the Search Results Area.

8. For each selected task, use the **Frequency** pull-down menu to select the interval for that task. The available frequencies will be those you created in Step 3 above.
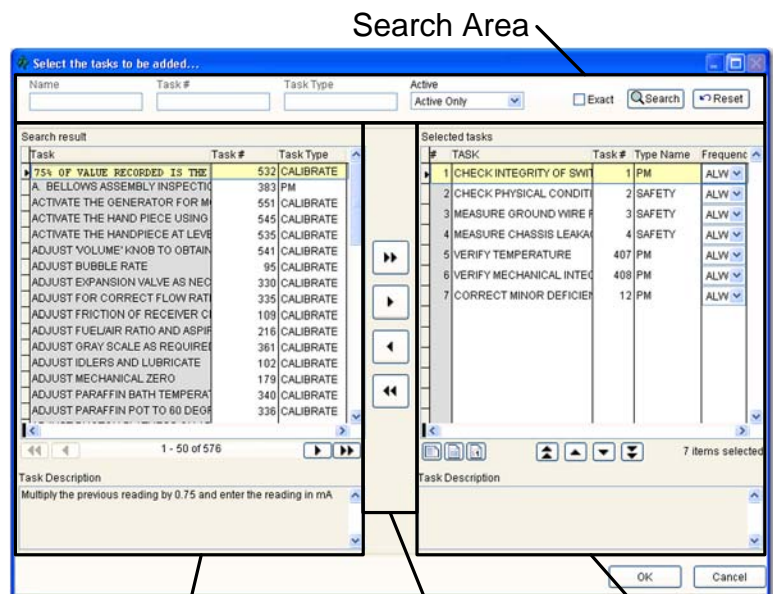
9. Arrange the tasks into the correct procedural order by selecting the task to move and then using the **Reorder** buttons:

    -   Clicking the double up-arrow button moves the selected task to the top of the list of tasks in the Selection Area to indicate that it should be performed first.

    -   Clicking the single up-arrow button moves the selected task up one position in the list of tasks in the Selection Area to indicate that it should be performed earlier.

    -   Clicking the single down-arrow button moves the selected task down one position in the list of tasks in the Selection Area to indicate that it should be performed later.

    -   Clicking the double down-arrow button moves the selected task to the bottom of the list of tasks in the Selection Area to indicate that it should be performed last.

10. Verify that you have selected the correct tasks and arranged them in the correct order.

CAUTION: IMPROPERLY DESIGNED PROCEDURES CAN CAUSE DAMAGE TO EQUIPMENT AND/OR REDUCED EQUIPMENT OPERATIONAL LIFE SPAN.

11. Click **Apply** to close the **Select Tasks** window and return to the **Procedures** Information List with tasks added to the procedure you are creating.

12. Check the **Print Task Description** checkbox if you want the contents of the **Description** tab to print on work orders (recommended).

13. Either click the **Save** button in the **Toolbar** or press [CTRL]+[S] to save the new procedure record.

The Schedule Frequency Window

The **Schedule Frequency** window is used to create, edit, or delete schedule frequencies in the **Equipment Models**, **Equipment Types**, **Equipment Groups**, and **Procedures** Information Lists. HEMS allows you to define preventive maintenance templates by equipment type, model, equipment item, or group. Please see "Scheduling Equipment" on page 107 for more information about scheduling equipment.
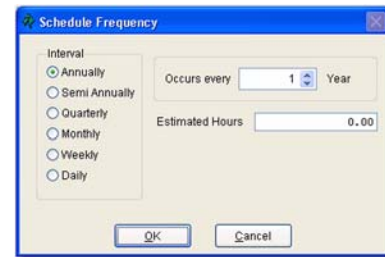
To add a schedule frequency:

1. Open the **Schedule Frequency** window as described for each Information List.

2. Select the correct interval by checking the appropriate **Interval** radio button.

3. If necessary, adjust the frequency using the **Occurs Every** pull-down menu. For example, to schedule every 18 months, you would select **Monthly** and then **Occurs Every** 18.

4. Enter the number of estimated hours necessary to complete preventive maintenance for this interval in the **Hours** field.

5. Click **OK** to close the **Schedule Frequency** window and save your changes to the Information List you are currently working in.

Editing a Record

To edit an Information List record:

1. Select the correct Information List using the **Information Lists** menu.

2. Either click the **Edit** button in the **Toolbar** or press [CTRL]+[E].

3. Check or clear the **Active** checkbox, as appropriate. See "Activating/Deactivating Records" on page 167 for more information about active and inactive records.

4. Enter all of the updated information for the record you are editing in the appropriate fields, (including information in tabs, if applicable).

5. Either click the **Save** button in the **Toolbar** or press [CTRL]+[S] to save the edited record.

For detailed information about the contents of each field, please refer to the instructions for the Information List you are working with.

Copying a Record

To save time, you may create a copy of an existing Information List record and then edit the copy. This is useful when you need two records that share some identical information. To copy an existing Information List record:

1. Select the correct Information List using the **Information Lists** menu.

2. Find the record you want to copy using the Search function. Please see "CHAPTER 11: Finding Data" on page 219 for more information about searching for Information List records.

3. Either click the **Copy** button in the **Toolbar** or press [CTRL]+[K].

4. Edit the appropriate fields to reflect the correct information for the new record, being sure not to forget about information in tabs, if applicable.

5. Either click the **Save** button in the **Toolbar** or press [CTRL]+[S] to save the new record.

Activating/Deactivating Records

Each record in the HEMS Information Lists includes a checkbox labeled **Active**. This checkbox is checked by default when you create a new record.

Information List records cannot be deleted from HEMS if they have been used in equipment inventory or work orders because this information is part of your maintenance history. You can, however, deactivate records that are no longer used by clearing the desired record's **Active** checkbox.

You can also determine whether or not to display inactive records by selecting **Utilities>Management Tools>Service Area Configuration** and either checking or clearing the **Show only active items in the lists** checkbox.

Please see "Service Area Configuration" on page 263 for more information about configuring Service Areas.

Attaching or Scanning Files

The **Equipment Models** and **Equipment Types** Information Lists include an **Attachments** tab that allows you to attach documents and/or images related to the current record. Attachments added to the **Equipment Models** and/or **Equipment Types** Information Lists are available in the equipment inventory for equipment items of that model or type. Similarly, attachments in the **Equipment Type** Information List will appear in equipment model records under the same equipment type.

• To add an attachment, select **Attach** to open a standard Windows dialog that allows you to select the file name, type, and location to attach. HEMS supports the DOC, GIF, ICON, JPEG, PDF, TXT, XLS, and ZIP formats.

> *Note: To attach a file in a format that HEMS does not support, ZIP the file and then attach the ZIP file to the desired record.*

• To scan an image from a local scanner, select **Scan** to open a standard Windows dialog that allows you to scan and name the file. Click **OK** to scan the file.

• To delete an attached or scanned file, select the item to delete and then click the **Delete** button. You are prompted to confirm your decision.

CHAPTER 7: Managing Parts

Managing Parts

HEMS can track parts and supplies to make sure that you have enough on hand to perform scheduled maintenance on equipment. Assigning parts to equipment allows HEMS to maintain your parts inventory and know when to order parts. You can also manage your parts budget.

Parts Inventory Window

Selecting **Activities>Parts>Part Inventory** or clicking the **Parts** button in the **Home** screen opens the **Parts Inventory** window.
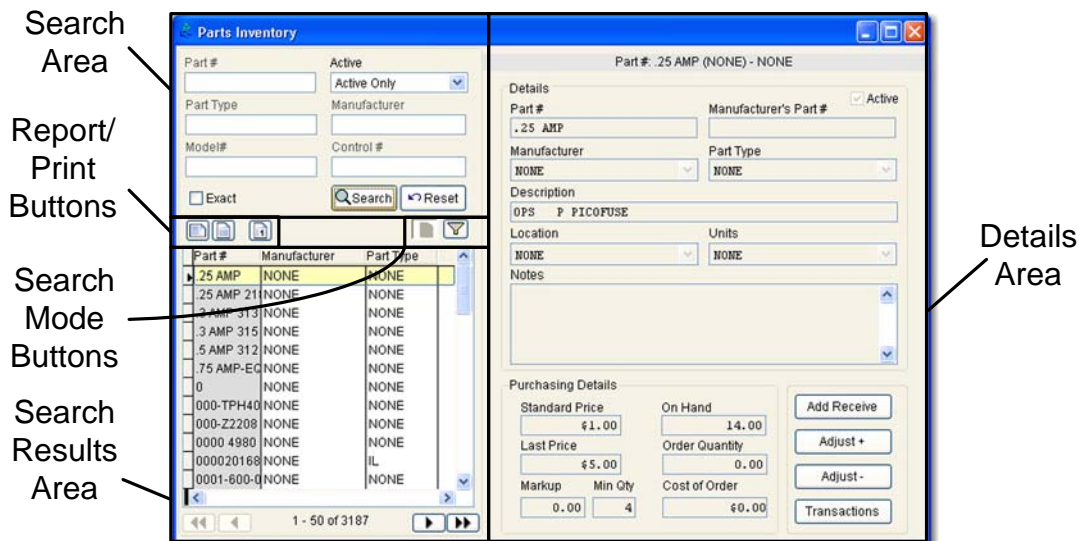
The **Parts Inventory** window contains the following functional areas:

- **Search Area:** Allows you to search for part records.

- **Report Buttons:** Allow you to run reports and access the HEMS print and export functions.

- **Search Mode Buttons:** Switch between Find and Filter modes, and display newly added part records.

- **Search Results Area:** Search results appear here.

- **Details Area:** Displays the currently selected part record.

Search Area (Find Mode)

When the **Parts Inventory** window is in Find mode (shown above), the Search Area allows you to search for parts by part #, active, part type, manufacturer, model # or control #. By default, entering one or more letters in one or more of the search fields returns results that begin with the text you entered. For example, entering "bat" will return "battery."

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Entering values in multiple search field restricts results to values that match all of the search terms in all of the fields. For example, entering "fuse" in the **Part Type** field and "Acme" in the **Manufacturer** field would return fuses manufactured by Acme but not fuses from different manufacturers.

Checking the **Exact** checkbox forces HEMS to return only those results that contain the exact text you entered. If you select this option, then entering "bat" will not return "battery" because the two are not an exact match.

Enter your desired search terms and then click **Search** to return matching results, or **Reset** to clear the Search Area and begin a new search.

Please see "The Find Function" on page 221 for more information on using Find mode.

Search Area (Filter Mode)

When the **Parts Inventory** window is in Filter mode (not shown), the Search Area contains a list of selected filter conditions. Please see "Filters" on page 222 for more information about using filters.

Report/Print Buttons

The **Report** buttons provide quick access to relevant reports. From the left to right, the buttons are:

- **List Report:** Clicking the **List Report** button opens a summary report that lists all of the parts records in HEMS.

- **Detail Report - All:** Clicking the **Detail Report - All** button opens a report that provides detailed information about each of the part records in HEMS.

- **Detail Report - Current:** Selecting an item in the Results Area and then clicking the **Detail Report - Current** button opens a report that provides detailed information about the currently selected part record.

Reports appear in a separate browser window. You can print and/or export these reports, as described in "CHAPTER 12: Printing & Exporting Data" on page 233.

Search Mode Buttons

The **Search Mode** buttons determine how part records will be retrieved. From left to right, the buttons are:

- **Show Newly Added Items:** If the **Show Newly Added Items** button is active, clicking it will display part records added during your current HEMS session. Exiting HEMS ends your session.

- **Switch to Filter mode:** When the **Parts Inventory** window is in Find mode, the **Switch to Filter mode** button appears as a small funnel. Clicking this button switches the Search Area to Filter mode. Please see "Filters" on page 222 for more information on using filters.

- **Switch to Find mode:** When the **Parts Inventory** window s in Filter mode, the **Switch to Find mode** button appears as a small magnifying glass. Clicking this button switches the Search Area to Find mode. Please see "The Find Function" on page 221 for more information on using Find mode.

Details Area

The Details Area displays the following information for the selected part record:

- **Part #:** HEMS part number. This number is unique for each part entered in HEMS.

- **Active:** Whether or not the part record is active.

- **Manufacturer Part #:** Number assigned by the manufacturer to the part.

- **Manufacturer:** Manufacturer that makes the part.

- **Part Type:** Type of part.

- **Description:** Description of the part.

- **Location:** Where the part is located.

- **Units:** How the part is measured (such as each, dozen, pounds, etc.).

- **Notes:** Additional information about the part.

- **Standard Price:** How much the part usually sells for.

- **On Hand:** How many of the part you have on hand, a defined by your minimum quantity. HEMS defaults to 1.

- **Last Price:** Most recent price paid for the part.

- **Order Quantity:** How many of the part you need to purchase at once, measured in your selected units. This is based on the defined minimum quantity.

- **Markup:** Percentage used to specify the normal overhead for the Service Area and calculate the part's total cost. For example, if the last price of the part was $3.00 and the markup is 10%, then the part cost is $3.30.

- **Min Quantity:** Minimum number of units of this part that you should have on hand at all times.

- **Cost of Order:** How much the most recent order cost for this part.

The **Parts Inventory** window also has four **Transaction** buttons that let you adjust your inventory as needed. These buttons are:

- **Add Receive:** Record receiving a shipment of the part.

- **Adjust +:** Add to your inventory of the part (such as if you discover more of this part in your warehouse).

- **Adjust -:** Subtract from your inventory of the part (such as in case of loss, spoilage, etc.).

- **Transactions:** Opens the **Parts Transaction History** window.

Please see "Part Transactions" on page 174 for more information about the **Parts Transactions** window. and "The Parts Transaction History Window" on page 176 for more information about the **Parts Transaction History** window.

Adding a Part

To add a part record to HEMS:

1.   Select **Activities>Parts>Parts Inventory** to open the **Parts Inventory** window.

2.   EIther click the **New** button in the **Toolbar** or press [CTRL]+[N].

3.   By default, the **Active** checkbox is checked. See "Active/Inactive Parts" on page 174 for more information about active and inactive part records.

4.   Enter the requested information.

5.   Either click the **Save** button in the **Toolbar** or press [CTRL]+[S] to save the new part record.

Copying a Part

To save time, you may create a copy of an existing part record and then edit the copy. This is useful when you need two records that share some identical information. To copy an existing Information List record:

1.   Select **Activities>Parts>Parts Inventory** to open the **Parts Inventory** window.

2.   Find the record you want to copy using the Search function. Please see "Search Area (Find Mode)" on page 170 for more information about searching for part records.

3.   Either click the **Copy** button in the **Toolbar** or press [CTRL]+[K].

4.   Edit the appropriate fields to reflect the correct information for the new part record.

5.   Either click the **Save** button in the **Toolbar** or press [CTRL]+[S] to save the new part record.

Editing a Part

To edit a part record:

1.   Select **Activities>Parts>Parts Inventory** to open the **Parts Inventory** window.

2.   Either click the **Edit** button in the **Toolbar** or press [CTRL]+[E].

3.   Check or clear the **Active** checkbox, as appropriate. See "Active/Inactive Parts" on page 174 for more information about active and deactivated part records.

4.   Enter all of the updated information for the part record you are editing in the appropriate fields.

5.   Either click the **Save** button in the **Toolbar** or press [CTRL]+[S] to save the edited part record.

Active/Inactive Parts

Each part record HEMS includes a checkbox labeled **Active**. This checkbox is checked by default when you create a new part record.

Parts that have been used in HEMS cannot be deleted because they are part of your history. You can, however, deactivate part records that are no longer used. In this example, you can edit the part record by clearing its **Active** checkbox.

You can also determine whether or not inactive part records can be included in newly created or edited equipment inventory or work order records by selecting **Utilities>Management Tools>Service Area Configuration** and either checking or clearing the **Show only active items in the lists** checkbox.

Please see "Service Area Configuration" on page 263 for more information about configuring Service Areas.

Part Transactions

A part transaction occurs when you receive a shipment or otherwise add or remove parts from your inventory. There are two basic transaction types:

- **Receive:** A receive transaction occurs when you get a shipment or when you add parts to your inventory (such as if you discover parts that had previously gone missing). You will generally enter receive transactions and let HEMS automatically subtract parts from your inventory as they are consumed during equipment maintenance and repair.

- **Use:** HEMS automatically tracks part consumption. You can also use this transaction type to reconcile any discrepancy between the inventory in HEMS and your actual parts on hand.

Record parts transactions in HEMS using the **Parts Transactions** window, which you can open by either:

- Searching for the part in the **Parts Inventory** window and clicking one of the **Transaction** buttons, or

- Selecting **Activities>Parts>Parts Transactions**.

The **Parts Transactions** window varies depending on which method you use to open it.

The Part Transactions Window (Standalone)

To record a part transaction directly into the **Parts Transactions** window:

1. **Select Activities>Parts>Parts Transactions** to open the **Parts Transactions** window.

2. Search for the part using the Search Area, which is described in "Search Area (Find Mode)" on page 170 and "Search Area (Filter Mode)" on page 171.

3. Select the part for which you are recording the transaction in the Search Results Area to open that part's information in the Details are.

4. Either click **New** in the **Toolbar** or press [CTRL]+[N].

5. The **Part #**, **Manufacturer's Part #**, **Manufacturer**, **Standard Price**, **Last Price**, **Markup**, and **On Hand** information appears automatically. Edit this information as appropriate, if needed.

6. Enter the following transaction information:

   - **Transaction Type:** Select **Receive** or **Use**, as appropriate.

   - **Transaction Date:** Date of the transaction.

   - **PO #:** Purchase order number (if any) using the PO# field.

   - **Manufacturer:** Company that makes/produces the part. This field is automatically filled with the value contained in the **Parts** Inventory List, if any. Otherwise, you may select the part manufacturer.

   - **Supplier:** Vendor who supplies the part (may or many not be the manufacturer).

   - **Quantity:** How many parts are included in this transaction.

   - **Unit:** How parts are measured. This field is automatically filled with the value contained in the **Parts** Inventory List.

   - **Unit Price:** How much each part measure costs.

   - **Catalog #:** The supplier's catalog number for the part.

   - **Markup:** Percentage used to specify the normal overhead for the Service Area and calculate the part's total cot. For example, if the last price of the part was $3.00 and the markup is 10%, then the part cost is $3.30.

   - **Storage Location:** Where the parts are being stored.

   - **Storage Notes:** Any additional information about where the parts are being stored.

- **Notes:** Other information about the part transaction.

7. Either click the **Save** button in the **Toolbar** or press [CTRL]+[S] to save the part transaction to the part record.

The Parts Transactions Window (from Inventory)

Clicking one of the four **Transaction** buttons in the **Parts Inventory** window opens the **Parts Transactions** window. This version of the window does not include the Search and Search Results Area because you have already selected the part.

Follow Steps 5-7 of the above procedure to enter a transaction for the current part.

*Note: The **Transaction Type** is already selected based on the Transaction button you clicked in the Parts Inventory window.*

The Parts Transaction History Window

Clicking the **Transactions** button in the Parts Inventory window opens the **Parts Transaction History** window, which allows you to view and edit transactions for the current part.

Editing Parts Transactions

To edit a part transaction:

1. Open the **Parts Transactions** window for the current transaction by either:

   - Selecting the desired transaction in the list and then clicking the **Edit** button.

   - Double-clicking the transaction listing.

2. The **Parts Transaction** window appears with the most recent information for the selected transaction. Make any needed changes (see "The Part Transactions Window (Standalone)" on page 175) and then click the **Save** button in the **Toolbar** to save your changes.

Part Transaction Reports

1. To run a part transaction report from the **Parts Transaction History** window:

2. Select the report type you want to run by checking the appropriate radio button. Your available options are:

   - **Single Line (List) Report:** Checking the **Single Line (List) Report** radio button opens a summary report that lists all of the parts records in HEMS.

   - **Detail Report - Current:** Checking the **Detail Report - Current** radio button opens a report that provides detailed information about the current part record.

   - **Detail Report - All:** Checking the **Detail Report - All** radio button opens a report that provides detailed information about each of the part records in HEMS.

3. Click the **Preview** button to run the report. Reports appear in a separate browser window. You may print reports, as described in "CHAPTER 12: Printing & Exporting Data" on page 233.

Closing the Parts Transaction History Window

Click the **Back** button to close the **Parts Transaction History** window and return to the **Parts Inventory** window.

Scheduling Parts

HEMS allows you to schedule parts for ongoing inventory and cost tracking. Please see "Scheduling Equipment" on page 107 for more information about scheduling equipment and parts.

Scheduling Parts by Equipment Model

To schedule parts by equipment model:

1. Add the part to the appropriate equipment model using the **Parts** tab of the **Equipment Models** Information List.

2. Schedule the part using the **Schedule** tab of the **Equipment Models I**nformation List.

Please see "Equipment Models List" on page 131 for more information about the **Equipment Models** Information List, and "Scheduling Parts" on page 109 for information about adding parts and schedules to equipment models.

> *Note: Parts that require multi-year scheduling (such as battery replacement) will automatically be scheduled on a cycle based on the **Seed Date for Multi Year** date in the **Schedule** tab of the **Equipment Inventory** window. By default, this date is selected from either the **Placed in Service** date (if specified) or the equipment **Purchase Date**. You may manually enter a different date by checking the checkbox and entering a date, if needed.*

Scheduling Parts by Equipment Item

To schedule parts by equipment item (if additional parts are required for an equipment item besides those scheduled for the equipment model):

1. Add the part to the appropriate individual equipment item in the **Parts** tab of the **Equipment Inventory** window.

2. Schedule the part using the **Schedule** tab of the **Equipment Inventory** window. Please see "Parts Tab" on page 96 for more information about the equipment item **Parts** tab and "Schedule Tab" on page 93 for more information about the equipment item **Schedule** tab.

Please see the note on the previous page for information about multi-year part scheduling.

Parts Reports

HEMS includes the following parts reports:

• **Equipment with Parts:** Please see "Equipment with Parts" on page 210 for more information about the **Equipment with Parts** report.

• **PM Parts Due - Shortage:** Please see "PM Parts Due - Shortage" on page 214 for more information about the **PM Parts Due - Shortage** report.

• **PM Parts Due:** Please see "PM Parts Due" on page 215 for more information about the **PM Parts Due** report.

• **Parts with Equipment:** Please see "Parts with Equipment" on page 217 for more information about the **Parts with Equipment** report.

CHAPTER 8:
Managing Risk

Risk Assignment

Generally, risk is defined by equipment type, but you can also define risk by equipment model and item if required. HEMS uses risk assessment criteria defined by the American Society for Healthcare Engineering (ASHE) risk factor standards. HEMS can also set minimum maintenance schedule intervals based on risk factor. For example, a certain piece of equipment may be scheduled for annual preventive maintenance but require semiannual maintenance because of its assigned risk factor. Contact EQ2 for more information, if needed.

Determining Risk Factors

Determining the risk score is as easy as selecting the appropriate statement for each risk category:

- **Equipment Function:** What the equipment is used for.

  - Therapeutic - Life support. (10 points)

  - Therapeutic - Surgery or intensive care. (9 points)

  - Therapeutic - Physical therapy or treatment. (8 points)

  - Diagnostic - Surgery/ICU monitoring. (7 points)

  - Diagnostic - Other physiological monitoring. (6 points)

  - Analytical - Lab analytical. (5 points)

  - Analytical - Lab accessories. (4 points)

  - Analytical - Computer-related accessories. (3 points)

  - Misc - Patient related. (2 points)

  - Misc - Non patient related. (1 point)

- **Clinical Application:** How the equipment model impacts clinical functions.

  - Has potential for patient death. (5 points)

  - Has potential for patient injury. (4 points)

  - Can cause inappropriate therapy/misdiagnosis. (3 points)

  - Can cause equipment damage. (2 points)

  - There is no significant identified risk. (1 points)

- **PM Requirement:** How often preventive maintenance needs to be performed.

  - Preventive maintenance frequency is monthly. (5 points)

  - Preventive maintenance frequency is quarterly. (4 points)

  - Preventive maintenance frequency is semiannual. (3 points)

  - Preventive maintenance frequency is annual. (2 points)

- No frequency required. (1 point)

- **Likelihood of Failure:** How likely the equipment is to fail based on its Mean Time Between Failures (MTBF). This is a measure of equipment reliability.

  - MTBF is less than 3 months. (5 points)

  - MTBF is approximately 6 months. (4 points)

  - MTBF is approximately 1 year. (3 points)

  - MTBF is approximately 3 years. (2 points)

  - MTBF is approximately 5 years. (1 point)

- **Environment of Use:** Where the equipment is used.

  - Equipment is primarily used in anesthetizing locations. (5 points)

  - Equipment is primarily used in critical care locations. (4 points)

  - Equipment is primarily used in wet/lab/exam locations. (3 points)

  - Equipment is primarily used in general care areas. (2 points)

  - Equipment is primarily used in non-patient areas. (1 point)

Each of the preceding risk category includes standard statements that are assigned points, which HEMS automatically calculates. Equipment with a score below 6 points is not included in the preventive maintenance management program. Equipment with a score of 6 or more points is categorized into priority levels depending on the total score. Please contact EQ2 if you need to set a default other than 6 points.

Please refer to the ASHE *Maintenance Management for Medical Equipment* for a full description of risk factors.

Defining Risk in HEMS

Risk is generally defined by equipment type. All equipment of that type inherits this information. HEMS also allows you to define risk by model or equipment item if necessary. If an equipment item has risk defined in more than one place (i.e. type, model, and/or equipment item), HEMS uses risk for that equipment item in the following precedence:

- Defining risk by equipment model overrides defining risk by equipment type.

- Defining risk by equipment item overrides defining risk by either equipment model or type.

Note: Once risk is defined for equipment type or model, all new equipment items added to these types or models will have risk assigned automatically.

Defining Risk by Equipment Type

To define risk by equipment type:

1. Select **Information Lists>Equipment Inventory Lists>Equipment Types** to open the **Equipment Types** Information List and then select the desired equipment type.

2. Select the **Other Details** tab and then check the **Risk Assessment** checkbox.

3. Answer each of the 5 risk assessment questions using the pull-down menus. HEMS automatically calculates risk factor and displays that in the **Risk Factor** field.

4. Save your changes by either clicking the **Save** button in the **Toolbar** or by pressing [CTRL]+[S].

Defining Risk by Equipment Model

To define risk by equipment model, if required:

1. Select **Information Lists>Equipment Inventory Lists>Equipment Models** to open the **Equipment Models** Information List and then select the desired equipment model.

2. Select the **Other Details** tab and then check the **Risk Assessment** checkbox.

3. Answer each of the 5 risk assessment questions using the pull-down menus. HEMS automatically calculates risk factor and displays that in the **Risk Factor** field.

4. Save your changes by either clicking the **Save** button in the **Toolbar** or by pressing [CTRL]+[S].

Defining Risk by Equipment Item

To define risk by equipment item, if required for any exceptions where risk cannot be defined by type or model:

1. Select the desired equipment item in the **Equipment Inventory** dashboard and then click the **Edit** button to open the **Equipment Inventory** window.

2. Select the **Other Details** tab and then check the **Risk Assessment** checkbox.

3. Answer each of the 5 risk assessment questions using the pull-down menus. HEMS automatically calculates risk factor and displays that in the **Risk Factor** field.

4. Save your changes by either clicking the **Save** button in the **Toolbar** or by pressing [CTRL]+[S].

Risk Reports

HEMS includes the following risk reports:

• **Risk Interval:** Please see "Risk Interval" on page 216 for more information about the **Risk Interval** report.

• **Risk Category:** Please see "Risk Category" on page 216 for more information about the **Risk Category** report.

CHAPTER 9:
Managing Contracts

The Contracts Window

The HEMS **Contracts** window contains service contract records. Each active service contract has its own record in the **Contracts** window.

Typically, a service contract is an arrangement with a vendor to provide maintenance services for a specific period of time on a designated inventory of equipment. The service contract can cover preventive maintenance, repair, parts, or any combination thereof. A service contract ensures that the service costs are capped at the cost of the contract. By contrast, a time and materials arrangement has no cost cap. All service including preventive maintenance, repair, and parts are paid out-of-pocket when service occurs.

*Note: You may access contract history information for a specific equipment item by selecting an item in the **Equipment Inventory** dashboard and then pressing the **C** button to open the **Equipment Contract History** window. Please see "The Equipment Contract History Window" on page 104 for more information about the **Equipment Contract History** window.*

Selecting **Activities>Contracts** opens the **Contracts** window, which allows you to view, add, edit, or remove service contract information.
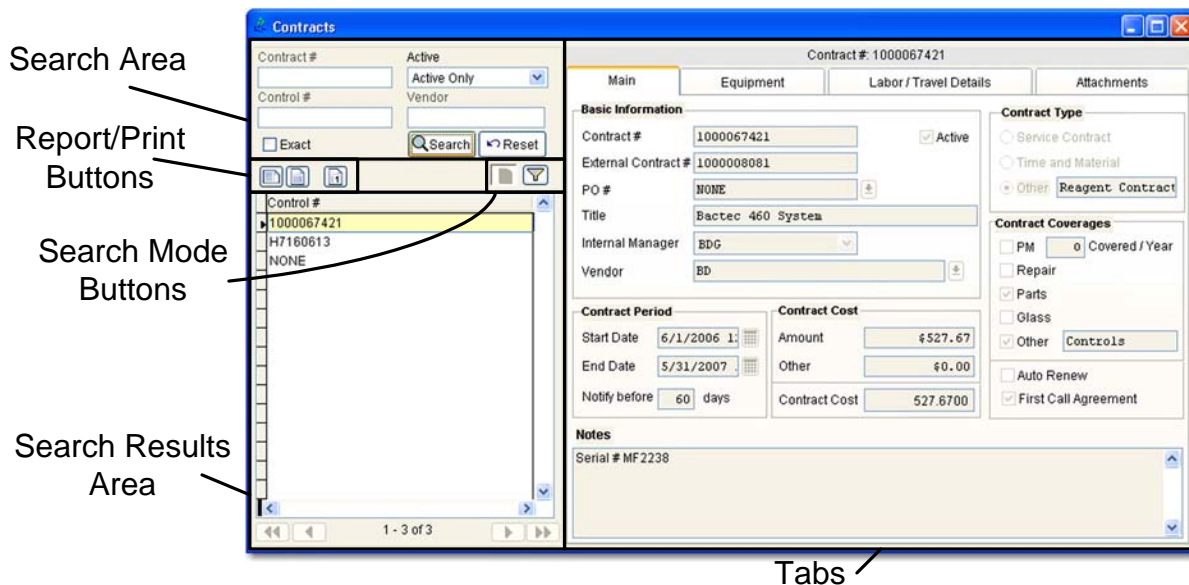
The **Contracts** window contains the following functional areas:

• **Search Area:** Allows you to search for service contract records.

• **Report/Print Buttons:** Allow you to run reports and print/export data. Please see "CHAPTER 12: Printing & Exporting Data" on page 233 for more information about printing and exporting data in HEMS.

- **Search Mode Buttons:** Switch between Find and Filter modes, and display newly added service contract records. Please see "CHAPTER 11: Finding Data" on page 219 for more information about finding data in HEMS.

- **Results Area:** Search results appear here.

- **Tabs:** Displays the current service contract record in the **Main**, **Equipment**, **Labor/Travel Details**, and **Attachments** tab.

Search Area (Find Mode)

When the **Contracts** window is in Find mode (shown above), the Search Area contains fields that let you find service contract records by contract number, whether or not the records are active, control number, and vendor. By default, entering one or more letters in one or more of the search fields returns results that begin with the text you entered. For example, entering "def" will return "defibrillator." Entering values in multiple search field restricts results to values that match all of the search terms in all of the fields.

Checking the **Exact** checkbox forces HEMS to return only those results that contain the exact text you entered. If you select this option, then entering "def" will not return "defibrillator" because the two are not an exact match.

Enter your desired search terms and then click **Search** to return matching results, or **Reset** to clear the Search Area and begin a new search.

Please see "The Find Function" on page 221 for more information on using Find mode.

Search Area (Filter Mode)

When the **Contracts** window is in Filter mode (not shown), the Search Area contains a list of selected filter conditions. Please see "Filters" on page 222 for more information about using filters.

Report/Print Buttons

The **Report/Print** buttons provide quick access to relevant reports. From the left to right, the buttons are:

- **List Report:** Clicking the **List Report** button opens a summary report that lists all of the service contract records in HEMS.

- **Detail Report - All:** Clicking the **Detail Report - All** button opens a report that provides detailed information about each of the service contract records in HEMS.

- **Detail Report - Current:** Selecting an item in the Results Area and then clicking the **Detail Report - Current** button opens a report that provides detailed information about the currently selected service contract record.

Reports appear in a separate browser window. You can print and/or export these reports, as described in "CHAPTER 12: Printing & Exporting Data" on page 233.

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Search Mode Buttons

The **Search Mode** buttons determine how service contract records will be retrieved. From left to right, the buttons are:

- **Show Newly Added Items:** If the **Show Newly Added Items** button is active, clicking it will display service contract records added during your current HEMS session. Logging out of HEMS ends your session.

- **Switch to Filter mode:** When the **Contracts** window is in Find mode, the **Switch to Filter mode** button appears as a small funnel. Clicking this button switches the Search Area to Filter mode. Please see "Filters" on page 222 for more information on using filters.

- **Switch to Find mode:** When the **Contracts** window is in Filter mode, the **Switch to Find mode** button appears as a small magnifying glass. Clicking this button switches the Search Area to Find mode. Please see "The Find Function" on page 221 for more information on using Find mode.

Main Tab

The **Contract** window **Main** tab contains the following information:

Basic Information

The **Basic Information** portion of the **Main** tab contains the following information:

- **Contract #:** Number of the service contract.

- **Active:** Whether or not the service contract is active.

- **External Contract #:** Number that the vendor assigned to the service contract.

- **PO #:** Purchase order number.
  This field uses values from the **Purchase Orders** Information List, which is described in "Purchase Orders List" on page 150.

- **Title:** Name of the service contract.

- **Internal Manager:** Initials of the manager who is responsible for the service contract. This field uses values from the **Employees** Information List, which is described in "Employees List" on page 126.

- **Vendor:** Name of the vendor who is responsible for performing the maintenance and/or repair called for in the service contract. This field uses values from the **Vendors** Information List, which is described in "Vendors List" on page 153.

Contract Period

The **Contract Period** portion of the **Main** tab contains the following information:

- **Start Date:** Date on which the service contract begins.

- **End Date:** Date on which the service contract ends. The **Equipment Inventory** window uses this date for equipment included this service contract. Your equipment service expiration date in the equipment inventory is automatically updated with the contract end date if you selected this option when HEMS was installed. You can check this by selecting **Utilities>Management Tools>Service Area Configuration** and seeing whether the **Use contract end date as the equipment service expiration date** checkbox is checked. See "Service Area Configuration" on page 263 for more information about Service Area configuration.

- **Notify before:** Number of days before the **End Date** that the Internal Manager receives an automatic notification about the contract's pending expiration. This is the number of days required to cancel a contract before the vendor automatically renews it. Enter the desired number of days in the **Notify before** field. This option is only available with the optional EQ2 Web Enterprise add on module, which is described in "EQ2 Web Enterprise" on page 285.

> ⚠ ***CAUTION: MAKE SURE TO RUN PERIODIC REPORTS TO CHECK FOR SERVICE CONTRACTS THAT ARE COMING UP FOR RENEWAL, TO AVOID BEING LOCKED INTO UNWANTED CONTRACT RENEWALS.***

Contract Cost

The **Contract Cost** portion of the **Main** tab contains the following information:

- **Amount:** Base cost of the service contract.

- **Other:** Any additional costs (travel, legal, etc.) associated with the service contract.

- **Contract Cost:** Total cost of the service contract, which equals the sum of the base and additional contract costs listed in the previous fields.

Contract Type

The **Contract Type** portion of the **Main** tab describes the type of the current agreement. The available options are:

- **Service Contract:** If this radio button is checked, indicates that the contract is a fixed-price contract.

- **Time and Material:** If this radio button is checked, indicates that the contract is a pay-as-you-go contract.

- **Other:** If this radio button is checked, indicates that the contract is a different type of contract. Enter the contract type in the field provided.

Contract Coverages

The **Contract Coverages** portion of the **Main** tab lists the coverages provided under the current service contract. The available options are:

- **PM:** If the **PM** checkbox is checked, the contract covers preventive maintenance on the included equipment to the maximum number of visits per year specified in the **Covered/Yea**r field.

- **Repair:** If the **Repair** checkbox is checked, the service contract covers repairs on the included equipment.

- **Parts:** If the **Parts** checkbox is checked, the service contract covers parts for the included equipment.

- **Glass:** If the **Glass** checkbox is checked, the service contract covers replacement of broken glass parts (such as lenses or windows).

- **Other:** If the **Other** checkbox is checked, the service contract covers the other items or services specified in the field.

- **Auto Renew:** If the **Auto Renew** checkbox is checked, the service contract will automatically renew on its end date unless terminated before that date, in accordance with the contract terms.

- **First Call Agreement:** If the **First Call Agreement** checkbox is checked, the vendor listed in the service contract must be called before any other vendor for any covered service on the included equipment.

Notes

The **Notes** portion of the **Main** tab contains additional notes about the current service contract record in a text field.

Equipment Tab

The **Contract** window **Equipment** tab contains the following information for each equipment item included in the current service contract:

- **Control #:** Unique number assigned to each equipment item managed by HEMS.

- **Serial #:** Serial number of the equipment item.

- **EQ Type:** Type of equipment.

- **Cost:** Cost of the equipment item.

When you are adding or editing a service contract record, the **Update Equipment Information** button is enabled, which allows, allows you to add or modify the equipment included in the service contract. Please see "Adding Contracts" on page 191 for more infor-

mation about adding service contract records or "Editing Contracts" on page 192 for more information about editing service contract records. Please also see "CHAPTER 5: Managing Equipment" on page 85 for more information about managing equipment in HEMS.

Labor/Travel Details Tab

The **Contracts** window **Labor/Details** tab contains the following information:

Labor Coverage

The **Labor Coverage** portion of the **Labor/Travel Details** tab lists the vendor's availability for the current service contract. The available options are:

- **Hours:** Hours that the vendor is available. The available options are:

  - **Normal Business Hours:** if the **Normal Business Hours** radio button is checked, the vendor is available during regular business hours only.

  - **Extended Hours:** if the **Extended Hours** radio button is checked, the vendor is available beyond regular business hours.

  - **24 x 7:** If the **24 x 7** radio button is checked, the vendor is available at any time of day or night.

- **Day(s) of the week:** Check the appropriate checkbox(es) to indicate the vendor's days of operation.

- **From:** Time of day that the vendor becomes available, in 24-hour (military) format.

- **To:** Time of day that the vendor stops being available, in 24-hour (military) format.

Labor Rates

The **Labor Rates** portion of the **Labor/Travel Details** tab lists the vendor's charges for servicing the current service contract. The available options are:

- **Normal Business:** The vendor's normal hourly rate.

- **After Hours:** The vendor's after hours or overtime hourly rate.

- **Holiday Rate:** The vendor's holiday hourly rate.

- **Labor Notes:** Enter any additional labor-rate related notes here.

Travel Charges

The **Travel Charges** portion of the **Labor/Travel Details** tab lists the vendor's travel charges for the current service contract. The available options are:

- **Hourly Rate:** The vendor's hourly travel rate.

- **Zone Charge:** Zone charges are charges based on the distance the vendor needs to travel.

- **Travel Notes:** Enter any additional travel-charge related notes here.

Legal Details

The **Legal Details** portion of the **Labor/Travel Details** tab ensures that legal requirements have been met when creating the current service contract. The available option is:

- **HIPAA Business Associate Addendum completed?**: Checking the **HIPAA Business Associate Addendum completed?** checkbox indicates that the service contract includes the specified HIPAA addendum.

Attachments Tab

The **Contracts** window **Attach-ments** tab allows you to scan and/or attach documents such as manuals or images related to the current contract record. Please see "Attaching or Scanning Files" on page 193 for more information about working with scanned and attached files in HEMS contract records.
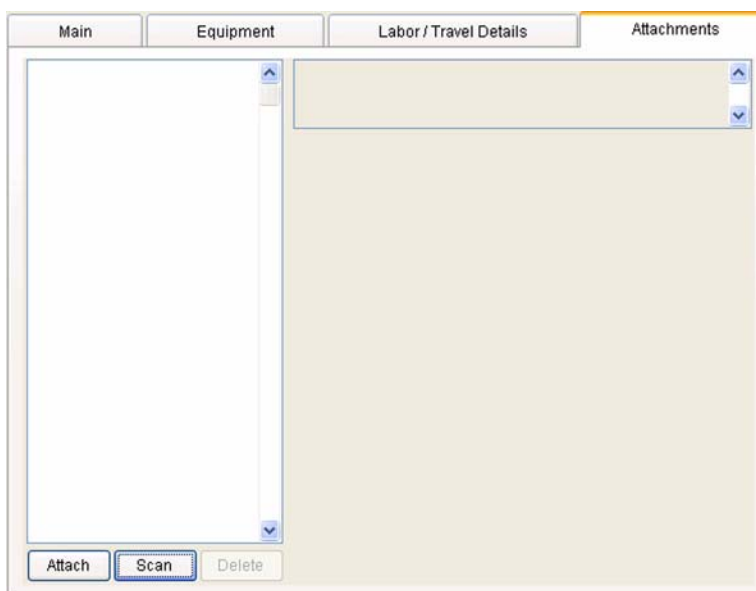
Working with Contracts

This section describes how to view, add, edit, and deactivate service contracts using the HEMS **Contracts** window.

Viewing Contracts

To view a service contract using the **Contracts** window:

1. Open the **Contracts** window by selecting **Activities>Contracts**.

2. Search for and select the service contract you want to view. The selected contract information appears in the tabs. Please see "The Contracts Window" on page 184 for more information about the **Contracts** window.

Adding Contracts

To add a service contract record to the **Contracts** window:

1. Select **Activities>Contracts** to open the **Contracts** window and then either click the **New** button in the **Toolbar** or press [CTRL]+[N].

2. Select the **Main** tab and then enter all of the required information. Please see "Main Tab" on page 186 for a description of the information contained in the **Main** tab.

3. Select the **Equipment** tab and then click the **Update Equipment Information** button to open the **Equipment Management Wizard** window. Search for the equipment that will be included in the service contract record you are creating and add it to the Selection Area, as described in "Search Area (Find Mode)" on page 185.

4. You may assign a dollar amount to one or more of the selected equipment items, as follows:

   - To distribute the cost of the contract evenly among all equipment items, select **Update Equipment Information**, enter an amount in the **Assign** field, and then click the Assign button.

   - To enter different amounts for each equipment item, click the equipment item and navigate to the **Cost** column (or move to the beginning by dragging), and then enter an amount directly.

   - If all equipment has the same amount except for one item, enter an amount in the **Assign** field, click the **Assign** button. and then edit the one equipment item that is different.

   You are prompted to confirm your dollar assignments.

5. Click **Apply** to close the **Equipment Management Wizard** window and return to the **Contracts** window with the selected equipment added to the **Equipment** tab, indicating that it is covered by the service contract you are creating.

6. Select the **Labor/Travel Details** tab and enter the vendor's availability, rate, and legal details information. Please see "Labor/Travel Details Tab" on page 189 for a description of the **Labor/Travel Details** tab.

7. If needed, select the **Attachments** tab to attach and/or scan documents to the service contract record you are creating (such as a copy of the actual contract). Please see "Attaching or Scanning Files" on page 193 for information on attaching and scanning files to the HEMS **Contracts** window.

8. Click the **Save** button in the **Toolbar** to save the new service contract record.

Copying a Contract

To save time, you may create a copy of an existing service contract record and then edit the copy. This is useful when you need two service contract records that share some identical information. To copy an existing service contract record:

1. Select **Activities>Contracts** to open the **Contracts** window.

2. Select the service contract record you want to edit by searching for it as described in "Search Area (Find Mode)" on page 185.

3. Either click the **Copy** button in the **Toolbar** or press [CTRL]+[K].

4. Check or clear the **Active** checkbox, as appropriate. See below for more information about active and inactive service contract records.

5. Edit the appropriate fields to reflect the correct information for the new record, being sure not to forget about the **Contracts** window tabs.

6. Either click the **Save** button in the **Toolbar** or press [CTRL]+[S] to save the new service contract record.

Editing Contracts

To edit a service contract record:

1. Select **Activities>Contracts** to open the **Contracts** window.

2. Select the service contract record you want to edit by searching for it as described in "Search Area (Find Mode)" on page 185.

3. Either click the **Edit** button in the **Toolbar** or press [CTRL]+[E].

4. By default, the **Active** checkbox is checked. See "Active/Inactive Contracts" on page 193 for more information about active and inactive service contract records.

5. Enter all of the updated information for the service contract record you are editing in the appropriate fields, being sure not to forget about the **Contracts** window tabs.

6. Either click the **Save** button in the **Toolbar** or press [CTRL]+[S] to save the edited service contract record.

Please refer to "The Contracts Window" on page 184 for detailed information about the contents of each field in the **Contracts** window.

Active/Inactive Contracts

Each service contract record in the **Contracts** window includes a checkbox labeled **Active**. This checkbox is checked by default when you create a new record.

Deleting Contracts

Service contract records that have been used elsewhere in HEMS cannot be deleted because they are part of your history. You can, however, deactivate service contract records that are no longer used by selecting the service contract record to deactivate and then clearing that record's **Active** checkbox.

To delete a service contract:

1. Select **Activities>Contracts** to open the **Contracts** window.

2. Select the service contract record you want to edit by searching for it as described in "Search Area (Find Mode)" on page 185.

3. Click the **Delete** button in the **Toolbar**.

Attaching or Scanning Files

The HEMS **Contracts** window includes an **Attachments** tab that allows you to attach documents and/or images related to the current contract record.

• To add an attachment, select **Attach** to open a standard Windows dialog that allows you to select the file name, type, and location to attach. HEMS supports the DOC, GIF, ICON, JPEG, PDF, TXT, XLS, and ZIP formats.

> *Note: To attach a file in a format that HEMS does not support, ZIP the file and then attach the ZIP file to the desired record.*

• To scan an image from a local scanner, select **Scan** to open a standard Windows dialog that allows you to scan and name the file. Click **OK** to scan the file.

• To delete an attached or scanned file, select the item to delete and then click the **Delete** button. You are prompted to confirm your decision.

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CHAPTER 10:
Reports

The Reports Sidebar

The **Reports** sidebar allows you to quickly run any of the available HEMS reports. Please see "Reports Sidebar Defaults" on page 246 for information about configuring user access to reports.

You may access reports by either:

- Clicking a category button at the bottom of the **Reports** sidebar and then double-clicking the icon of the report you want to run, or

- Entering a report name or keyword into the **Search** field at the top of the **Reports** sidebar and then running one of the matching reports by double-clicking its icon.

Reports appear in a separate browser window. Available filtering options also appear in the browser window. To filter a report, enter your desired criteria and then click the **View Report** button. You can hide filtering options by clicking the double up-arrow button, or display these options by clicking the double-down arrow button.

Configuring

You can configure the following report options:

- Each HEMS user can configure the **Reports** sidebar by selecting **Utilities>User Configuration** to open the **User Configuration** window and then selecting the **Reports Sidebar** tab. Please see "Reports Sidebar Defaults" on page 246 for more information about customizing access to reports by user.

- You can also customize the order in which reports appear in the **Reports Sidebar** using the **User Configuration** window, as described in "Configuring User Defaults" on page 246.

Running Reports

To run a report in HEMS:

1. Locate the report you want to run in the **Reports Sidebar**.

2. Double-click the selected report to open it in a separate browser window.

3. Filter the report by entering your desired search criteria in the available fields.

4. Click the **View Report** button to view your selected report.

Navigating Reports

You can navigate HEMS reports using the **Report Toolbar** in the browser window.
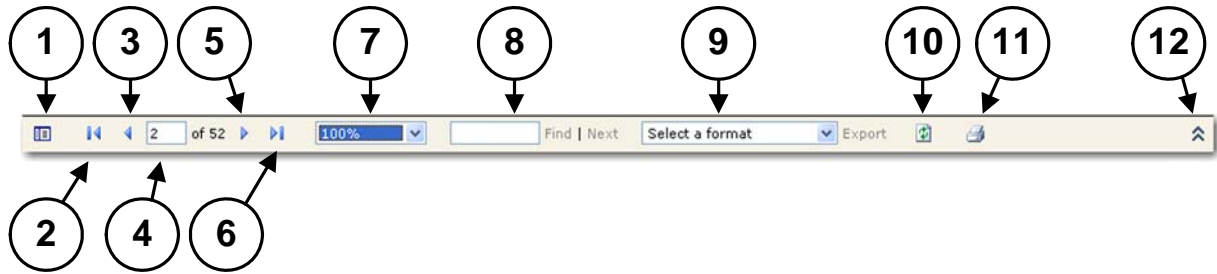
From left to right, the **Report Toolbar** buttons are:

- **Expand/Collapse Tree (1):** Clicking the **Expand/Collapse Tree** button toggles a tree view of the current report on and off. You can use this tree to quickly locate the report information you are looking for.

- **Go to First Page (2):** Takes you to the first page of the report.

- **Go to Previous Page (3):** Takes you to the previous page of the report.

- **Go to Selected Page (4):** Takes you to the selected page of the report. Enter your desired page number and then press [ENTER].

- **Go to Next Page (5):** Takes you to the next page of the report.

- **Go to Last Page (6):** Takes you to the last page of the report.

- **Zoom (7):** Allows you to magnify or shrink the report for easy viewing.

- **Find Text (8):** Enter text in the field and then click **Find** to locate the first instance of your selected text in the report. Clicking **Find Next** locates subsequent instances of the same text in the current report.

- **Export Report (9):** Selecting an export format in the pull-down menu and then clicking **Export** allows you to export the current report. Please see "Printing" on page 234 for more information about exporting HEMS reports.

- **Refresh Report (10):** Refreshes the current report.

- **Print Report (11):** Prints the current report. Please see "Exporting" on page 235 for more information about printing reports.

- **Expand/Collapse Search Area (12):** Clicking the double up-arrow icon collapses the report search options. When the search options are collapsed, clicking the double down-arrow icon expands the search area.

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Work Order Reports

HEMS includes the following work order reports, which are available by clicking the **Work Order** category button at the bottom of the **Reports** sidebar.

Note: Work order report graphs display the "Top 10" items in the report.

Work Order Review (Summary)

The **Work Order Review (Summary)** report allows you to review pending versus closed work orders including percentages, costs, and hours. You can display this summary by **Work Order Type**, **Work Order Priority**, **Assigned Engineer**, **Location**, **Department**, **Specialty**, **Subcode**, and **Requester**. You must specify either an **Issue Date** (when the work order was issued) or **Status Date** (either the close date or the most recent work order status date if still pending) for this report.

This report presents both a bar graph that displays pending and closed work orders and a pie chart that shows the relative number of work orders by summary type for the "top 10" types on the first page. The second page presents the following information:

- Total number and percent of work orders that are opened, closed or pending.

- Cost of labor and parts.

- Hours spent.

- Maximum and average days work orders remain open.

Work Order Review (Detail)

The **Work Order Review (Detail)** report allows you to review pending versus closed work orders with details, including the request and the action taken. You can display this detailed report by **Work Order Type**, **Work Order Priority**, **Assigned Engineer**, **Location**, **Department**, **Specialty**, **Subcode**, and **Requester**. You must specify either an **Issue Date** (when the work order was issued) or **Status Date** (either the close date or the most recent work order status date if still pending) for this report.

This report presents both a bar graph that displays pending and closed work orders and a pie chart that shows the relative number of work orders by how you have grouped your report. Subsequent pages then present the following information:

- **WO #:** Work order number.

- **Issue Date:** Date the work order was issued.

- **WO Department:** Department that requested the work order.

- **WO Location:** Location of the equipment referenced by the work order.

- **Priority:** Work order priority.

- **Assg Eng:** Engineer assigned to the work order.

- **Procedure Name:** Name of the maintenance/repair/etc. procedure.

- **Specialty:** Maintenance specialty.

- **Status:** Most recent work order status.

- **Status Date:** Usually the close date of the work order, or, if the work is still pending, the most recent manually updated date.

Work Order Equipment Review (Summary)

The **Work Order Equipment Review (Summary)** report allows you to review pending versus closed work orders based on the equipment including percentages, costs and hours. Filtering options include equipment related items (such as equipment type, equipment model, and device inclusion). You can display this summary by **Work Order Type**, **Work Order Priority**, **Assigned Engineer**, **Location**, **Department**, **Specialty**, **Subcode**, **EQ Type**, **Device Inclusion**, **Manufacturer**, **Model # + Manufacturer**, **Model Name + Manufacturer**, **Manufacturer + Model #**, **Control #**, and **Requester**. You must specify either an **Issue Date** (when the work order was issued) or **Status Date** (either the close date or the most recent work order status date if still pending) for this report.

This report presents both a bar graph that displays pending and closed work orders and a pie chart that shows the relative number of work orders by how you have grouped your report. The second page presents the following information:

- Total number and percent of work orders that are opened, closed or pending.

- Cost of labor and parts.

- Hours spent.

- Maximum and average days work orders remain open.

Work Order Equipment Review (Detail)

The **Work Order Equipment Review (Detail)** report allows you to review pending versus closed work orders with details, including the request and action taken based on the equipment on the work order. Filtering options include equipment related items (such as equipment type, equipment model, and device inclusion). You can display this detailed report by **Work Order Type**, **Work Order Priority**, **Assigned Engineer**, **Location**, **Department**, **Specialty**, **Subcode**, **EQ Type**, **Device Inclusion**, **Manufacturer**, **Model # + Manufacturer**, **Manufacturer + Model #**, **Model Name + Manufacturer**, **Control #**, and **Requester**. You must specify either an **Issue Date** (when the work order was issued) or **Status Date** (either the close date or the most recent work order status date if still pending) for this report.

This report presents both a bar graph that displays pending and closed work orders and a pie chart that shows the relative number of work orders by how you have grouped your report. Subsequent pages then present the following information:

- **WO #:** Work order number. This number is unique to each work order in HEMS.

- **Issue Date:** Date the work order was issued.

- **WO Department:** Department that requested the work order.

- **WO Location:** Location of the equipment referenced by the work order.

- **Priority:** Work order priority.

- **Assg Eng:** Engineer assigned to the work order.

- **Procedure Name:** Name of the maintenance/repair/etc. procedure.

- **Specialty:** Maintenance specialty.

- **Status:** Most recent work order status.

- **Status Date:** Usually the close date of the work order, or, if the work is still pending, the most recent manually updated date.

Work Order Labor Review (Summary)

The **Work Order Labor Review (Summary)** report allows you to review labor hours on work orders based on one or more date(s) when the work orders were opened, closed, or the date(s) actual services were provided. You can display this detailed report by **Work Order Type**, **Work Order Priority**, **Assigned Engineer**, **Location**, **Department**, **Specialty**, **Subcode**, **Labor Employee**, **Labor Work Code**, and **Requester**. You must specify either an **Issue Date** (when the work order was issued) or **Status Date** (work order status as of your selected date) for this report.

This report presents both a bar graph that displays pending and closed work orders and a pie chart that shows the relative number of work orders by summary type by how you have grouped your report. The second page presents the following information:

- **# of WOs:** Number of work orders worked on by the technician.

- **# of Labor Events:** Number of labor entries on the work order.

- **Labor Hours:** Number of labor hours recorded on work orders.

- **Labor Cost:** Total labor cost (labor hours times labor rate).

- **Lump Sum:** Additional labor costs such as overhead or some external cost.

- **Total Cost:** Total of all labor and lump sum costs.

Management Reports

HEMS includes the following management work order reports, which are available by clicking the **Management** category button at the bottom of the **Reports** sidebar:

Work Order Response Time (Detail)

The **Work Order Response Time (Detail)** report shows you how quickly you are responding to work with details, including the request and/or action. This report can be used for safety committee and quality control committee meetings. When running the report, you can define the response time in hours and group by work order type.

This report presents the following information:

- **WO #:** Work order number. This number is unique to each work order in HEMS.

- **Issue date:** Date the work order was issued.

- **WO Department (Cost Center):** Department that requested the work order.

- **WO Location:** Location of the equipment referenced by the work order.

- **Priority:** Work order priority.

- **Subcode:** Code that indicates the preventive maintenance outcome (such as PM Successful), or the cause of corrective/routine maintenance (such as physical abuse/damage, operator error, etc.).

- **Assg Eng:** Engineer assigned to the work order.

- **Responded On:** Date and time the technician first responded (first labor entry).

- **Status:** Most recent work order status.

- **Status Date:** Usually the close date of the work order, or, if the work is still pending, the most recent manually updated date.

- **Response Time:** How long it took to respond to the work order. This is defined as the interval between the work order issue date/time and the first labor entry for that work order.

Work Order Response Time (Summary)

The **Work Order Response Time (Summary)** report shows you how quickly you are responding to work. This report can be used for safety committee and quality control committee meetings. When running the report, you can define the response time in hours and can group by **Work Order Type**, **Work Order Priority**, **Assigned Engineer**, **Location**, **Department**, **Specialty**, **Subcode**, and **Requester**.

This report presents the following information:

• **Work Orders Responded Within Defined Time:** Number and percent of work orders responded to within your specified time, in hours.

• **Work Orders Responded After Defined Time:** Number and percent of work orders responded to after your specified time, in hours.

• **Work Orders Not Responded:** Number and percent of work orders not responded to date.

Work Order Close Time (Summary)

The **Work Order Close Time (Summary)** report shows you how quickly you are completing work. This report can be used for safety committee and quality control committee meetings. When running the report, you can define the work order close time in hours and can group by **Work Order Type**, **Work Order Priority**, **Assigned Engineer**, **Location**, **Department**, **Specialty**, **Subcode**, and **Requester**.

This report presents the following information:

• **Work Orders Closed Within Defined Time:** Number and percent of work orders closed within your specified time, in hours.

• **Work Orders Closed After Defined Time:** Number and percent of work orders closed after your specified time, in hours.

• **Work Orders Not Closed:** Number and percent of work orders not closed to date.

Work Order Close Time (Detail)

The **Work Order Close Time (Detail)** report shows you how quickly you are completing work with details, including the request and/or action. This report can be used for safety committee and quality control committee meetings. When running the report, you can define the work order close time in hours and can group by **Work Order Type**, **Work Order Priority**, **Assigned Engineer**, **Location**, **Department**, **Specialty**, **Subcode**, and **Requester**.

This report presents the following information:

• **Work Order #:** Work order number. This number is unique to each work order in HEMS.

• **Issue Date:** Date the work order was issued.

• **WO Department (Cost Center):** Department that requested the work order.

• **WO Location:** Location of the equipment referenced by the work order.

- **Priority:** Work order priority.

- **Subcode:** Code that indicates the preventive maintenance outcome (such as PM Successful), or the cause of corrective/routine maintenance (such as physical abuse/damage, operator error, etc.).

- **Assg Eng:** Engineer assigned to the work order.

- **Close Date:** Date and time the work order was closed.

- **Close Time:** How long it took to close the work order.

Work Order Summation by Priority

The **Work Order Summation by Priority** report summarizes the total work order count, percentage, hours, and costs by priority. To report on preventive maintenance work orders only, filter the report by setting the **WO Type** to **Scheduled**.

This report presents a pie chart showing a graphical overview of work order statuses and then presents a breakdown of work orders by hours, percentages, and costs.

You must specify a date range for this report.

Work Order Summation by Department

The **Work Order Summation by Department** report summarizes the total work order count, percentage, hours, and costs by department. To report on preventive maintenance work orders only, filter the report by setting the **WO Type** to **Scheduled**.

This report presents a pie chart showing a graphical overview of work order statuses and then presents a breakdown of work orders by hours, percentages, and costs.

You must specify a date range for this report.

Regulatory Compliance

The **Regulatory Compliance** report encapsulates all of the information required for regulatory compliance, active inventory, and work order costs for user error and/or equipment abuse. This report lets you look at how your hospital is performing in one click.

This report presents the following information:

- **Non Life Support:** All equipment items not belonging to the **Life Support** class.

- **Life support:** All the equipment items belonging to the **Life Support** class.

- **High Risk:** All equipment items that meet or exceed your defined **High Risk** level.

- **User Error/EQ Abuse:** Work orders with the **Operator Error**, or **Abuse/Physical Damage** subcodes.

- **Recall Alert:** Work Orders with the **Recall/Alert** type.

- **Device in Use:** Work Orders with the **Device in Use** subcode.

- **Unable to Locate:** Work Orders with the **Unable to Locate** subcode.

- **PM Failure:** Work Orders with the **PM Failure** subcode.

- **PM:** Work Orders with the **Scheduled** type.

- **Unscheduled:** All work orders with a type other than, "Scheduled" (such as "Routine," "Hazard," "Project," etc.

- **Overtime:** Work orders with the **Overtime** labor entry.

Quality Survey Remarks

The **Quality Survey Remarks** report shows the remarks submitted by users in response to quality surveys about the services provided by your department. Surveys are conducted after work is completed. This report is only available if you have the optional EQ2 Web Enterprise add-on installed. If you do not have EQ2 Web Enterprise installed, please see "EQ2 Web Enterprise" on page 285 for more information about this add-on module.

Quality Survey

The **Quality Survey** report shows the satisfaction level of departments for services performed for them. This information is based on quality surveys conducted after work is completed. This report is only available if you have the optional EQ2 Web Enterprise add-on installed. If you do not have EQ2 Web Enterprise installed, please see "EQ2 Web Enterprise" on page 285 for more information about this add-on module.

Equipment Reports

HEMS includes the following equipment reports, which are available by clicking the **Equipment** category button at the bottom of the **Reports** sidebar:

Equipment Detail

The **Equipment Detail** report provides detailed information about equipment in inventory. You can sort this report by **Equipment Type**, **Model # + Manufacturer**, **Manufacturer + Model #**, **Manufacturer**, **Department**, **Cost Center #**, **Location**, **Device Inclusion**, **Control #**, **Serial #**, **ECRI #**, and **ECRI Name**.

This report presents the following information per matching item:

- **Control #:** Unique number assigned to each equipment item in HEMS.

- **Serial #:** Unique number assigned to the equipment item by the manufacturer.

- **Risk Score:** Level of risk assigned to the equipment item.

- **EQ Type:** Type of equipment.

- **EQ System:** Equipment system.

- **EQ Class:** Equipment class.

- **Manufacturer:** Equipment manufacturer name.

- **Supplier:** Equipment supplier (may or many not be the manufacturer).

- **Model #:** Equipment model number.

- **DI:** Device inclusion for the current equipment item.

- **Department:** Department that owns the equipment.

- **Cost Center #:** Department cost center number.

- **Purchase Date:** Date the equipment was purchased.

- **Purchase Cost:** Amount paid for the equipment.

- **Warranty Date:** Warranty expiration date.

- **Service Date:** Service contract expiration date.

- **Depreciation:** Equipment life expectancy.

- **Location:** Location of the equipment.

- **Campus:** Campus where the equipment is located.

- **Building:** Building where the equipment is located.

- **Wing:** Wing where the equipment is located.

- **Floor:** Floor where the equipment is located.

- **Room:** Room where the equipment is located.

- **Space:** Space where the equipment is located.

Management Program Inventory

The **Management Program Inventory** report only covers equipment in the preventive mainte-nance management program. Management program inventory contains either all equipment items that have a higher risk factor than the minimum required for placing the equipment into the management program, or equipment that does not have risk defined. This report compares the number of preventive maintenance and repair work orders.

This report presents the following information broken down by equipment type:

- **Control #:** Unique number assigned to each equipment item in HEMS.

- **Department:** Department that owns the equipment.

- **Location:** Location of the equipment.

- **Annual Frequency:** Current preventive maintenance frequency.

- **# of PM Work Orders Opened/Closed/Close%:** How many preventive maintenance work orders were opened and closed, and the percentage of opened work orders that were closed.

- **# of Failure Work Orders Opened/Closed/Close%:** How many corrective maintenance work orders were opened and closed, and the percentage of opened work orders that were closed

- **Risk Factor:** Level of risk assigned to the equipment item.

Equipment List

The **Equipment List** report shows the equipment inventory in list format. Technicians can run this report for a quick glance at equipment with next due date for preventive maintenance. You can sort this report by **Equipment Type**, **Model # + Manufacturer**, **Manufacturer + Model #**, **Manu-facturer**, **Department**, **Cost Center #**, **Location**, **Device Inclusion**, **Control #**, **Serial #**, **ECRI #**, and **ECRI Name**.

This report presents the following information:

- **Control #:** Unique number assigned to each equipment item in HEMS.

- **Serial #:** Unique number assigned to the equipment item by the manufacturer.

- **EQ Type:** Type of equipment.

- **Model #:** Equipment model number.

- **Manufacturer:** Equipment manufacturer name.

- **Department:** Department that owns the equipment.

- **Location:** Location of the equipment.

- **DI:** Device inclusion for the selected equipment.

- **Next Date (PM):** Date the equipment item is next due for preventive maintenance.

- **Interval:** Preventive maintenance interval.

- **Risk Factor:** Level of risk assigned to the equipment item.

Equipment Overdue for PM

The **Equipment Overdue for PM** report displays equipment that is more than 30 days overdue for preventive maintenance. You can sort this report by **Equipment Type**, **Model Name + Manu-facturer**, **Manufacturer + Model Name**, **Model # + Manufacturer**, **Manufacturer + Model #**, **Manufacturer**, **Department**, **Cost Center #**, **Location**, **Device Inclusion**, **Control #**, **Serial #**, **ECRI #**, and **ECRI Name**.

This report presents the following information:

- **Control #:** Unique number assigned to each equipment item in HEMS.

- **Serial #:** Unique number assigned to the equipment item by the manufacturer.

- **EQ Type:** Type of equipment.

- **EQ Model:** Equipment model.

- **Manufacturer:** Equipment manufacturer name.

- **Department:** Department that owns the equipment.

- **Location:** Where the equipment is located.

- **Last Closed On:** Date on which the last scheduled work order for this equipment was closed.

- **Last Due From:** Date from which the last scheduled work order is due.

- **Days Due:** how many days overdue the equipment is for maintenance.

- **Cnt:** Total unclosed scheduled work orders.

Equipment List with Purchase Information

The **Equipment List with Purchase Information** report shows the equipment inventory in a list format including purchase information. This report is useful when the owner department needs information regarding purchasing decisions or equipment age. You can sort this report by **Equip-ment Type**, **Model # + Manufacturer**, **Manufacturer + Model #**, **Model # + Manufacturer**, **Manu-facturer + Model #**, **Manufacturer**, **Department**, **Cost Center #**, **Location**, **Device Inclusion**, **Control #**, **Serial #**, **ECRI #**, and **ECRI Name**.

This report presents the following information:

- **Control #:** Unique number assigned to each equipment item in HEMS.

- **EQ Type:** Type of equipment.

- **EQ Model:** Equipment model.

- **Manufacturer:** Equipment manufacturer name.

- **Serial #:** Unique number assigned to the equipment item by the manufacturer.

- **PO #:** Purchase order number used to buy the equipment.

- **Pur Date:** Date the equipment was purchased.

- **Pur Cost:** Purchase cost of the equipment.

- **Service Date:** Date that the current service contract expires for the selected equipment.

- **Warranty Date:** Date that the manufacturer warranty expires for the selected equipment.

- **Life Exp:** Total life expectancy for the selected equipment.

- **Age:** Age of the selected equipment.

Equipment Summary

The **Equipment Summary** report displays summary information about equipment in inventory. You can group this report by **Equipment Type**, **Model # + Manufacturer**, **Manufacturer + Model #**, **Model # + Manufacturer**, **Manufacturer + Model #**, **Manufacturer**, **Department**, **Cost Center #**, **Location**, **Device Inclusion**, **Control #**, **Serial #**, **ECRI #**, and **ECRI Name**.

This report presents the following information by group:

- **Number of Equipment:** Equipment count based on your selected grouping.

- **Life Expectancy:** Total life expectancy for each equipment model (only displayed if grouped by type).

- **Age Min/Max/Avg:** Minimum (newest), maximum (oldest), and average age of the equipment.

- **Cost Price Min/Max/Avg:** Minimum (lowest), maximum (highest), and average cost of the equipment when you purchased it.

Clicking the arrows at the top of a column sorts the report in ascending (A-Z) or descending (Z-A) order by the selected column.

Equipment Listing with Schedule Information

The **Equipment Listing with Schedule Information** report shows the equipment inventory in list format, including schedule information. This can be used to review equipment schedule information with the next due date. You can group this report by **Equipment Type**, **Model # + Manufacturer**, **Manufacturer + Model #**, **Model # + Manufacturer**, **Manufacturer + Model #**, **Manufacturer**, **Department**, **Cost Center #**, **Location**, **Device Inclusion**, **Control #**, **Serial #**, **ECRI #**, and **ECRI Name**.

This report presents the following information by group:

- **Control #:** Unique number assigned to each equipment item in HEMS.

- **EQ Type:** Type of equipment.

- **EQ Model:** Equipment model.

- **Manufacturer:** Equipment manufacturer name.

- **Serial #:** Unique number assigned to the equipment item by the manufacturer.

- **Assg Eng:** Engineer assigned to the work order.

- **Next Date:** Date the equipment item is next due for preventive maintenance.

- **Int:** Preventive maintenance schedule interval.

- **Risk:** Level of risk assigned to the equipment item. Please see "CHAPTER 8: Managing Risk" on page 179 for information about managing risk in HEMS.

- **Est Hours:** Estimated hours for preventive maintenance.

Equipment Downtime

The **Equipment Downtime** report lists equipment with its downtime. The equipment is considered "down" if it is unavailable and the department is open. Downtime does not include hours when the department is closed, even if the equipment is unavailable during those hours. Equipment is considered unavailable from the time a work order is opened to the time the equipment is back in service and the work order is closed. To run this report, you must have department shifts (hours of operation) defined in the **Departments** Information List. Please see "Departments List" on page 124 for more information about the **Departments** Information List.

This report presents the following information for your selected date range:

- **Control #:** Unique number assigned to each equipment item in HEMS.

- **Equipment Type:** Type of equipment.

- **Model #:** Equipment model number.

- **Manufacturer:** Equipment manufacturer name.

- **Serial #:** Unique number assigned to the equipment item by the manufacturer.

- **Owner Department:** Department that owns the equipment.

- **Down Time (hours):** How many hours the current equipment item has been down.

- **Down Time (%):** Percentage of time that the current equipment item has been down.

Clicking the arrows at the top of a column sorts the report in ascending (A-Z) or descending (Z-A) order by the selected column.

Equipment History

The **Equipment History** report displays the maintenance history for the specified equipment item control number. You can specify whether or not to include work order details in this report. This report includes equipment details, schedule information, contract information (if defined), work history grouped by scheduled and unscheduled. It also includes graphs for replacement matrix and cost of ownership.

Equipment with Parts

The **Equipment with Parts** report lists equipment items and their associated parts.

This report presents the following information:

- **Control #:** Unique number assigned to each equipment item in HEMS.

- **Equipment information:** This report lists serial #, equipment type, model #, model name, manufacturer, and department information for each equipment item.

- **Part information:** This report lists part #, manufacturer's part #, manufacturer, part description, and part type information for each part.

Rate of Occurrence of Failure

The **Rate of Occurrence of Failure** report identifies what equipment is failing most frequently according to unscheduled (repair) events. Failed equipment slows production and incurs costs. Failures are a metric for management to review and determine wither preventive maintenance must be increased, equipment replaced, etc. This is the other side of the **Maximum Expenditure Limit** report. You can group this report by **Department**, **EQ Type**, or **None**. Selecting **None** groups the report by control number.

This report presents the following information by group:

- **Control #:** Unique number assigned to each equipment item in HEMS.

- **Serial #:** Unique number assigned to the equipment item by the manufacturer.

- **Model #:** Equipment model number.

- **Manufacturer:** Equipment manufacturer name.

- **Equipment Type:** Type of equipment.

- **Department:** Department that owns the equipment.

- **EQ Purchase Date:** Date the current equipment item was purchased.

- **# of Failures:** Number of times the current equipment item has failed.

- **ROCOF:** Rate of Occurrence of Failure for the current equipment item.

Maximum Expenditure Limit

The **Maximum Expenditure Limit** report lists equipment items with life expectancy, purchase, and purchase price defined. This report provides a baseline for establishing a equipment replacement program. If the **Repair Cost** is more than the **Maximum Expenditure Limit (MEL)** then it is time to purchase new equipment. The new cost that appears in the report is a straight line calculation that adds 3% to the equipment's original cost per annum.

Note: The fact that a piece of equipment is approaching or beyond its projected useful life expectancy is not by itself a sufficient reason to replace the item.

This report presents the following information:

- **Control #:** Unique number assigned to each equipment item in HEMS.

- **Equipment Type:** Type of equipment.

- **Life Exp**: Total life expectancy of the current equipment item, in years.

- **Useful Life Left:** Remaining useful life of the current item, in years.

- **Hours Spent:** Total number of hours spent on work orders for the current equipment item.

- **# of WOs:** Number of work orders opened for the current equipment item.

- **Repair Cost:** How much has been spent to repair the current equipment item during the current year.

- **Max Exp Limit (MEL):** Remaining value of the current equipment item.

- **Exceeded MEL by:** How much the equipment repair cost exceeds the Maximum Expenditure Limit.

- **Exp Cost for New Equipment:** Expected equipment replacement cost.

- **P:** Prohibited

- **O:** Obsolete

- **Support End Date:** Date that manufacturer or vendor support expires for the current equipment item.

Closed Percentage per Month

The **Closed Percentage per Month** report only covers equipment in the preventive maintenance management program. This report shows the count of scheduled equipment in the preventive maintenance program per month per priority and the count of equipment closed within that month

This report presents a bar graph with work order close percentages by month and then a month--by-month list with the following information:

- **Month:** Calendar year by month. The current year displays through the current month.

- **Priority:** Work order priority.

- **Total WOs:** Total number of work orders opened.

- **WOs Closed:** Total number of work orders closed within the month.

- **Close %age:** Percentage of work orders closed. This is obtained by dividing the number of closed work orders by the total number of work orders.

Schedule (PM) Reports

HEMS includes the following preventive maintenance schedule reports, which are available by clicking the **Schedule (PM)** category button at the bottom of the **Reports** sidebar:

Procedure Review

The **Procedure Review** report displays a procedure and its associated tasks in sequence. This report also shows all of the equipment associated with the procedure, if selected. You can sort this report by **Procedure Name**, **Procedure #**, **Specialty + Procedure Name**, **Specialty + Procedure Number**, **Procedure Type + Procedure Name**, and **Procedure Type + Procedure #**.

This report presents the following information for each procedure:

- **Procedure Name:** Name of the maintenance/repair/etc. procedure.

- **Proc #:** Number assigned to the procedure.

- **Procedure Type:** Type of procedure.

- **Specialty:** Maintenance specialty.

- **Source:** Where the procedure originated (such a ASHE).

- **Task Sequence:** Order in which the tasks are performed.

Then, for each task in the procedure, the report displays:

- **Task name:** Name of the task.

- **Task #:** Unique number associated with each task.

- **Interval:** The interval of the task.

- **Est Hrs:** Estimated hours.

Preventive Maintenance Summary

The **Preventive Maintenance Summary** report lists preventive maintenance schedules based on your search criteria.

This report presents the following information by equipment type:

- **Control #:** Unique number assigned to each equipment item in HEMS.

- **Equipment Type:** Type of equipment.

- **Maintenance Procedure:** Procedure performed for preventive maintenance.

- **Priority:** Work order priority.

- **Assg Eng:** Engineer assigned to the work order.

- **Department:** Department that owns the equipment.

- **Next Date:** Date the equipment item is next due for preventive maintenance.

- **Interval:** Preventive maintenance interval.

- **Risk:** Level of risk assigned to the equipment item.

Annual Schedule Load

The **Annual Schedule Load** report allows you to review your scheduled load to see equipment scheduled per month and estimated hours per month. You can group this report by **Assigned Engineer**, **Specialty**, **Equipment Type**, **Department**, **Location**, **Priority**, and **Procedure**. You can also sort this report by **Issue Date**, **Assigned Engineer**, **Procedure**, **Specialty**, **Department**, **Location**, **Priority**, or **Control #**.

The summary version of this report presents bar graphs showing the number of equipment items due by month, the total estimated hours per month, and the overall equipment count and estimated hours count for the selected time frame.

The detailed version of this report presents the above information plus the following detailed information for each piece of equipment grouped according to your selected criteria:

- **Issue Date:** Date the work order was issued.

- **Control #:** Unique number assigned to each equipment item in HEMS.

- **Equipment Type:** Type of equipment.

- **Department:** Department that owns the equipment.

- **Location:** Where the equipment is located.

- **Procedure:** Maintenance procedure name.

- **Specialty:** Maintenance specialty.

- **Employee:** Assigned engineer.

- **Est Hrs:** Estimated hours.

- **Int:** Preventive maintenance interval.

PM Parts Due - Shortage

The **PM Parts Due - Shortage** report lists parts that need to be ordered to cover the selected preventive maintenance period. HEMS calculates the shortage by subtracting stock on hand from the parts required for preventive maintenance for the selected period. You can group this report by **Department**, **Equipment Type**, **Location**, **Model # + Manufacturer**, **Part Manufacturer**, **Part Type**, and **Part #**.

The summary version of this report presents the following information:

- **Part #:** Part number entered into HEMS by the user.

- **Part Type:** Type of part.

- **Manufacturer:** Manufacturer that makes the part.

- **Quantity Needed:** How many parts are needed to complete preventive maintenance for the selected date range.

- **On Hand:** How many of the particular part you have on hand.

- **Shortage:** Difference between the number of parts you have and the number of parts you need for the selected date range.

- **Last Price:** Most recent price paid for this part.

- **Purchase Budget:** Total cost to purchase all of the parts needed for the specified date range.

The detailed version of this report presents the summary information plus all of the equipment that needs each of the parts:

- **Control #:** Unique number assigned to each equipment item in HEMS.

- **Serial #:** Unique number assigned to the equipment item by the manufacturer.

- **Equipment Type:** Type of equipment.

- **Model #:** Equipment model number.

- **Manufacturer:** Equipment manufacturer name.

- **Due Date:** Date the equipment item is next due for preventive maintenance.

PM Parts Due

The **PM Parts Due** report lists parts required for preventive maintenance without considering stock on hand. You can group this report by **Department, Equipment Type**, **Location**, **Model # + Manufacturer**, **Part Manufacturer**, **Part Type**, and **Part #**. Then, based on the selected group, the report displays the part quantities needed by your selected date and both estimated cost by group and the total estimated cost for all groups.

Risk Reports

HEMS includes the following risk reports, which are available by clicking the **Risk** category button at the bottom of the **Reports** sidebar:

Risk Interval

The **Risk Interval** report displays preventive maintenance intervals and priority based on risk factor. It uses several ranges of risk factor scores and displays the interval and priority for each range.

Risk Category

The **Risk Category** report displays risk statements sorted by risk category and decreasing risk factor. The risk categories are:

- Equipment Function
- Clinical Application
- PM Requirement
- Likelihood of Failure
- Environment of Use

Other Reports

HEMS includes the following additional reports, which are available by clicking the **Other** category button at the bottom of the **Reports** sidebar:

Parts with Equipment

The **Parts with Equipment** report lists parts and their associated equipment. You may group this report by **Equipment Type**, **Model # + Manufacturer**, **Part Manufacturer**, **Part Type**, and **Part #**.

For each part, the report shows the following information:

• **Part #:** Part number entered into HEMS by the user.

• **Part Type:** Type of part.

• **Part Description:** Description of part.

• **Part Manufacturer:** Manufacturer that makes the part.

• **Last Price:** Most recent price paid for this part.

• **On Hand:** How many of the current part you have on hand.

The report then lists the equipment that uses that part, including:

• **Control #:** Unique number assigned to each equipment item in HEMS.

• **Serial #:** Unique number assigned to the equipment item by the manufacturer.

• **Equipment Type:** Type of equipment.

• **Model #:** Equipment model number.

• **Manufacturer:** Equipment manufacturer name.

Equipment with Network Information

The **Equipment with Network Information** report is a sample custom report with custom fields pertaining to network information defined in the equipment inventory.

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CHAPTER 11:
Finding Data

Finding Your Work

The HEMS Find and Filter functions are available in HEMS dashboards, windows, and Information Lists to help you quickly locate the information you're looking for. The Find function provides a context sensitive set of fields that allow you to enter your desired search criteria. For example, you can search the **Work Orders** dashboard for a single work order or a range of work orders by control numbers, specific date or date range, status, priority, and more. Search results appear in the same window for fast viewing, editing, and other functions. The Filter function lets you create custom searches that can go beyond the options available using the Find function.

Note: The Find and Filter functions retrieve information from the HEMS server every time you run a search.

Search results are available until you run another Find or Filter search that overrides your previous the first group of search results.

The Find Function

The HEMS Find function automatically appears when you open a HEMS dashboard, window, or Information List. To use the Find function, enter your desired search criteria in the Search Area of the current window. Please refer to the instructions for your current window. If you are using the Work Orders dashboard, please see "The Work Orders Dashboard" on page 17. If you are using the Equipment inventory dashboard please see "The Equipment Inventory Dashboard" on page 22.

When using the Find function:

- In general, most fields return matches that begin with the text entered in that field. For example, entering "def" retrieve both "defib" and "defibrillator." The **EQ Type** and **ECRI** fields return results that contain the text entered in those fields. For example, entering "fib" will return "defibrillator."

- If you enter search criteria in more than one field, the Find function will return only those results that match all of your search criteria in all fields that contain text.

- To return all records, click the **Search** button without entering anything in the search fields.

- By default, the Find function in the **Work Orders** and **Equipment Inventory** dashboards is **Pending** and **Active**, respectively. To return all work orders, clear the **Pending** checkbox; to return all equipment, select **Both Active and Inactive**.

The Find Window

The following security-related windows use the **Find** window to locate information:

- **Users Window:** Please see "User Management" on page 242 for more information about managing users in HEMS.

- **Passwords Window:** Please see "Password Management" on page 249 for more information about managing passwords in HEMS.

- **Control Permissions Groups:** Please see "Control Groups" on page 252 for more information about managing Control Groups in HEMS.

- **Menu Permissions Groups:** Please see "Menu Groups" on page 257 for more information about managing Menu Groups in HEMS.

- **Errors Window:** Please see "Error Logs" on page 267 for more information about finding and viewing HEMS errors.

The **Find** window displays the most commonly used search fields appropriate to the current window.

You can open the **Find** window at any time when in any of the above-listed windows by clicking the **Find** button in the **Toolbar**. Please see "Toolbar" on page 37 for more information about the **Toolbar**.

Filters

At times, you may want to refine your search or search by using fields that are not available in Find mode. The HEMS Filter function lists all available fields for the window or list you are in, which allows you to narrow your search results even more.

Filters list field headers (in light gray) and all fields available for the window you are in. Be careful to select the correct Field header and then the field. For example, **Initials** is under the **Assigned Engineer** header, and **Labor Initials** is under the **WO Lbr Entries** header.

Note: The remainder of this section capitalizes the words "Field," "Value," "Condition", and "Operator" to indicate specific filter components.

Toggling Filters

By default, HEMS operates in Find mode.

- To switch to Filter mode, click the **Switch to Filter Mode** button, which appears as a small funnel in the current window.

- To switch back to Find mode, click the **Switch to Find Mode** button, which appears as a small magnifying glass in the current window.

Filter Components

A Filter is made up of one or more Conditions. A single Condition compares a Field to a specific Value using an Operator that determines the comparison that will be made. For example, "Work Order Status Date is greater than or equal to 05/01/2009" is a Condition where:

- Work Order Status Date is the Field.

- Greater than or equal to is the Operator.

- 05/01/2009is the value.

This Condition only allows those work order records with a Status Date greater than or equal to 05/01/2009 to be part of the subset.

A Filter can have more than one Condition. In this case the Filter compares each Condition using Connectors that specify how any given Condition should be compared to the next Condition in the Filter.

HEMS Filter syntax is therefore:

- **Single-Condition Filter:** Condition (where Condition equals Field + Operator + Value).

- **Multi-Condition Filter:** Condition + Connector+ Condition, or (Field + Operator + Value) + Connector + Field + Operator + Value).

> *Note: A Filter can have an arbitrary number of Conditions. HEMS processes Conditions in the order they appear in the **Filter** window. Values that pass the first Condition are then evaluated against the second Condition and so forth until all Conditions have been processed. Think of a Filter as a progressively finer sieve where each Condition further refines the resulting subset.*

Operators

Operators compare Fields and Values to determine whether a given record should be included in the subset. HEMS includes several Operators, described below. Some Operators use more than one Value. For example, "is between" requires two Values (as in "Status Date is between 05/01/2009 and 06/01/2009"). Other Operators do not use any Value; for example, "Requester is blank" is either true or not without needing a Value. Some Operators are only available for certain Fields.

Equals

The data stored in the Field must exactly match the specified value.

- **Sample Condition:** REQUESTER INITIALS equals "TBN."

The resulting subset will only include records with "TBN" as the requester initials. Records with "TB", "BTN", and "NT" will not be included.

Does Not Equal

The data stored in the Field may be anything but the value you specify.

- **Sample Condition:** DEPARTMENT does not equal "DIETARY."

The resulting subset will only include records that do not have "DIETARY" as the department.

Begins With

The data stored in the Field must begin with the specified value.

- **Sample Condition:** CONTROL NUMBER begins with "AC."

The resulting subset will include records that have "AC017", "AC060", "AC035", and "AC200", etc. as the control number.

Contains

The data stored in the Field has the specified value anywhere in that Field.

- **Sample Condition:** REQUEST TEXT contains "TELEPHONE SWITCH INSTALL."

The resulting subset will include records that have "TELEPHONE SWITCH INSTALL" as part of the request text.

Does Not Contain

The data stored in the Field does not have the specified value anywhere in that Field.

• **Sample Condition:** REQUEST TEXT does not contain "TELEPHONE SWITCH INSTALL."

The resulting subset will include records that do not have "TELEPHONE SWITCH INSTALL" as part of the request text.

Is Unknown

The data stored in the specific Field has an unknown or null value.

• **Sample Condition:** PRIORITY is unknown.

The resulting subset will include records that do not have a specified priority.

Is Not Unknown

The data stored in the specific Field has a known value.

• **Sample Condition:** PRIORITY is not unknown.

The resulting subset will include records that have a specified priority.

Is Greater Than

The data stored in the Field has a value that exceeds the specified value.

• **Sample Condition:** STATUS DATE is greater than 5/01/2009.

The resulting subset will include records that have dates later than 05/01/2009 as the start date.

Is Greater Than or Equal

The data stored in the Field has a value that exceeds or equals the specified value.

• **Sample Condition:** STATUS DATE is greater than or equal to 5/01/2009.

The resulting subset will include records that have dates later than or equal to 05/01/2009 as the start date.

Is Less Than

The data stored in the Field has a value that is less than the specified value.

• **Sample Condition:** STATUS DATE is less than 5/01/2009.

The resulting subset will include records that have dates earlier than 05/01/2009 as the start date.

Is Less Than or Equal

The data stored in the Field has a value that is less than or equals the specified value.

• **Sample Condition:** STATUS DATE is less than or equal to 5/01/2009.

The resulting subset will include records that have dates earlier than or equal to 05/01/2009 as the start date.

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Is Between

The data stored in the Field has a value that is more than the specified minimum and less than the specified maximum.

• **Sample Condition:** STATUS DATE is between 5/01/2009 and 07/01/2009.

The resulting subset will include records that have dates between (but not equal to) 05/01/2009 and 07/01/2009 as the start date.

Is One Of

The data stored in the Field has a value that is equal to one of the specified possible Values. This Operator can process up to 10 separate "equals" operations at once.

• **Sample Condition:** DEPARTMENT is one of, "SPECIALTY CLINIC," "HEALTH CLINIC," or "DENTAL CLINIC."

The resulting subset will include records where the department equals any one of the above three Values.

Is Yes

The data stored in the Field has a value of (or equal to) Yes.

• **Sample Condition:** ACTIVE equals, "YES."

The resulting subset will include all active records.

Is No

The data stored in the Field has a value of (or equal to) No.

• **Sample Condition:** ACTIVE equals, "NO."

The resulting subset will include all inactive records.

Satisfied

The data stored in the Field has a value equal to Satisfied.

• **Sample Condition:** SATISFACTION LEVEL equals, "SATISFIED."

The resulting subset will include records where the **Satisfaction Level** Field has the value, "SATIS-FIED.".

*Note: This Operator is only available for the **Satisfaction Level** Field.*

Not Satisfied

The data stored in the Field has a value equal to Not Satisfied.

- **Sample Condition:** SATISFACTION LEVEL equals, "NOT SATISFIED."

The resulting subset will include records where the **Satisfaction Level** Field has the value, "NOT SATISFIED."

*Note: This Operator is only available for the **Satisfaction Level** Field.*

Can't Say

The data stored in the Field has a value equal to Can't Say.

- **Sample Condition:** SATISFACTION LEVEL equals, "CAN'T SAY."

The resulting subset will include records where the **Satisfaction Level** Field has the value, "CAN'T SAY."

*Note: This Operator is only available for the **Satisfaction Level** Field.*

Connectors

A described above (see "Filter Components" on page 222), Connectors connect Operators. In general, a Connector can be either an "AND" or an "OR." An AND Connector means that both of the Conditions it connects must be true in order to include a record in the subset. An OR Connector means that either one or both Conditions can be true in order to include a record in the subset. For example:

- If Condition A is "LEAD ENGINEER EQUALS JG" AND Condition B is "STATUS EQUALS OPEN" then a record must have LG assigned as the Lead Engineer and a Status of OPEN in order to be included in the subset. Records where LG is not the Lead Engineer and/or where the Status is not OPEN are not included in the subset.

- If Condition A is "LEAD ENGINEER EQUALS JG" OR Condition B is "STATUS EQUALS OPEN" then a record must have either LG assigned as the Lead Engineer or a Status of OPEN in order to be included in the subset. Records where LG is not the Lead Engineer but where the Status is OPEN or records where LG is the Lead Engineer but where the Status is not OPEN are included in the subset.

The words, "and" and "or" can be confusing when discussing Filters because their meaning can be the opposite of how they are used in normal English. For example, if you want to print out work orders requested by both the DIETARY CENTER and the DIALYSIS CENTER, common sense says that you should use an AND Connector. The problem with this approach is that using an AND Connector in this case will search for work orders that were requested by both departments and return no results because work orders can only be requested by one department. In this case, using an OR Connector will return work orders that have been requested by either the DIETARY CENTER or the DIALYSIS CENTER, which matches your search for.

You can avoid confusion by remembering that the Filter checks each record for each Condition. In this example, it is impossible for the DEPARTMENT to have more than one value per record; an OR Connector is therefore the correct one to use.

HEMS includes the following Connectors:

- **A and B:** Both Condition A and Condition B must be true to return a matching result.

- **A or B:** Either Condition A or Condition B can be true to return a matching result.

- **A and not B:** Condition A must be true and Condition B must be false in order to return a matching result.

- **Not A and B:** Condition A must be false and Condition B must be true in order to return a matching result.

- **Not A and Not B:** Both Condition A and Condition B must be false in order to return a matching result.

- **A or Not B:** Either Condition A must be true or Condition B must be false in order to return matching result.

- **Not A or B:** Either Condition A must be false or Condition B must be true in order to return a matching result.

- **Not A or Not B:** Either Condition A or Condition B must be false in order to return a matching result.

You may use parentheses to nest search criteria and form even more complex search queries. For example:

- Status=Open OR Status=Pending AND Initials=JDH: In this example, HEMS searches the Filter in the order it is written and returns all work orders that are open OR those that have a status of Open with JDH's initials.

- (Status=Open OR Status=Pending) AND Initials=JDH: In this example, adding the parentheses forces the Filter to first search inside parentheses to return open or pending work orders that are assigned to JDH.

Creating a Filter

When creating a Filter, there is a slight difference between adding the first Condition and any subsequent Conditions.

Adding the First Condition

To add the first Condition to the Filter you are creating:

1. Click the **Switch to Filter Mode** button (funnel) in the window you are currently working in to switch the Search Area into Filter Mode.

2. In the Search Area, click the **Filter** button to open the **Filter** window.

3. Click the **Add** button to open the **Filter Condition** window. Please see "Filter Components" on page 222 for more information about Conditions.

4. Select the Field to base the Filter on using the **Field** pull-down menu.

5. Select the Operator using the **Operator** pull-down menu. Please see "Operators" on page 223 for more information about Operators.

6. Enter your desired value in the **Value** Field by either:

   - Manually entering text into the Field, or

   - Clicking the **Value...** button (if enabled) to open the **Select Values** window where you can select a predefined value and then click **OK** to place your selection in the Field. This is a great way to speed up Filter creation and reduce errors.

7. Click **OK** to close the **Filter Condition** window and add your selected Condition to the **Filter** window.
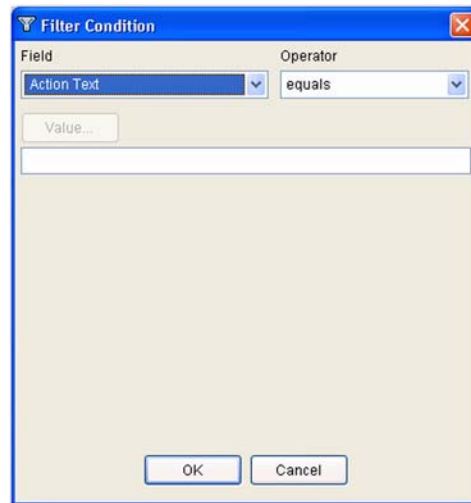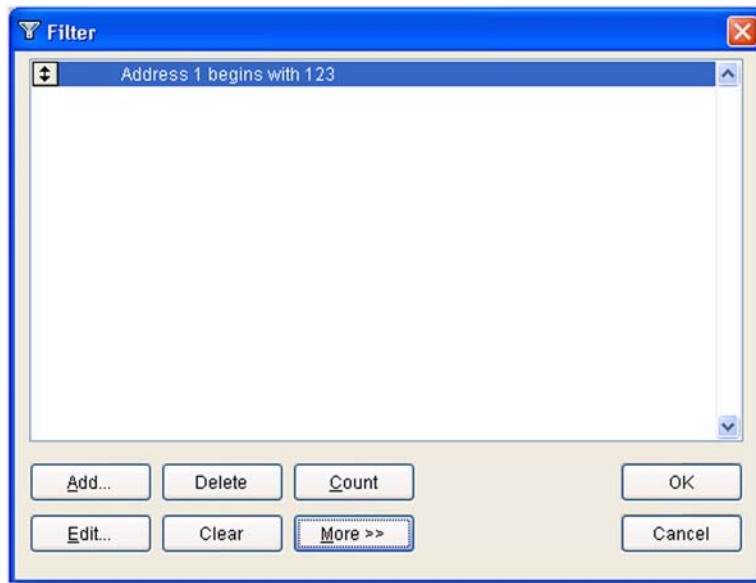
Adding Conditions to a Filter

To continue adding Conditions to a Filter:

1. Click the **Add** button in the **Filter** window to open the **Filter Condition** window.

2. Select the Connector that will be used to connect the Condition you are creating to the previous Condition in the current Filter using the **Connection** pull-down menu. Please see "Connectors" on page 226 for more information about Connectors.

3. Select the Field to base the Filter on using the **Field** pull-down menu.

4. Select the Operator using the **Operator** pull-down menu. Please see "Operators" on page 223 for more information about Operators.

5. Enter your desired value in the **Value** Field by either:

   - Manually entering text into the Field, or

   - Clicking the **Value...** button (if enabled) to open the **Select Values** window where you can select a predefined value and then click **OK** to place your selection in the Field. This is a great way to speed up Filter creation and reduce errors.

6. Click **OK** to close the **Filter Condition** window and add your selected Condition to the **Filter** window.

7. Repeat this procedure for any additional Conditions you want to add to the current Filter.
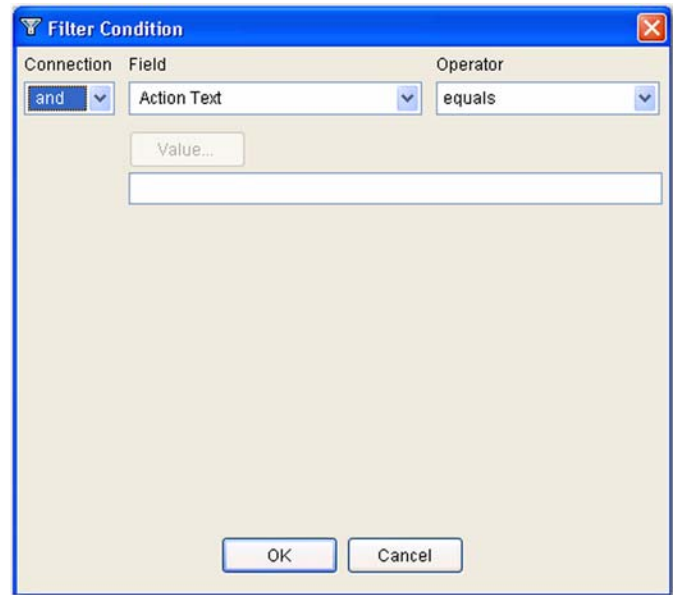
Counting Records

You can get a quick idea of how well your Filter is working by counting the number of records that match the Filter Conditions. To do this, click the **Count** button in the **Filter** window. The result appears in a HEMS pop-up window.

Running the Filter

Clicking **OK** in the **Filter** window closes the window and displays the records that match your current Filter in the Search Results Area of the window you are currently working in.

You may reopen the **Filter** window at any time by clicking the **Filter** button in the Search Area of the window you are currently working in. The **Filter** window appears with your **Filter** information, allowing you to edit, store, or clear the Filter.

Editing Filters

You can edit Filters in the **Filter** window using any combination of the following methods:

- Select the **Condition** you want to edit and then click the **Edit...** button to open the **Filter Conditions** window with the current Condition. Alter the **Connector**, **Field**, **Operator**, and/or **Value** and then click **OK**.

- Reorder the Conditions by clicking and dragging them up or down in the **Filter** window.

> *Note: Remember that HEMS processes Conditions in the order they appear in the Filter. Reordering Conditions can therefore alter the subset of records returned by the Filter. Click the **Count** button to see how reordering Conditions is affecting the number of matching records. Also, keep in mind that you may need to edit the Connectors after reordering the Conditions.*

- Delete a Condition by selecting it and then clicking the **Delete** button.

- Clear all Conditions by clicking the **Clear** button.

Managing Filters

HEMS allows you to store and retrieve Filters for repeated use. You can also use stored Filters as the basis for new Filters by retrieving a stored Filter and then editing it as described above. You can also store the edited Filter using the same name (to overwrite the old version of the Filter) or using a different name (to store the new version of the Filter without overwriting the old version).

Storing a Filter

To store a Filter:

1. In the **Filter** window, click the **More >>** button.

2. Click the **Store...** button to open the **Save Filter** window.

3. Enter a name for the Filter in the **Name** Field. If you are editing an existing Filter and keep the same name, then this will overwrite the previous version of the Filter. You must change the Filter name to save it without overwriting the previous version.

4. Enter a description of the Filter in the **Description** Field.

5. Click **OK** to store your Filter and close the Save Filter window.
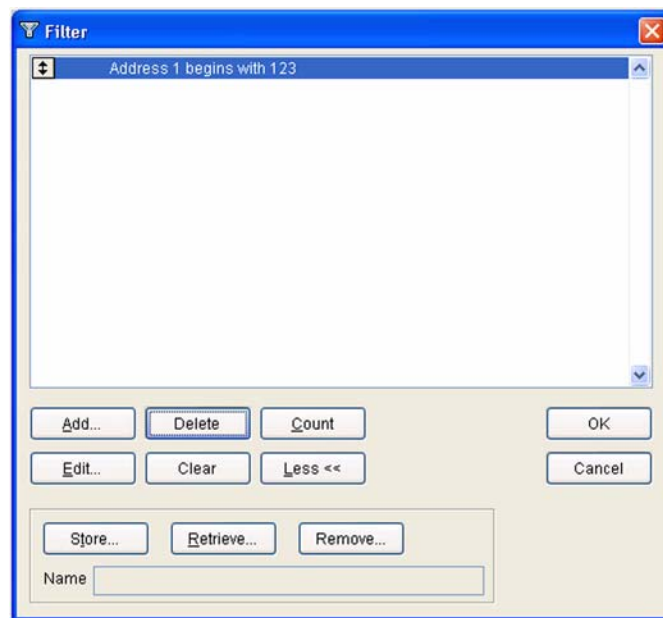
Retrieving a Stored Filter

To retrieve a stored Filter:

1. In the **Filter** window, click the **More>>** button.

2. Click the **Retrieve...** button to open the **Select Filter** window, which displays a list of all the currently stored Filters.

3. Select the Filter you want to retrieve and then click **OK** to close the **Select Filter** window and return to the **Filter** window with the retrieved Filter loaded.
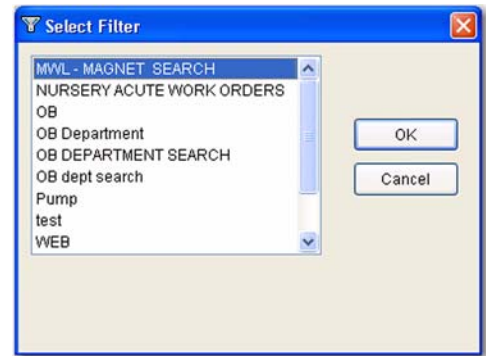
Removing a Stored Filter

To remove (delete) a stored Filter:

1. In the **Filter** window, click the **More>>** button.

2. Click the **Remove...** button to open the **Select Filter** window, which displays a list of all the currently stored Filters.

3. Select the Filter you want to remove and then click **OK** to close the **Select Filter** window and remove the selected Filter.

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CHAPTER 12: Printing & Exporting Data

Printing

HEMS allows you to print report data from reports generated using either the **Reports** sidebar or by clicking one of the buttons (such as **List Report**, **Detail Report - All**, or **Detail Report - Current**) in the dashboards, Information Lists, etc.).

To print HEMS data:

1. Launch the report you want to run. See "CHAPTER 10: Reports" on page 195 for more information about HEMS reports.

2. In the browser window, select your desired filter criteria and then click the **View Repor**t button.

3. When your report appears, click the **Print** icon next to the **Export** link (not in your browser toolbar).

4. The Windows **Print** window appears, allowing you to specify such options as:

    -   Which printer to print to.

    -   Which page(s) to print.

    -   How many copies of the report to print.

    -   Other advanced options (by clicking the **Properties** button).

5. Select your desired print options and then click the **Print** button.

Exporting

HEMS allows you to export report data from reports generated using either the **Reports** sidebar or by clicking one of the buttons (such as **List Report**, **Detail Report - All**, or **Detail Report - Current**) in the dashboards, Information Lists, etc.).

To export HEMS data:

1. Launch the report you want to run. See "CHAPTER 10: Reports" on page 195 for more information about HEMS reports.

2. In the browser window, select your desired filter criteria and then click the **View Repor**t button.

3. When your report appears, select your desired export format using the **Export** pull-down menu. The available options are:

   - XML with report data

   - CSV (comma delimited)

   - TIFF

   - Adobe Acrobat (PDF)

   - Web archive

   - Microsoft Excel (1997-2003 format)

4. Click the **Export** link, which highlights once you select your desired export format.

5. The Windows **File Download** window appears, allowing you to specify the drive/folder in which to save or open the exported data.

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CHAPTER 13: Administration

HEMS Security Modes

HEMS can operate in one of two security modes:

- **Network Security:** Network (Windows LDAP) security mode allows a user to connect to HEMS Server using her or his Windows login.

- **HEMS Security:** HEMS security mode allows a user to connect to HEMS Server using a user name and password that is unique to HEMS.

> *Note: The security mode used by your HEMS system was determined before HEMS was installed.*

Admin Toolbar

The **Toolbar** contains buttons that provide quick access to commonly used functions. The buttons included on the **Toolbar** vary depending on whether the **Toolbar** is in Normal or Admin mode. Please see "Toolbar" on page 37 for information about the **Toolbar** buttons available in Normal mode.

The **Toolbar** contains the following buttons when in Admin mode:
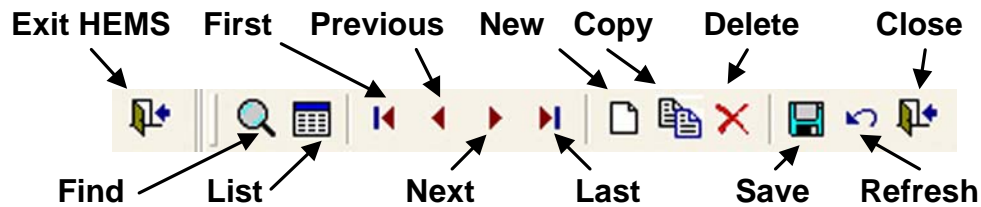
*Note: For clarity, this image shows all **Toolbar** buttons active. The active buttons you will actually see depend on the functions available at the moment. Unavailable buttons will appear grayed out.*

Exit HEMS Button

Clicking the **Exit HEMS** button logs you out of HEMS and exits the application.

Find Button

Clicking the **Find** button opens the **Find** window, which allows you to search for the desired record. Please see "CHAPTER 11: Finding Data" on page 219 for more information about finding data in HEMS.

List Button

Clicking the **List** button opens the **List** window, which displays a list of all of the records in the current list (such as HEMS users). To use the **List** window:

1. Use the **Utilities** menu to open your desired window.

2. Click the **List** button in the **Toolbar**.

3. Scroll through the list to find your desired entry. You can sort the columns by clicking the column headers.

4. Click the entry and then click **OK** to open your selected entry in the window you are working in. You may now edit, copy, or delete this entry.

First Button

Clicking the **First** button opens the first record of the type you are looking at (such as users).

Previous Button

Clicking the **Previous** button opens the previous record of the type you are looking at (such as users).

Next Button

Clicking the **Next** button opens the next record of the type you are looking at (such as users).

Last Button

Clicking the **Last** button opens the last record of the type you are looking at (such as users).

New Button

Clicking the **New** button creates a new record of the same type you are currently working with.

Copy Button

Clicking the **Copy** button creates a copy of the record you are currently viewing. You can then edit this record as needed. This can speed repetitive tasks such as adding multiple pieces of the same type and model of equipment to your inventory.

Delete Button

Clicking the **Delete** button deletes the record you are currently viewing. A confirmation dialog appears, asking you to confirm or cancel the deletion.

Note: You cannot delete any record that has had an action performed on it or that has been used in HEMS because it is part of your history. You can deactivate a record by clearing the selected record's ***Active*** *checkbox, and can configure HEMS to not display inactive records. Please see "Deactivating Equipment" on page 119 for more information.*

CAUTION: DELETED RECORDS CANNOT BE RECOVERED. DO NOT DELETE RECORDS UNLESS YOU ARE ABSOLUTELY SURE THAT THEY SHOULD BE PERMANENTLY REMOVED FROM THE HEMS DATABASE.

Save Button

Clicking the **Save** button saves the record you are currently working on to the HEMS database.

Cancel Button

Clicking the **Cancel** button cancels your most recent action.

| *January 2010 - Revision 1.0*

Refresh Button

Clicking the **Refresh** button refreshes the record you are currently viewing with the most recent information from the HEMS database.

Close Button

Clicking the **Close** button closes the window you are currently viewing. You will be prompted to save any unsaved changes.

⚠	***CAUTION: UNSAVED CHANGES ARE PERMANENTLY LOST AFTER THE RECORD IS CLOSED.***

User Management

This section describes how to add, edit, deactivate, and delete HEMS users.

Note: You should create Control Groups and Menu Groups before adding users to HEMS. Please see "Control Groups" on page 252 for more information about Control Groups and "Menu Groups" on page 257 for more information about Menu Groups.

Adding a User

Your HEMS system includes one Administrator login (user name and password) that is used to log into HEMS for the first time and begin adding users.The process you use to add a new user to HEMS depends on whether HEMS is set up to use Windows or HEMS security.

Before adding a person as a HEMS user, that person must already be entered as an employee in the **Employees** Information List. Please see "Employees List" on page 126 for more information about the **Employees** Information List.

Windows Security

To add a user to HEMS using Windows security:

1. Contact your Information Services department to add the user to the HEMS network security group.

2. Select **Utilities>Security>Users** to open the **Users** window.

> **CAUTION: THE USERS WINDOW OPENS IN EDIT MODE. BE CAREFUL NOT TO MAKE CHANGES TO THE RECORD THAT APPEARS WHEN YOU FIRST OPEN THE WINDOW.**

3. Either click the **New** button in the **Toolbar** or press [CTRL]+[N] to add a new user to the system.

4. Enter the new user's HEMS user name in the **User Name** field.

5. Use the **Default Service Area** pull-down menu to select that user's default Service Area. Please see "Service Area Configuration" on page 263 for information about configuring Service Areas.

6. Select the employee who will use this user account using the **Employee** pull-down menu. The **First**, **Middle**, and **Last** name fields will automatically fill with the selected employee's information. These fields use values from the **Employees** Information List. Please see "Employees List" on page 126 for more information about the **Employees** Information List.

7. Control permissions regulate the actions (i.e. what a user can do) available to a given HEMS user or group of users. If you know the Control Group you want to add the user to, enter that group name in the **Control Group** field, or click the **Permissions** button to open the **Control Permissions** window. Grant the new user the proper control permissions necessary to complete her or his work. Please see "Control Groups" on page 252 for more information about control permissions in HEMS.

8. Menu permissions control the menu options available to a given HEMS user or group of users. If you know the Menu Group you want to add the user to, enter that group name in the **Menu: Group** field, or click the **Permissions** button to open the **Menu Permissions** window. Grant the new user the proper menu permissions necessary to complete her or his work. Please see "Menu Groups" on page 257 for more information about menu permissions in HEMS.

9. The **Login Status** button appears checked when the selected the user is currently logged into HEMS. This allows the administrator to see who is logged into HEMS at any given time.

10. The **Multiple Login** checkbox is checked by default. This allows the user to log into HEMS from more than one computer at the same time.

11. Checking the **Security** checkbox gives the selected user access to the HEMS security functions (**Users**, **Passwords**, and **Permission Groups**). Clearing this checkbox denies the selected user access to these functions.

> ⚠️ **CAUTION: RESTRICT ACCESS TO THE HEMS SECURITY FUNCTIONS TO THOSE USERS WITH A VALID NEED TO ACCESS THOSE FUNCTIONS, IN ORDER TO ENHANCE SECURITY AND DATA INTEGRITY.**

> 📋 *Note: The Password Area of the **Users** window is disabled when using Windows security.*

HEMS Security

To add a user to HEMS using HEMS security:

1. Contact your Information Services department to add the user to the HEMS network security group.

2. Select **Utilities>Security>Users** to open the **Users** window.

> ⚠️ **CAUTION: THE USERS WINDOW OPENS IN EDIT MODE. BE CAREFUL NOT TO MAKE CHANGES TO THE RECORD THAT APPEARS WHEN YOU FIRST OPEN THE WINDOW.**

3. Either click the **New** button in the **Toolbar** or press [CTRL]+[N] to add a new user to the system.

4. Enter the new user's HEMS user name in the **User Name** field.

5. Use the **Default Service Area** pull-down menu to select that user's default Service Area. Please see "Service Area Configuration" on page 263 for information about configuring Service Areas.

6. Select the employee who will use this user account using the **Employee** pull-down menu. The **First**, **Middle**, and **Last** name fields will automatically fill with the selected employee's information. These fields use values from the **Employees** Information List. Please see "Employees List" on page 126 for more information about the **Employees** Information List.

7. Control permissions regulate the actions available (i.e. what a user can do) to a given HEMS user or group or users. If you know the Control Group you want to add the user to, enter that group name in the **Control Group** field, or click the **Permissions** button to open the **Control Permissions** window. Grant the new user the proper control permissions necessary to complete her or his work. Please see "Control Groups" on page 252 for more information about control permissions in HEMS.

8. Menu permissions control the menu options available (i.e. where a user can go) to a given HEMS user or group of users. If you know the Menu Group you want to add the user to, enter that group name in the **Menu: Group** field, or click the **Permissions** button to open the **Menu Permissions** window. Grant the new user the proper menu permissions necessary to complete her or his work. Please see "Menu Groups" on page 257 for more information about menu permissions in HEMS.

9. Enter the user's temporary password in the **Temporary Password** field. Passwords are case-sensitive. When the user enters HEMS Enterprise for the first time, s/he will be prompted to enter a new password of her or his choosing.

10. If applicable, enter the date that the user's password was last changed in the **Last Change** field in MM/DD/YYYY format.

11. Enter the number of days that a password will be valid before HEMS will prompt the user to set a new password in the **Period** field. This number does not affect the temporary password, which the user will need to change the first time s/he logs into HEMS. HEMS users and administrators can change passwords at any time. Please see "Password Management" on page 249 for more information about managing passwords within HEMS.

12. Checking the **Login Status** button indicates that the selected the user is currently logged into HEMS. This allows the administrator to see who is logged into HEMS at any given time. Clearing this checkbox indicates that the selected user is not currently logged into HEMS.

13. Checking the **Multiple Login** checkbox allows the user to log into HEMS from more than one computer at the same time. The user can also reenter HEMS if the application terminates abnormally (such as if the power goes out).

14. Checking the **Security** checkbox gives the selected user access to the HEMS security functions (**Users**, **Passwords**, and **Permission Groups**). Clearing this checkbox denies the selected user access to these functions.

> ⚠ **CAUTION: RESTRICT ACCESS TO THE HEMS SECURITY FUNCTIONS TO THOSE USERS WITH A VALID NEED TO ACCESS THOSE FUNCTIONS, IN ORDER TO ENHANCE SECURITY AND DATA INTEGRITY.**

Editing a User

To edit a user:

1. Select **Utilities>Security>Users** to open the **Users** window.

2. Find the user you want to edit by either:

   - Clicking the **Find** button in the **Toolbar** and entering the desired user's **Last Name** and **First Name** and/or **ID** in the **Find User** window and then clicking **OK**, or

   - Clicking the **List** button and using the **List** window to find the desired user. Please see "List Button" on page 239 for information about using the **List** button and window.

3. The selected user's information appears in the **Users** window. Edit the user's information as needed.

4. Save your work by clicking the **Save** button in the **Toolbar**.

Deleting a User

Deleting a HEMS user denies that person access to HEMS. It does not remove that person from the **Employees** Information List because this information is part of your organization' history. Please see "Employees List" on page 126 for more information about the **Employees** Information List.

The process of deleting a user depends on whether HEMS is set up using Windows or HEMS security.

Windows Security

Users who need to be removed as HEMS users must be deactivated by your Information services department. Once deactivated, this person will no longer be able to access HEMS.

HEMS Security

To delete a HEMS user using HEMS security:

1. Select **Utilities>Security>Users** to open the **Users** window.

2. Find the user you want to edit by either:

   - Clicking the **Find** button in the **Toolbar** and entering the desired user's **Last Name** and **First Name** and/or **ID** in the **Find User** window and then clicking **OK**, or

   - Clicking the **List** button and using the **List** window to find the desired user. Please see "List Button" on page 239 for information about using the **List** button and window.

3. The selected user's information appears in the **Users** window. Edit the user's information as needed.

4. Click the **Delete** button in the **Toolbar** to delete the selected person. You are prompted to confirm the deletion.

Configuring User Defaults

HEMS allows individual users to configure their own report and work order defaults by Service Area. Setting up your own report defaults reduces clutter in the **Reports** sidebar by displaying only those reports that you need to run. Setting up your own work order defaults makes opening work orders faster and more accurate by having certain fields (such as Requester, Location, Assigned Engineer, Priority, etc.) automatically filled in every time you open a new work order from the **Work Orders** dashboard. HEMS customizes work order defaults by Service Area; if you have access to more than one Service Area, you will need to set your defaults for each Service Area you have access to.

> *Note: HEMS overrides the department, location, and assigned engineer work order defaults when opening work orders from the **Equipment Inventory** dashboard because work orders created from that location are associated with equipment.*

Reports Sidebar Defaults

To customize the **Reports** sidebar:

1. Select **Utilities>User Configuration** to open the **User Configuration** window.

2. Select the **Reports Sidebar** tab to view all available HEMS reports in a hierarchical (tree) format with individual reports grouped under their respective categories.

3. Expand and collapse report categories to view the report(s) you want to include or exclude in the **Reports** sidebar:

   - To expand a collapsed report category, click the **+** icon next to the category you want to expand.

   - To collapse an expanded report category, click the **-** icon next to the category you want to collapse.

4. Select which report(s) you want to include or exclude in your **Reports** sidebar:

   - To include a report in your **Reports** sidebar, check the checkbox next to the selected report.

   - To exclude a report from your **Reports** sidebar, clear the checkbox next to the selected report.
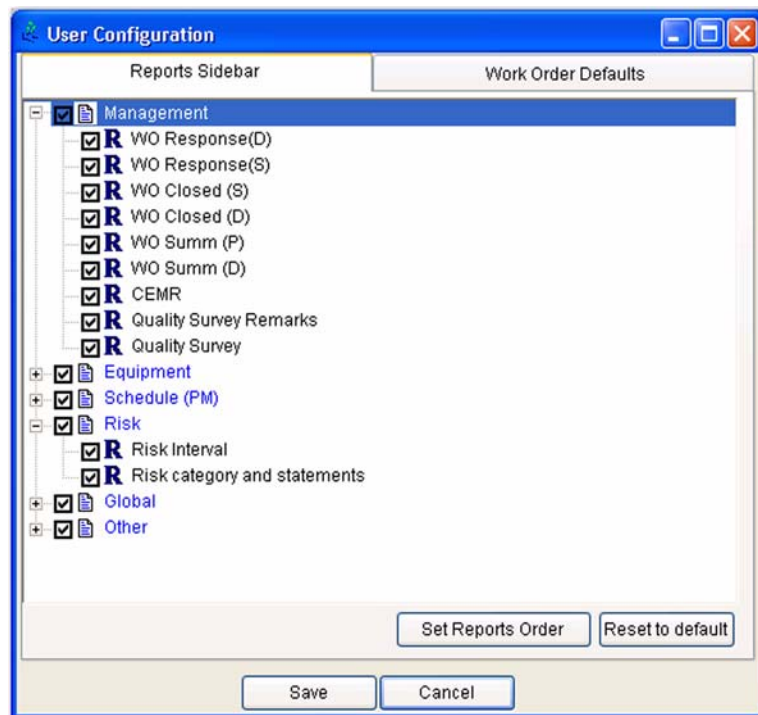
5. Select a report category and then click the **Set Reports Order** button to open the **Configure Reports Sidebar** window with all of the reports in the current report category listed.

6. Arrange the reports in the order you would like them to appear by clicking the button next to the selected report and dragging it up or down.

7. Repeat Step 6 for each report in each group that you want to reorder, until you have all of the reports arranged as you would like them to appear in the **Reports** sidebar.

8. Close the **Configure Reports Sidebar** window.

9. Save your changes by clicking the **Save** button at the bottom of the **User Configuration** window.

To restore the HEMS reports defaults, click the **Reset to Defaults** button in the **User Configuration** window and then click **Save**. Reports will now appear as configured in the **Reports** sidebar.
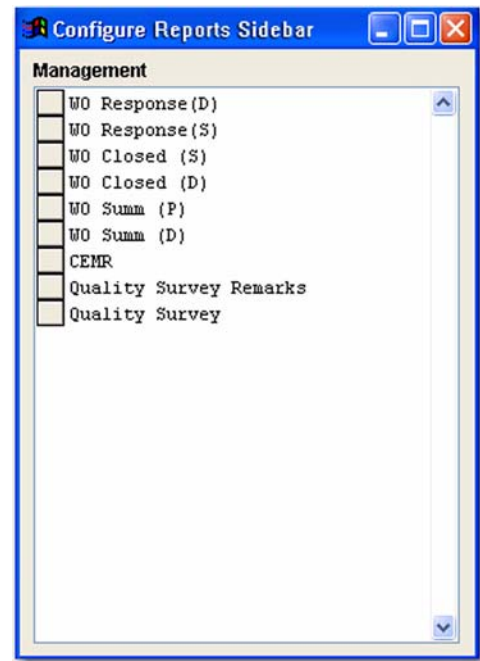
Work Order Defaults

To customize your work order defaults:

1. Select **Utilities>User Configuration** to open the **User Configuration** window.

2. Select the **Work Order Defaults** tab to view a list of work order fields with the current default values displayed.

3. Select the first field you want to modify and then either:

   - Click the arrow next to the selected field to open a list of available values for that field, or

- Press [F2] or right-click the selected field to open the **Search** window for the selected field, which allows you to find and select a value. Please see "Find Button" on page 239 for more information about the **Search** window.

> *Note: Selecting default values for some fields will automatically set defaults for other related fields as well. For example, customizing the **Requester** field automatically customizes the **Location** and **Department** fields as well.*

4. Repeat Step 3 for each of the fields you want to customize.

5. Click **Save** when finished to save your changes.

If you want to customize your work order defaults for a different Service Area, you must first change Service Areas by selecting **Activities>Change Service Area**. Please see "Change Service Areas" on page 27 for more information about changing Service Areas.

You must either restart HEMS Enterprise or change Service Areas by selecting **Activities>Change Service Area** to save the default settings.

User Reports

Selecting **Utilities>Security>Users Report** opens a separate browser window with a report that lists the **User ID**, **Name**, **Default Service Area**, **Control Group** (see "Control Groups" on page 252), and **Menu Group** (see "Menu Groups" on page 257) of all current HEMS users.

> *Note: This report is only available if you are using HEMS security.*

You can print and/or export this report. Please see "CHAPTER 12: Printing & Exporting Data" on page 233 for more information about printing and exporting HEMS reports.

Password Management

This section describes how to manage passwords in HEMS, if you are using HEMS security. See "HEMS Security Modes" on page 238 for more information about HEMS security modes.

Viewing and Changing Passwords

You can view and or change an individual user's password and default Service Area, which is useful in case of a lost or forgotten password. The user must already be a valid HEMS user who has been entered as an employee in the **Employees** Information List (see "Employees List" on page 126) and who has a HEMS user account (see "User Management" on page 242). To view and change a user's password:

1. Select **Utilities>Security>Passwords** to open the **Passwords** window.

> ⚠ **CAUTION: THE PASSWORDS WINDOW OPENS IN EDIT MODE. BE CAREFUL NOT TO MAKE CHANGES TO THE RECORD THAT APPEARS WHEN YOU FIRST OPEN THE WINDOW.**

2. Find the user whose password you want to view or edit by either:

    - Clicking the **Find** button in the **Toolbar** and entering the desired user's **Last Name** and **First Name** and/or **ID** in the **Find User** window and then clicking **OK**, or

    - Clicking the **List** button and using the **List** window to find the desired user. Please see "List Button" on page 239 for information about using the **List** button and window.

3. The selected user's information appears in the **Passwords** window.

4. To edit the user's password, enter the new password in the **Password** field.

5. Checking the **Access** checkbox grants the user access to this function; clearing it denies access.

6. Save your work by clicking the **Save** button in the **Toolbar**.

> 📋 *Note: This function is only available when using HEMS security. Contact your Information Services department for password help when using network security.*

Controlling Password Usage

You can specify HEMS passwords requirements for all HEMS users using the **Password Setup** window. To do this:

1. Select **Utilities>Security>Password Setup** to open the **Password Setup** window.

2. Set the following values:

   - **Warning Days:** The **Warning Days** field displays the number of days in advance to warn a user before her or his password expires. The warning appears when the user logs in and allows them to change their password immediately.

   - **Change Character:** The **Change Character** field specifies the character that users can use to change their password at any time by appending that character to their password in the Login window. For example, if the selected character is "?" and a user's current password is "hello" then entering "hello?" allows the user to change her or his password immediately.

   - **Password No ID:** Checking the **Password No ID** checkbox prevents HEMS users from using a password that is the same as their user ID. Clearing this checkbox removes this restriction.

   - **Minimum Length:** The **Minimum Length** field contains a number from 1 to 10 that specifies the least number of characters that can make up a password.

   - **Maximum Length:** The **Maximum Length** field contains a number from 1 to 10 that specifies the greatest number of characters that can make up a password.

   - **Prior Passwords:** The **Prior Passwords** field contains a number that specifies how many prior passwords will be checked to prevent duplicate entry. For example, a value of 1 means that the user cannot reuse her or his current password; a value of 5 means that the user's current and previous four passwords cannot be used.

3. Click **OK** to save your changes and exit the **Password Setup** window.

> *Note: This function is only available when using HEMS security. Contact your Information Services department for password help when using network security.*

Password Report

Selecting **Users>Security>Passwords Report** opens a separate browser window with a report that lists the **User ID**, **Name**, and **Password** (see "Viewing and Changing Passwords" on page 249) of all current HEMS users.

Note: This report is only available if you are using HEMS security.

CAUTION: ALLOWING UNAUTHORIZED PERSONNEL TO ACCESS THIS REPORT CAN COMPROMISE THE SECURITY AND CONFIDENTIALITY OF HEMS DATA. KEEP ALL PRINTED OR EXPORTED COPIES OF THIS REPORT SECURE FROM UNAUTHORIZED ACCESS.

You can print and/or export this report. Please see "CHAPTER 12: Printing & Exporting Data" on page 233 for more information about printing and exporting HEMS reports.

Permissions Management

HEMS security allows you to define what users can do (such as adding, copying, editing, or deleting) in the Control Group and where users can go (such as which Service Areas and security options they can access) in the Menu Group. Permissions are assigned by creating Control and Menu Groups and then assigning permissions to each group. You can then assign users to different groups. This allows you to quickly and easily assign the appropriate level access to multiple HEMS users at once.

Control Groups

HEMS Control Groups control access to different HEMS functions. Every HEMS user is assigned to a Control Group, which makes adding or removing permissions for a groups of employees fast and easy for HEMS administrators. Different Control Groups have access to different functions, which boosts security by allowing HEMS administrators to grant employees only those functions they need to do their jobs.

HEMS includes the following default Control Groups, which may be copied and edited as needed to meet your requirements:

- **ADM:** Administrator
- **SUP:** Supervisor
- **WCO:** Work Coordinator
- **MWR:** Maintenance Worker
- **CCR:** Call Center
- **GEN:** Read-Only

The spectrum of access to HEMS functions is as follows:

- **No access:** The function cannot be accessed at all.
- **Read-Only Access (RO):** Users can read information but cannot alter it.
- **Add/Edit Access:** Users can read, add, and edit information but cannot delete it.
- **Edit Access:** Users can read and edit information but cannot add or delete it.
- **Full Access:** Users can read, add, edit, and delete information.

The table on the following page lists the HEMS Control Groups and the permissions assigned to each group by default. You can edit permissions for a given Control Group and can also add, edit, and delete Control Groups.

The following table uses the following notation:

- **ADM:** Administrator group.

- **SUP:** Supervisor group.

- **MWP:** Maintenance worker - Plant.

- **MWB:** Maintenance worker - Biomed.

- **GEN:** Read-only group.

- **X:** Full access.

- **A:** Add access.

- **E:** Edit access.

- **RO:** Read-Only access.

- **Blank:** No access.

Action	ADM	SUP	MWP	MWB	GEN
Full Access	X				
Partial Access		X	X	X	X
Activities	X				
Change Service Area	X	X			
Assign Work Orders	X	X			
Contracts	X				
Equipment Inventory	X	A/E	RO	A/E	
Generate Scheduled Work Orders	X	X			
Parts Inventory	X	A/E		A/E	
Part Transactions	X	A/E		A/E	
Quick Equipment Activities	X	X		X	
Quick Work Orders	X		X	X	
Schedules	X				
Work Orders	X		A/E	A/E	
Information Lists	X				
Departments	X	RO			
Device Inclusions	X				
Employees	X	RO			
Equipment Classes	X			A	
Equipment Groups	X	A/E			
Equipment Models	X	A/E	RO	A	
Equipment Systems	X			A	
Equipment Types	X		RO	A	
Locations	X	A/E	RO	RO	
Maintenance Specialties	X				
Part Types	X	A/E			
Predefined Text	X		RO	RO	
Procedures and Tasks	X	A/E	RO	RO	
Purchase Orders	X	A/E			

Action	ADM	SUP	MWP	MWB	GEN
Seasons	X				
Shifts	X	RO			
Subcodes	X	RO	RO	RO	
Vendors	X	A/E	RO	A	
Work Order Codes	X				
Work Order Priorities	X				
Work Order Status	X				
Work Order Types	X				
medTester	X				X
Utilities	X				
Replace Values	X				
Security	X				
Service Area & Specialty Rates	X				
Equipment Management	X				
Service Area Configuration	X				
User Configuration	X	E	E	E	

Adding a Control Group

To add a Control Group:

1. Select **Utilities>Security>Control Permission Groups** to open the **Control Permission Groups** window and a **Find** window that helps you select an existing Control Group.

2. Click **Cancel** to close the **Find** window.

3. Click the **New** button in the **Toolbar** and then enter the following information:

   - **Group Code:** Enter a 3-character code for the Control Group you are creating in the **Group Code** field.

   - **Description:** Describe the Control Group you are creating in the **Description** field.

   - **Comments:** Enter any additional information in the **Comments** field.

4. Click **Permissions** to open the **Control Permissions** window, which contains the following information:

   - **Forms/Controls:** The **Forms/Controls** column contains a detailed breakdown of the HEMS forms and controls.
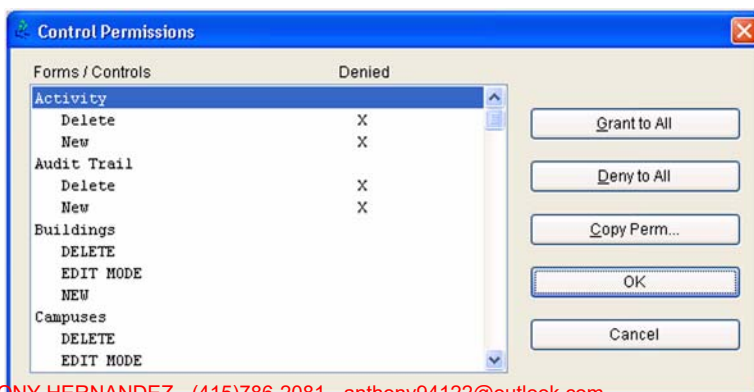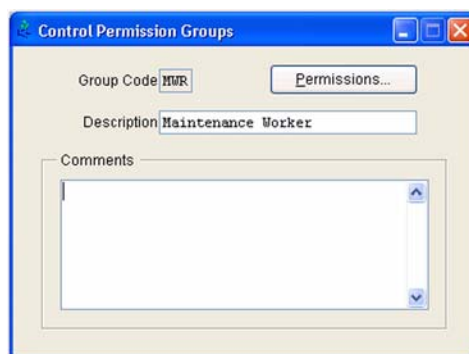
- **Denied:** The **Denied** column displays an **X** for each form and control that is not available to the current Control Group.

5. Specify the permissions for the current Control Group using any combination of the following methods in any order:

   - Double-clicking an allowed control permission denies the selected control permission from the current Control Group and places an **X** in the **Denied** column.

   - Double-clicking a denied control permission allows that control permission to the current Control Group and removes the **X** from the **Denied** column.

   - Clicking the **Grant to All** button grants all available HEMS control permissions to the current Control Group.

   - Clicking the **Deny to All** button denies all available HEMS control permissions to the current Control Group.

6. Click **OK** to close the **Control Permissions** window.

7. Click the **Save** button in the **Toolbar** to save your new Control Group.

Copying a Control Group

Copying an existing Control Group saves time when you want to add a new Control Group that is slightly different from a current User or Control Group. To copy a Control Group:

1. Select **Utilities>Security>Control Permission Groups** to open the **Control Permission Groups** window and a **Find** window that helps you select an existing Control Group.

2. Select the Control Group you want to copy and then click the **Copy Perm...** button to open the **Copy Permissions** window, which allows you to copy the permissions that are currently assigned to an existing User or Control Group.

3. Check the **User** or **Control** radio button, as appropriate.

4. Select the existing group to copy.

5. Click **Copy** to copy the selected permissions and close the **Copy Permissions** window.

6. Follow Steps 4-7 of the Add Control Group procedure, above.
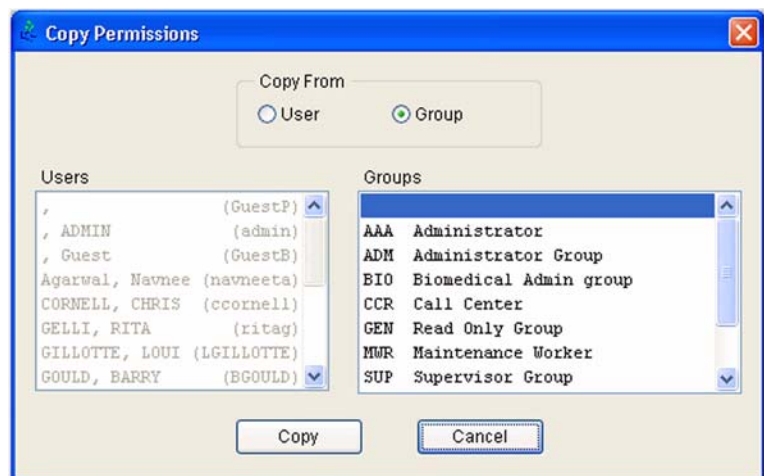
Editing Control Groups

To edit a Control Group:

1. Select **Utilities>Security>Control Permission Groups** to open the **Control Permission Groups** window and a **Find** window that helps you select an existing Control Group.

2. Enter the Control Group's 3-character code in the **Control Group Code** field and then click **OK** to close the **Find** window and place the desired Control Group's information in the **Control Permission Groups** window. You may also leave the **Control Group Code** field blank and click **OK** to retrieve all of the Control Groups, and then select the one you want to edit.

3. Follow Steps 4-7 of the Add Control Group procedure on page 254.

Deleting a Control Group

To delete a Control Group:

1. Select **Utlities>Security>Control Permission Groups** to open the **Control Permission Groups** window and a **Find** window that helps you select an existing Control Group.

2. Enter the Control Group's 3-character code in the **Control Group Code** field and then click **OK** to close the **Find** window and place the desired Control Group's information in the **Control Permission Groups** window. You may also leave the **Control Group Code** field blank and click **OK** to retrieve all of the Control Groups, and then select the one you want to delete.

3. Click the **Delete** button in the **Toolbar**. You are prompted to confirm the deletion.

> ⚠️ *CAUTION: DELETED CONTROL GROUPS ARE PERMANENTLY REMOVED FROM HEMS.*

Menu Groups

HEMS Menu Groups control the windows users have access to, such as **Service Area**, **Activities**, **Information Lists**, and **Security**. Every HEMS user is assigned to a Menu Group, which makes adding or removing permissions for a group of employees fast and easy for HEMS administrators. Different Menu Groups have access to different functions, which boosts security by allowing HEMS administrators to grant employees only those functions they need to do their jobs.

Adding a Menu Group

To add a Menu Group:

1. Select **Utlities>Security>Menu Permission Groups** to open the **Menu Permission Groups** window and a **Find** window that helps you select an existing Menu Group.

2. Click **Cancel** to close the **Find** window.

3. Click the **New** button in the **Toolbar** and then enter the following information:

   - **Group Code:** Enter a 3-character code for the Menu Group you are creating in the **Group Code** field.

   - **Description:** Describe the Menu Group you are creating in the **Description** field.

   - **Comments:** Enter any additional information in the **Comments** field.

4. Click **Permissions** to open the **Menu Permissions** window, which contains the following information:

   - **Menu Field:** The **Menu** field displays the current HEMS menu.

   - **Menu Options:** The **Menu Options** column contains a detailed breakdown of the HEMS forms and windows.

   - **Denied:** The **Denied** column displays an **X** for each form and control that is not available to the current Menu Group.
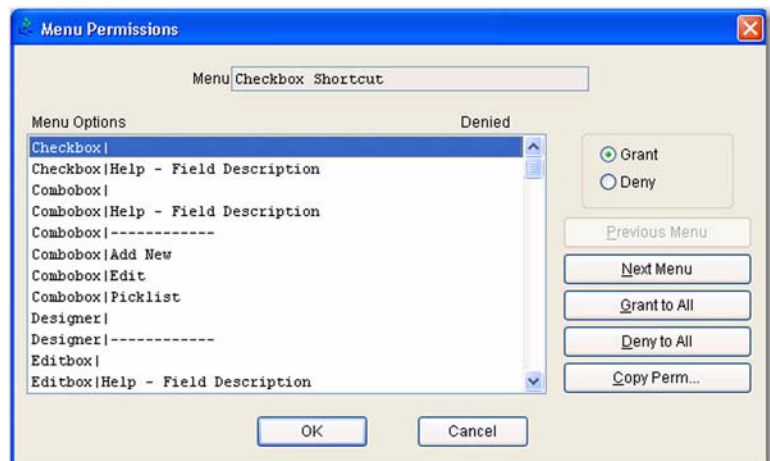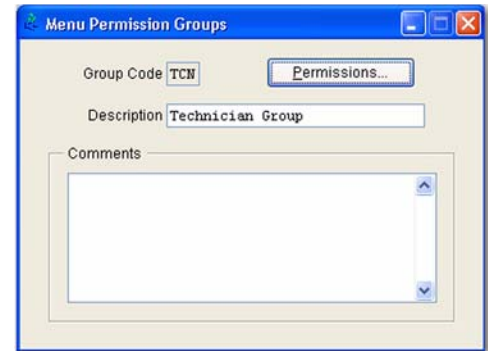
5. Specify the permissions for the current menu by using any combination of the following methods in any order:

    -   Double-clicking an allowed menu permission denies the selected menu permission from the Menu Group and places an X in the **Denied** column.

    -   Double-clicking a denied menu permission allows that menu permission to the Menu Group and removes the X from the **Denied** column.

   -   Selecting a menu permission and checking the **Grant** or **Deny** radio button adds your desired permission to the selected menu position.

    -   Clicking the **Next Menu** button moves to the next HEMS menu and allows you to grant or deny individual permissions for that menu.

    -   Clicking the **Previous Menu** button moves to the next HEMS menu and allows you to grant or deny individual permissions for that menu.

    -   Clicking the **Grant to All** button grants all available HEMS menu permissions for all menus to the Menu Group.

    -   Clicking the **Deny to All** button denies all available HEMS menu permissions for all menus to the Menu Group.

6. Click **OK** to close the **Menu Permissions** window.

7. Click the **Save** button in the **Toolbar** to save your new Menu Group.

Copying a Menu Group

Copying an existing Menu Group saves time when you want to add a new Menu Group that is slightly different from a current User or Menu Group. To copy a Menu Group:

1. Select **Utilities>Security> Permission Groups** to open the **Control Permission Groups** window and a **Find** window that helps you select an existing Control Group.

2. Select the Menu Group you want to copy and then click the **Copy Perm...** button to open the **Copy Permissions** window, which allows you to copy the permissions that are currently assigned to an existing User or Control Group.

3. Check the **User** or **Control** radio button, as appropriate.

4. Select the existing group to copy.

5. Click **Copy** to copy the selected permissions and close the **Copy Permissions** window.

6. Follow Steps 5-7 of the Add Menu Group procedure, above.
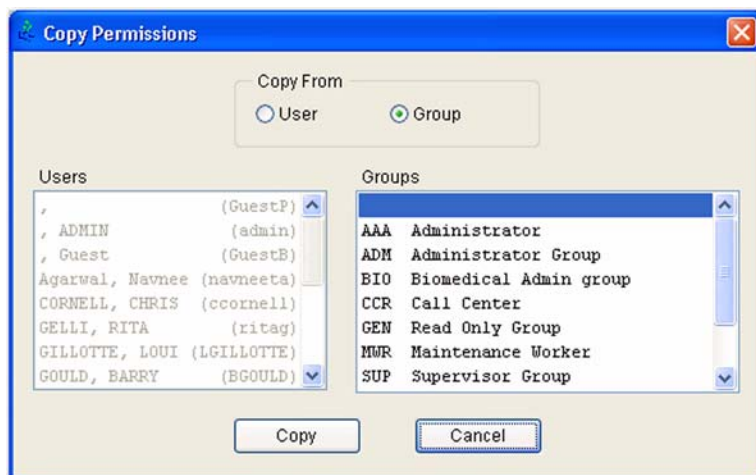
Editing Menu Groups

To edit a Menu Group:

1. Select **Utlities>Security>Menu Permission Groups** to open the **Menu Permission Groups** window and a **Find** window that helps you select an existing Menu Group.

2. Enter the Menu Group's 3-character code in the **Menu Group Code** field and then click **OK** to close the **Find** window and place the desired Menu Group's information in the **Menu Permission Groups** window. You may also leave the **Control Group Code** field blank and click **OK** to retrieve all of the Menu Groups, and then select the one you want to edit.

3. Follow Steps 5-7 of the Add Menu Group procedure on page 257.

Deleting a Menu Group

To delete a Menu Group:

1. Select **Utlities>Security>Menu Permission Groups** to open the **Menu Permission Groups** window and a **Find** window that helps you select an existing Menu Group.

2. Enter the Menu Group's 3-character code in the **Menu Group Code** field and then click **OK** to close the **Find** window and place the desired Menu Group's information in the **Menu Permission Groups** window. You may also leave the **Control Group Code** field blank and click **OK** to retrieve all of the Menu Groups, and then select the one you want to edit.

3. Click the **Delete** button in the **Toolbar**. You are prompted to confirm the deletion.

⚠️ ***CAUTION: DELETED MENU GROUPS ARE PERMANENTLY REMOVED FROM HEMS.***

Equipment Management

Selecting **Utilities>Management Tools>Equipment Management** opens the **Equipment Management** window, which allows managers to update multiple equipment items (such as updating scheduling information) at once.

*Note: The technician's **Quick Equipment Activities** window includes a subset of the functions available in the **Equipment Management** window. Please see "The Quick Equipment Activities Window" on page 101 for more information about the **Quick Equipment Activities** window.*

The **Equipment Management** window appears as follows:

To use the **Equipment Management** window:

1. Search for the equipment item(s) you want to update using the Search Area.

2. Select the equipment item(s) to update in the Search Results Area and then move that information to the Selection Area using the following **Selection** buttons:

   - Clicking the **>>** button moves all of the equipment item records in the Search Result Area to the Selection Area.

   - Clicking the **>** button moves the currently selected equipment item record in the Search Result Area to the Selection Area.

   - Clicking the **<** button removes the currently selected equipment item record from the Selection Area back to the Search Results Area.

   - Clicking the **<<** button removes all of the equipment item records in the Selection Area back to the Search Results Area.

3. Update the equipment item(s) by using the **Selection** pull-down menu to select the information you want to update and then updating that information in the field(s) that appear. Available options are:

    -   **Activate:** Activate the selected equipment item(s).

    -   **Add Equipment Text:** Add notes to the **Equipment Text** field in the selected equipment item record(s).

    -   **Add Work Order Notes:** Add text to the **Work Order Notes** field. This text will appear in the work order **Request Text** field.

    -   **Assigned Engineer:** Assign an engineer to the selected equipment item(s). This option uses values from the **Employees** Information List. Please see "Employees List" on page 126 for more information about the **Employees** Information List.

    -   **Deactivate:** Deactivate the selected equipment item(s).

    -   **Department:** Department the selected equipment item(s) belong to.

    -   **Device Inclusion:** Device inclusion for the selected equipment item(s). This option uses values from the **Device Inclusions** Information List. Please see "Device Inclusions List" on page 126 for more information about the **Device Inclusions** Information List.

    -   **Equipment Model:** Model of the selected equipment item(s). This option uses values from the **Equipment Models** Information List. Please see "Equipment Models List" on page 131 for more information about the **Equipment Models** Information List.

        *Note: When replacing one model with another, it is recommended that you run the impact report by clicking the **Run Impact Report** button. The report lists all of the equipment for the selected model to allow you to review the impact on scheduling before making this equipment model change.*

    -   **Location:** Where the selected equipment item(s) are located. This option uses values from the **Locations** Information List. Please see "Locations List" on page 140 for more information about the **Locations** Information List.

    -   **Ownership:** Who owns the selected equipment item(s).

    -   **Purchase Cost:** How much each of the selected equipment item(s) cost to purchase.

    -   **Purchase Date:** Date the selected equipment item(s) were purchased.

    -   **Retire:** Retire the selected equipment item(s) and assign an engineer to perform retirement maintenance on those items. Please see page 263 for information about assigning a default retirement procedure for the Service Area.

    -   **Schedule by Date:** Indicates where the schedule date is defined (such as by equipment type, model, or item).

- **Schedule Date for Multi Year Schedule:** The seed date for multi year scheduling when you want to override the default date that comes from an equipment item's **Placed in Service Date** or **Purchase Date**. For example, you may need to inspect batteries annually and replace them every three years

- **Service Expiry Date:** Date the service contract ends for the selected equipment item(s).

- **Storage In:** Date the selected equipment item(s) were moved into storage, and the location they were moved to.

- **Storage Out:** Date the selected equipment item(s) were moved from storage, and the location they were moved to.

- **Supplier:** Supplier who provides the selected equipment item(s). This information is drawn from the **Vendors** Information List. Please see "Vendors List" on page 153 for more information about the **Vendors** Information List.

- **Warranty Expiration Date:** Warranty expiration date for the selected equipment item(s).

4. Checking the **Add Text at Top** checkbox adds text to the top of the work order **Request Text** field.

5. Either click the **Apply** button or press [CTRL]+[S] to save your updates to the selected equipment item record(s).

The **Report/Print** buttons provide quick access to relevant reports. From the left to right, the buttons are:

• **List Report:** Clicking the **List Report** button opens a summary report for all of the equipment items in the Selection Area.

• **Detail Report - All:** Clicking the **Detail Report - All** button opens a detailed report for all of the equipment items in the Selection Area.

• **Detail Report - Current:** Selecting an equipment item in the Selection Area and then clicking the **Detail Report - Current** button opens a report that provides detailed information about the currently selected equipment item.

Reports appear in a separate browser window. You can print and/or export these reports, as described in "CHAPTER 12: Printing & Exporting Data" on page 233.

Service Area Configuration

HEMS allows you to configure general, pager/email, and labor rate settings for each Service Area. You can configure your current Service Area only; to configure a different Service Area, you must first change Service Areas by selecting **Activities>Change Service Areas**. Please see "Change Service Areas" on page 27 for more information about changing Service Areas.

General Service Area Options

To specify general Service Area options:

1. Select **Utilities>Management Tools>Service Area Configuration** to open the **Service Area Configuration** window with the **General** tab selected.

2. Select the Service Area Administrator/Coordinator for the current Service Area by selecting the appropriate user in the **Administrator/Coordinator** field. You must define this person in order to enable automatic pager/email work order notifications. This field uses values from the **Employees** Information List, which is described in "Employees List" on page 126.

3. Select the default incoming inspection procedure for all equipment added to the Service Area inventory using the **Incoming Inspection** field. This field uses values from the **Procedures** Information List, which is described in "Procedures List" on page 146.

4. Select the default retirement procedure for all equipment being removed to storage in the Service Area using the **Retirement Procedure** field. This field uses values from the **Procedures** Information List, which is described in "Procedures List" on page 146.

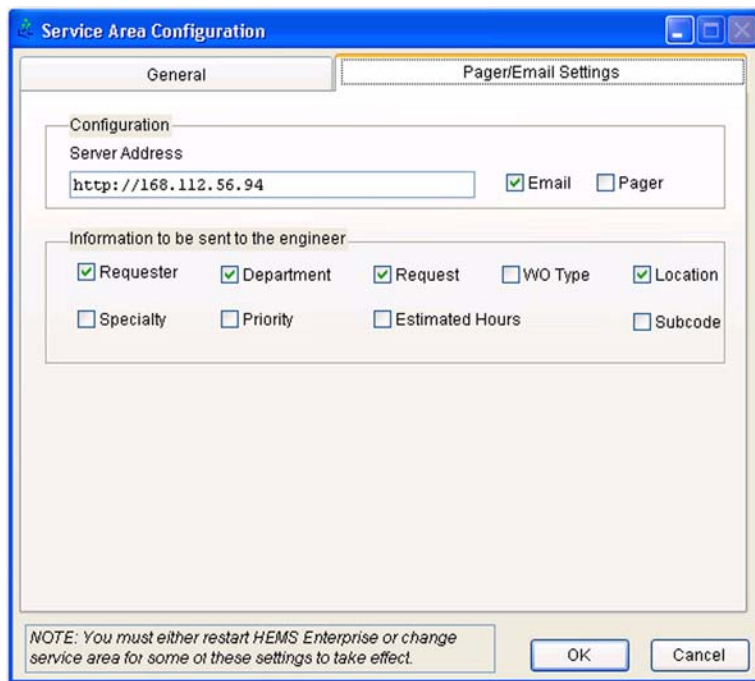AUTHORED BY ANTHONY HERNANDEZ - (415)786-2081 - anthony94122@outlook.com

5. Select the default source for the schedule date for the current Service Area by checking the appropriate **Schedule By Date** radio button. The available options are:

   - **None:** No schedule by date default.

   - **EQ Type:** The default schedule by date is defined in the **Equipment Types** Information List, which is described in "Equipment Types List" on page 134.

   - **Manf/Model:** The default schedule by date is defined in the **Equipment Models** Information List, which is described in "Equipment Models List" on page 131.

   - **Department:** The default schedule by date is defined in the **Departments** Information List, which is described in "Departments List" on page 124.

   - **Location:** The default schedule by date is defined in the **Locations** Information List, which is described in "Locations List" on page 140.

   - **Equipment:** The default schedule by date is defined by each equipment item recorded in the **Equipment Inventory** window, which is described in "The Equipment Inventory Window" on page 89.

6. Check the **Show only active items in the list** checkbox if you only want to see active elements in the HEMS Information Lists.

7. Set your preferences for work order department and location information when creating new routine or corrective (unscheduled) work orders from the **Work Orders** dashboard. The available options are, in order of preference:

   - **Manually Specify:** Manually enter work order department and location information.

   - **From Control #:** Location and department information are based on the equipment item.

   - **From Requester:** Location and department information are based on the requester.

   - **From Default Values:** Location and department information are based on the work order defaults.

   - **Disable auto updating of Work Order department and location in Edit Mode:** Checking the **Disable auto updating of WO's dept/loc in Edit mode** checkbox prevents the work order department and location from being overwritten by the system. You can manually update this information if needed.

8. Select how many days work orders may be edited before they are locked to prevent any further changes by entering a number in the **Lock closed work orders after** field. The default value is 9,999 days.

9. For equipment items that are on a service contract, you can specify whether or not to automatically use the contract end date (in the **Contracts** window) to automatically fill the **Equipment Service Exp Date** field by checking or clearing the **Use contract end date as the service expiration date** checkbox. Please see "CHAPTER 9: Managing Contracts" on page 183 for more information about working with contracts in HEMS.

10. Either click **Save** to save your changes, or select the **Pager/Email Settings** tab to continue setting up the current Service Area's notification settings.

Pager/Email Service Area Options

To specify pager and/or email noti-
fication options for the current Ser-
vice Area:

1. Maker sure that the **Adminis-
   trator/Coordinator** has been
   defined in the **General** tab, as
   described in "General Service
   Area Options" on page 263.

2. Select **Utilities>Management
   Tools>Service Area Configura-
   tion** to open the **Service Area
   Configuration** window.

3. Select the **Pager/Email Set-
   tings** tab.

4. Enter the server address of the
   pager/email address or name in
   the **Server Address** field. For
   example, if your pager address
   is (415)555-1212@mypagerservice.com", then enter "mypageraddres.com" in this field.

5. Specify whether you want email and/or pager notification by checking the **Email** and/or
   Pager checkboxes, as appropriate.

6. Select the information that will be included in notifications to maintenance engineers/tech-
   nicians by checking the appropriate **Information to be sent to the engineer** checkboxes. You
   may include any combination of the following:

   - **Requester:** Checking the **Requester** checkbox includes the name of the person requesting
     the work order in the notification.

   - **Department:** Checking the **Department** checkbox includes the name of the department
     requesting the work order in the notification.

   - **Request:** Checking the **Request** checkbox includes the text of the work order request in
     the notification.

   - **Work Order Type:** Checking the **WO Type** checkbox includes the work order type in the
     notification.

   - **Location:** Checking the **Location** checkbox includes the location of the equipment that
     needs servicing in the notification.

   - **Specialty:** Checking the **Specialty** checkbox includes the maintenance specialty required
     for the work order in the notification.

   - **Priority:** Checking the **Priority** checkbox includes the work order priority in the notifica-
     tion.

| **265**

- **Estimated Hours:** Checking the **Estimated Hrs** checkbox includes the estimated number of hours required to perform the preventive maintenance in the notification.

- **Subcode:** Checking the **Subcode** checkbox includes the work order subcode in the notification.

7. Either click **Save** to save your changes, or select the **Pager/Email Settings** tab to continue setting up the current Service Area's notification settings.

Service Area and Specialty Rates

You may define a standard Service Area labor rate and Specialty Rates. If both are defined, the Specialty is the labor rate default, otherwise, the Service Area Standard Rate is used. If neither are defined, the employee's labor rate is used (if defined in the employee's record).

To specify a Service Area rate and/or Specialty Rates:

1. Select **Utilities>Management>Service Area and Specialty Rates** to open the **Service Area and Specialty Rates** window for the current Service Area with all of the specialties from the **Maintenance Specialties** Information List and a standard rate for the Service Area.

2. Click the **Edit** button.

3. Click the rate to change in the **Hourly Rate** column that corresponds to the correct specialty or standard rate, and then enter the correct rate.

4. Repeat Step #3 for all of the rates you want to specify.

5. Click the **Save** button to save your changes. Clicking the **Preview** button opens a separate browser window with a report that displays the specialty and standard rates.

Error Logs

HEMS maintains error logs that you can send to EQ2 Technical Support upon request to help diagnose any problems that you may be experiencing with HEMS. To retrieve an error log:

1. Select **Utilities>Errors...** to open a **Find** window that lets you specify the following information:

    - **From Date:** Enter the earliest date for which you want error information in the **From Date** field.

    - **To Date:** Enter the most recent date for which you want error information in the **To Date** field.

    - Check the appropriate **Users** radio button to specify whether you want the error information to include data from the **Current** user or **All** users.

    - Check the appropriate **Applications** radio button to specify whether you want to the error information to include the **Current** HEMS application or **All** HEMS applications (including the optional add-on modules described in "CHAPTER 15: Add-on Modules" on page 281).

2. Click **OK** to open the **Errors** window with the most recent error that matches your search criteria displayed.

3. You may use the **List** button in the **Toolbar** to display other errors. Please see "List Button" on page 239 for more information about the **List** button.

4. You have the following options for each error:

    - View a memory dump in a separate window by clicking the **Memory** button.

    - View the error's current status by clicking the **Status** button.

    - Copy the error log to the Windows Clipboard for pasting into another application (such as Microsoft Word) by clicking the **To Clipboard** button.

5. Close the **Errors** window when you have finished viewing HEMS errors.
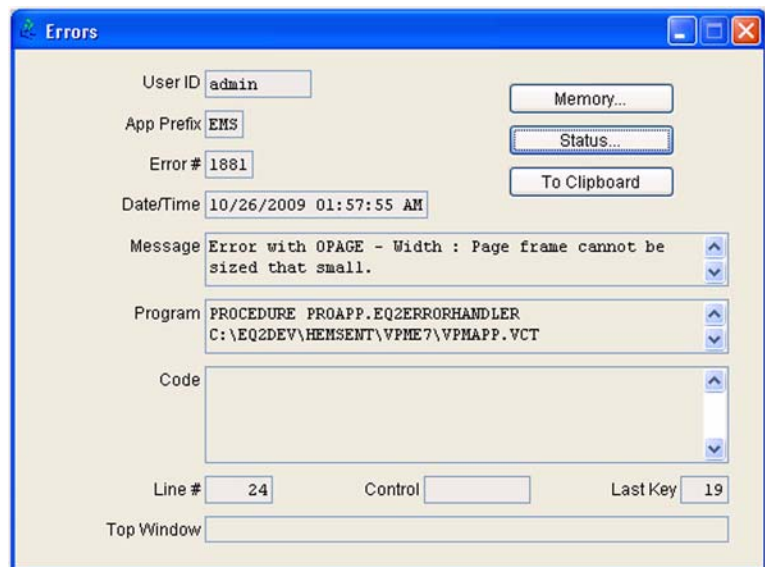
Data Management

Over time, data can get cluttered because of typos, variant spellings, etc. For example, variant vendor spellings may include, "HP", "Hewlett Packard", "Hewlett Packard, Inc.", etc. HEMS allows you to replace terms that you don't want or use with terms that you do want and use. You can replace values in the following Information Lists:

- Accounting Subcodes
- Departments
- Device Inclusion
- Employees
- Equipment (EQ) Types
- Equipment (EQ) Models
- Locations
- Maintenance Specialty
- Part Types
- Priority
- Procedure Types
- Procedures
- Purchase Orders
- Seasons
- Task Types
- Tasks
- Vendor Suppliers
- Vendor Manufacturers
- Work Order (WO) Codes
- Work Order (WO) Status
- Work Order (WO) Types

⚠️ ***CAUTION: REPLACING VALUES PERMANENTLY ALTERS YOUR HEMS DATA. THIS PROCESS CANNOT BE REVERSED. ALWAYS MAKE A BACKUP OF YOUR HEMS DATA BEFORE REPLACING VALUES.***

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Replacing Values

To replace values:

1. Select **Utilities>Replace Values>*List*** (where ***List*** is the Information List that contains the values that you want to replace. For example, to replace **Vendors** text (i.e. to replace multiple variant spellings of a vendor such as "Gen Elec," "GE," etc. with one standard such as "General Electric"), select **Utilities>Replace Values>Vendors**. This opens the **Replacement Module** window.

Search Area — Search Results Area — Selection Area — Selection Buttons — Replacement Value Area
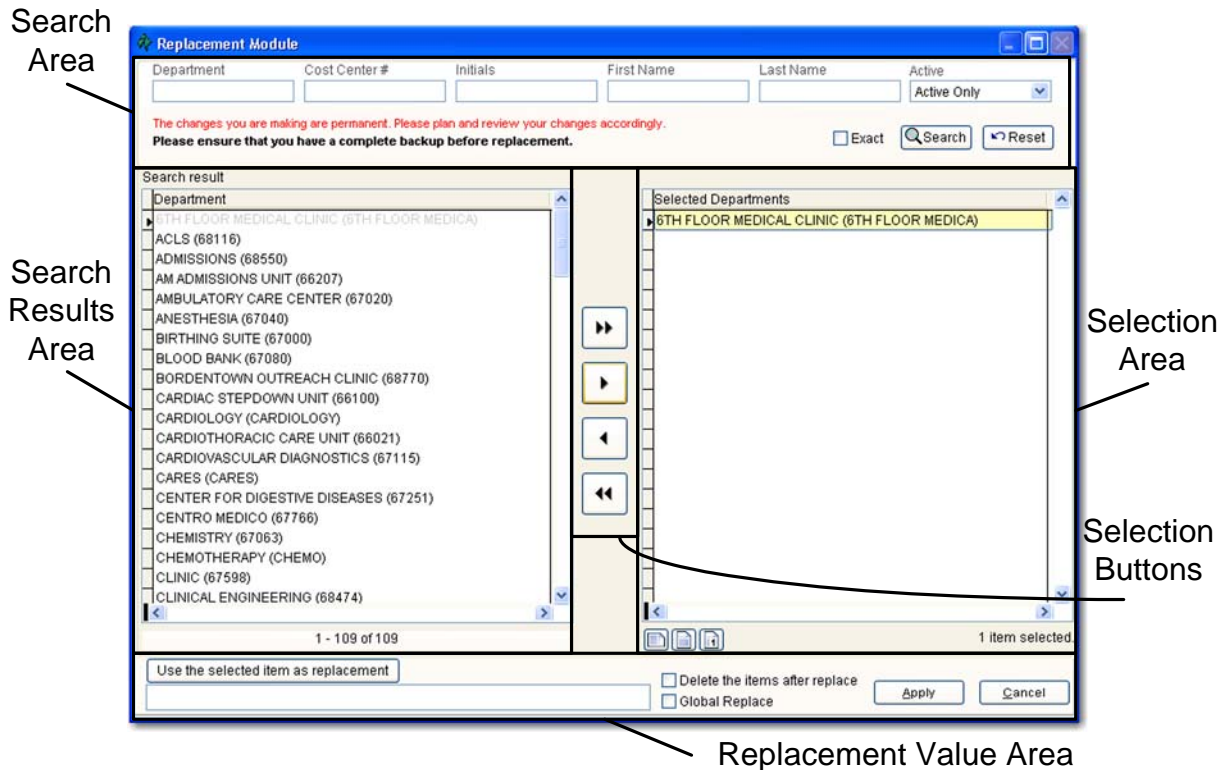
2. Search for the value you want to replace using the Search Area. The available Search Area fields will vary depending on the type of value you are replacing.

3. Move the selected value(s) to the Selection Area using the following **Selection** buttons:

   - Clicking the **>>** button moves all of the values in the Search Result Area to the Selection Area.

   - Clicking the **>** button moves the currently selected value in the Search Result Area to the Selection Area.

   - Clicking the **<** button removes the currently selected value from the Selection Area back to the Search Results Area.

   - Clicking the **<<** button removes all of the values in the Selection Area back to the Search Results Area.

4. Select the value in the Search Results Area that you want to use as the new replacement value by either:

    -   Right-clicking the value you want to use as the replacement value and then selecting **Use as Replacement**, or

    -   Clicking the value you want to use as the replacement value and then clicking the **Use the selected item as a replacement** button.

5. Check the **Delete the items after replace** checkbox if you want to automatically delete the values you replaced (because of typos, bad entries, etc.). Clear this checkbox if you want to preserve the old values for future use.

    > *Note: You cannot delete system values.*

6. If available, check the **Global** checkbox to make your changes across all Service Areas. Clearing this checkbox replaces values for the current Service Area only.

    > *Note: When replacing models and types, it is recommended that you run the impact report by clicking the **Run Impact Report** button. The report lists all of the equipment for the selected model/type to allow you to review the impact on scheduling before making this equipment model/type change.*

7. Click **Apply** to make the replacement. You are prompted to confirm your decision.

8. When you are finished, click **Cancel** to close the **Replacement Module** window.

Reports

You can run HEMS reports from the **Utilities** menu in addition to from the **Reports** sidebar. To run a report from the HEMS **Utilities** menu:

1. Select **Utilities>Reports** to open the **Reports** window.

2. Expand and collapse the report categories to locate the report you want to run:

    -   To expand a collapsed report category, click the **+** icon next to the category you want to expand.

    -   To collapse an expanded report category, click the **-** icon next to the category you want to collapse.

3. Select the report you want to run by double-clicking it to open the selected report in a separate browser window.

Please see "CHAPTER 10: Reports" on page 195 for more information about HEMS reports.

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CHAPTER 14:
Help & Support

Frequently Asked Questions

This section answers some of the most frequently asked questions that HEMS users submit to EQ2 Technical Support.

I added a new user to both the Employees Information List and the User window but s/he cannot log into HEMS.

- Make sure that s/he has typed your password correctly; remember that HEMS passwords are case sensitive.

- Check with your Information Services department to make sure that the new user has been added to the HEMS network group.

- If you are using Windows security, check with your Information Services department to make sure that the user's Windows Login Account is not locked.

- Verify that your Windows password has not expired by logging out of Windows and then logging back in.

If you still cannot log into HEMS after checking all of the above, please contact EQ2 Technical Support as described in "Technical Support" on page 280.

I am trying to access a report but see a window telling me that, "the server requires a username and password." Why am I getting this prompt?

- If you are using Windows security, check with your Information Services department to make sure that the new user has been added to the HEMS network group.

- If you are still seeing this message, use this procedure to log into the server:

  1. Log into HEMS with the affected user's HEMS user name and password.

  2. Open a report in a separate browser window and then click **Cancel** when you are prompted to enter a user name and password.

  3. In the browser window, select **Tools>Internet Options>Security** and then click the **Local Intranet** icon.

  4. Click the **Sites** button to open the **Local intranet** window and then click the **Advanced** button.

  5. Enter the report server address in the **Add this website to the zone** field (such as http://hemsserver/) and then click **Add**.

  6. Click **Close**.

  7. Click **OK**.

- If you are still seeing being prompted to log into the server:

    1. Log into HEMS with the affected user's HEMS user name and password.

    2. Open a report in a separate browser window and then click **Cancel** when you are prompted to enter a user name and password.

    3. In the browser window, select **Tools>Security Options>Security** and then click the **Trusted Sites** icon.

    4. Click the **Sites** button to open the **Trusted sites** window.

    5. Enter the report server address in the **Add this website to the zone** field (such as http://hemsserver/) and then click **Add**.

    6. Click **Close**.

    7. Click **OK**.

If you still cannot log into HEMS after checking all of the above, please contact EQ2 Technical Support as described in "Technical Support" on page 280.

My report is not displaying results that I know are stored in the HEMS database. I see the message, "Cannot read the next data row for the data set graph (rserrorreadingnextdatarow)."

- Check for bad dates in the **Work Orders** dashboard, such as 0/01/8200 by performing the following searches one at a time and correct any results you find:

    1. **WO Issue Date:** >01/01/ of the year after the current year.

    2. **WO Issue Date:** <01/01/1960.

    3. **WO Status Date:** >01/01/ of the year after the current year.

    4. **WO Status Date:** <01/01/1960.

- For labor dates, set the following filters. Please see "Filters" on page 222 for more information about filters.

    1. **WO Lbr Entries/Start Date:** >01/01/ of the year after the current year.

    2. **WO Lbr Entries/Start Date:** <01/01/1960.

If you are still getting this error after checking all of the above, please contact EQ2 Technical Support as described in "Technical Support" on page 280.

My monthly scheduled preventive maintenance work orders did not print. How can I print them?

    1. Open the **Work Orders** dashboard.

    2. In the **WO Type** field, enter "Scheduled" (or "Sch").

    3. Enter the appropriate dates in the **Issue Date To** and **Issue Date From** fields.

    4. Make sure that the **Pending** checkbox is checked.

5. Click **Search**.

6. Print from the **Work Orders** dashboard by clicking the **Print Technician's Copy (Actual) - All** button above the Search Results Area.

How can I email a report?

1. Export the report to your desired format after running it. Please see "Exporting" on page 235 for information about exporting reports.

2. In your email application, attach the exported report to an email message and send the email when ready.

How do I look up equipment history?

There are three ways to do this.

-   To view a dynamic interactive history that you can review, update work orders, or print:

    1. Open the **Equipment Inventory** dashboard.

    2. Enter the control number for the desired equipment item and then click **Search**.

    3. Click the **H** button in the Action Area to open the **Equipment History** window for the selected equipment item.

    4. Resize or sort the columns by dragging the headers.

    5. Double click any work order or select it and then click the **Edit** button to update, edit or close the selected work order.

    6. Print the history by either clicking the appropriate **Report Type** radio buttons (**List Report**, **Actual (Technician's Copy)**, or **Summary**) and then clicking the **Preview** button, or by running a report and then printing that report, as described in "Printing" on page 234.

-   To view an equipment item's entire history in a report format that includes equipment information, work order summaries, and graphs, open either the **Equipment Inventory** or **Work Orders** dashboard, and then click the blue **Control #** link.

To view an equipment item's history with additional work order details or that falls within a certain date range, click the **Work Order** button in the **Reports** sidebar, and then select the **WO Equipment Review (Detail)** report.

Why I am I seeing more or fewer records than I expect after entering search conditions?

-   HEMS displays 50 records at a time, which means that your result(s) may be on subsequent page(s). If you are seeing too many results, navigate through the pages to find the information you are looking for using the **Navigation** (arrow) buttons. If you are still seeing too many results, narrow your search criteria.

- If your search returns too few results (or no results), you may have additional search conditions left from your previous search. To clear these extra conditions:

    1. Click the **Reset** button to clear your search.

    2. Double-check your spelling and then click **Search**.

    3. By default, searches return only active records. Select either **Inactive Only** or **Both Active and Inactive** to include inactive records in your search, if needed.

If you are still having this problem after checking all of the above, please contact EQ2 Technical Support as described in "Technical Support" on page 280.

Why am I getting a semiannual scheduled preventive maintenance work order for a piece of equipment that is scheduled annually?

- Run the **Schedule** report from the **Equipment Inventory** dashboard by clicking the **S** button in the Action Area. This report will display the source of the semiannual scheduling (Risk, Department or Location).

I need to update several scheduled work orders with the same Action Text and Labor entries, except that each labor entry has different times. What is the most efficient way to update these work orders?

1. Open the **Quick Work Orders** window and the locate the work orders you want to update.

2. Select one of the work orders and make your desired changes, then click **Apply** to move the work order back to the Search Results Area and highlight it in blue.

3. Select the next work order. The changes made to the previous work order will remain, until you click the **Reset** button.

4. Change the labor start time and/or total time, and then click **Apply**.

5. Repeat Steps 3 and 4 until all of your work orders have been updated.

Why isn't the assigned technician receiving pager notifications for her or his assigned work orders?

- Verify that the pager number for the affected technician is defined in her or his employee record using the **Employees** Information List. Please see "Employees List" on page 126 for more information about the **Employees** Information List.

- Verify that the work coordinator is defined for the Service Area and that s/he has a valid email address specified in her or his employee record in the **Employees** Information List. Please see "Service Area Configuration" on page 263 for more information about adding a work coordinator to a Service Area and "Employees List" on page 126 for more information about the **Employees** Information List.

- Verify that the pager server address or name is correctly specified by selecting **Utilities>Management Tools>Service Area Configuration**, as described in "Pager/Email Service Area Options" on page 265.

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- Verify that the pager is working properly by sending a message to that pager from your email client.

If you are still having this problem after checking all of the above, please contact EQ2 Technical Support as described in "Technical Support" on page 280.

Why do I get an error message that says, "Unable to load client print" when I try to print a report?

This can happen for several reasons:

- When HEMS was installed on your desktop computer, your Information Services department forgot to install the RSClientPrint (ActiveX) component. This control can be installed by logging on to your desktop with local administrator rights and then printing any one report. Once this is done, you can log on to your desktop normally and reports should print normally.

- Your desktop computer was updated with a security patch released in late 2008 but the server was not updated with the required patch. Contact your Information Services department to install the patch on the server where the Reporting Services are installed.

How can I check equipment items that are not scheduled but that have risk greater than the minimum risk value to fall under the equipment management program, and also include the unscheduled equipment items with undefined risk?

Click the **Equipment** button in the **Reports** sidebar, and then select the **Management Program Inventory** report.

I use the same incoming inspection procedure for most of my equipment items. How can I quickly specify that procedure in HEMS?

Specify the incoming inspection to use by selecting **Utilities>Management Tools>Service Area Configuration**, as described in "General Service Area Options" on page 263.

I use the same retirement procedure for most of my equipment items. How can I quickly specify that procedure in HEMS?

Specify the retirement procedure to use by selecting **Utilities>Management Tools>Service Area Configuration**, as described in "General Service Area Options" on page 263.

How can I attach file types that are not listed in the File Types list?

You can attach non-supported file types by ZIPping the file you need to attach and then attaching the ZIP file.

The document I am trying to attach is too large.

By default, the maximum size of files that can be attached in HEMS is 3MB. If you need to increase this size, contact EQ2 Technical Support.

> *Note: HEMS restricts file attachment size to conserve hard drive space. EQ2 will verify that your Information Services department has sufficient space to store larger attachments and that adequate low drive space notifications are in place before increasing the default limit.*

Technical Support

EQ2 offers three levels of HEMS technical support. Telephone and email support is free to users who are on one of the following service plans, subject to the limits described below for each plan.

Bronze Plan

The EQ2 Bronze support plan includes the following coverage:

- All HEMS maintenance releases.
- Telephone support is available Monday-Friday from 9:00AM until 5:00PM Eastern.
- 24-hour response time.
- Two custom reports.

Silver Plan

The EQ2 Silver support plan includes the following coverage:

- All HEMS maintenance releases.
- All HEMS 5.x upgrade releases (such as 5.1, 5.2, etc.).
- Telephone support is available Monday-Friday from 8:00AM until 6:00PM Eastern.
- 4-hour response time.
- 10 Custom reports.

Gold Plan

The EQ2 Gold support plan includes the following coverage:

- All HEMS maintenance releases.
- All HEMS 5.x upgrade releases (such as 5.1, 5.2, etc.).
- All HEMS full-version upgrades (such as 5.x to 6.x).
- Telephone support is available Monday-Friday from 8:00AM until 6:00PM and Saturday on call from 11:00AM to 3:00PM. (All times Eastern.)
- 1-hour response time.
- 20 Custom reports.

Contacting EQ2 Technical Support

You may contact EQ2 Technical Support by phone at (802)865-0920 ext. 2 or by emailing support@eq2.com.

CHAPTER 15:
Add-on Modules

EQ2 medTester Interface

HEMS Enterprise works with the Fluke Biomedical medTester to ensure the smooth and predictable evaluation and testing of critical equipment. The HEMS-Fluke connection combines the medTester's automated, paperless testing with the intuitive and predictable HEMS Enterprise Interface to save time while increasing accuracy, reliability, and quality of care. Medical equipment professionals need only interpret the various data provided by the medical equipment rather then trying to synchronize test auto sequences or results.

Some key features of the HEMS-medTester connection include:

- One-click connection to send work orders to the medTester directly from the HEMS **Home** screen.

- Ability to quickly find which work orders to send.

- Automated, logged communications between HEMS and however many medTester units you have, simultaneously.

- All work orders are automatically checked for compliance with applicable rules and then transmitted to the medTester(s). You can see which medTester has received each work order.

- One-click connection to receive work orders from the medTester from the HEMS **Home** screen.

- Automatic processing of work orders received from the medTester includes entering detailed test results, automatic closing, equipment history updates, and logging time spent on each work order.

EQ2 Mobile

Today's care environment means hundreds of scheduled equipment work orders spread across the hospital, several physician office buildings, and cross-town surgery centers. EQ2 Mobile makes tracking completed work and failure documentation fast, efficient, and paper-free.

EQ2 Mobile provides wireless real-time work progress tracking and reporting on facilities and biomedical equipment activities to technicians in the field. Installing EQ2Mobile on a Pocket PC device provides health care equipment professionals with an easy-to-use but powerful tool for capturing data and reviewing historical information while continuing to work on site. Information can be saved electronically with a stylus click and updates are instantly ready for review, reporting, and action with no delay and no paperwork required.

EQ2 Mobile is a Microsoft-certified "Designed for Windows® Mobile™for Pocket PC" product that meets this challenge using the Microsoft Windows® Powered Pocket PC platform. As part of the HEMS Enterprise family of products, EQ2 Mobile is based on Microsoft's SQL Server CE and SQL Server 2008.

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EQ2 Alert & Recall

Multiple manufacturers and device type classifications make it difficult to identify, track, and take action on equipment alerts and recalls. EQ2's Smart Alert Search (SAS) process provides fast inventory searching with a single click that looks across manufacturer ownership trees and ECRI's UMDNS device type classifications to eliminate unnecessary information. This search enables a complete view of all alert/recall candidates with just two clicks, even if they are currently owned by non-nameplate companies. If you'd like to dig deeper, the **Advanced Search and Find** feature can narrow or broaden the search to meet your particular requirements.

EQ2's Alert and Recall add-on gives you all alert information right on the same easy-to-read, color-coded window; no need to open multiple windows to deal with one or several alerts/recalls. You can label alerts **Applicable**, **Not Applicable**, or **Not Reviewed** for easy tracking and follow-up. After reviewing equipment and alert, a single click issues the workflow and notifies department managers or sets the Alert/Recall status. From there, EQ2's Alert Report puts action-able information at your fingertips. Need a progress update or more details? Select an alert to review the activities and information associated with it. Both company-wide and individual hospital alerts are visible on the same window, making safety committee reports faster and easier to compile.

Access to ECRI Institute Alerts/Recall information is provided by ECRI Institute. EQ2 uses the ECRI Institute Subscription Web Service as the delivery of this critical information, which require ECRI Institute subscriptions.

EQ2 Web Enterprise

Today's care environment means that work requests are constantly arriving from across the hospital, physician office buildings, and cross-town surgery centers. EQ2 Web Enterprise harnesses the power of the web to connect work requesters to HEMS Enterprise. Requests are as easy as logging into a secure web page and creating an electronic work request. EQ2 Web Enterprise automatically saves the requester's name, telephone number, department, and location, then emails both the requester and work coordinator confirming acceptance of the work request. HEMS Enterprise automatically generates a work order, emails and/or pages the work coordinator, and then prints that order on the specified printer. You can even configure HEMS to notify work coordinators if any equipment warranty and/or service deadlines are approaching.

Once a work order has been created, EQ2 Completion Reporter then tracks the status of the work order. When this work is completed, EQ2 Completion Reporter sends an email to the work requester notifying him/her that the work has been completed. Requesters can check the work order status at any time. Engineers can assign and close requests with just a few clicks. HEMS Web Request eliminates paperwork, phone calls, and guesswork. After the work has been completed, HEMS automatically forwards a customer satisfaction form to the work requester and tabulates the result in a result.

Engineers can review pending work, quickly update and/or close their work orders, and open work orders. In addition, they can locate parts across the organization and run key reports.

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EQ2 HEMS Best Practice

Adhering to corporate best practices and standardized equipment and maintenance lists is crucial for success, especially in multi-hospital groups. Standardizing lists reduces confusion and helps ensure apples-to-apples comparisons of various metrics to ensure success.

EQ2 HEMS Best Practice automatically ensures compliance with your best practices and standardized lists. EQ2 Best Practice tracks new additions to the equipment type, inventory, manufacturers, and any other list you want to standardize. It even ensures that the fields you require are entered before the equipment is approved for inclusion in active inventory. Your lists stay standardized because EQ2 Best Practice approves nothing until you or your designated staff have reviewed and approved it.

EQ2 Best Practice also standardizes the relationship between equipment inventory and risk by using industry standard questions and values to assign a risk value to each type or model. Risk values are checked to determine the minimum interval for preventative maintenance scheduling. Scheduling and procedure assignment occur automatically with no guesswork or paperwork required on your part.

EQ2 HEMS RFID/RTLS

HEMS 5.0's RFID/RTLS integration is an easy to implement and easy to use solution that increases patient safety and quality of care while significantly reducing equipment downtime and maintenance issues. Clinical equipment managers can now better manage technician assignments and performance, initiating service within minutes or hours instead days or weeks.

Work requesters simply switch the RFID tag on malfunctioning equipment to automatically generate a work order that includes the equipment location. The appropriate clinical engineer receives an email from HEMS with the work order attached.

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