

# Using a Route

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This section explains how to work with a route. The information is intended for users with *SysAdmin*, *User*, and *Read Only* permissions. Topics in this section include those in the following list:

- *What is a Route?*
- *Quick Start* (page 382)
- *Creating a Route* (page 386)
- *Changing the Order of Facilities* (page 389)
- *Preparing a Route for an Averaged Reading Survey* (page 390)
- *Preparing a Route for Inspection GPS Fields* (page 407)
- *Working with Themes and Filter Groups* (page 421)
- *Previewing a Route* (page 446)
- *Exporting and Importing a Route* (page 449)
- *Using a Route in PCS Axis* (page 451)

## What is a Route?

A route is a user-created list of facilities for inspection. You can include facilities for one or more facility types in the same route, such as test points, valves, and atmospheric. The main advantage in a route is the ability to arrange facilities in a particular order that is more suitable in a survey. For example, you can arrange facilities in survey order instead of numerically by ROW Code and milepost number.

Routes are used in several areas of PCS Axis. You can view inspection records in a grid based on a route; transfer a survey to the Allegro Field PC based on a route; and generate reports based on a route.


# Quick Start

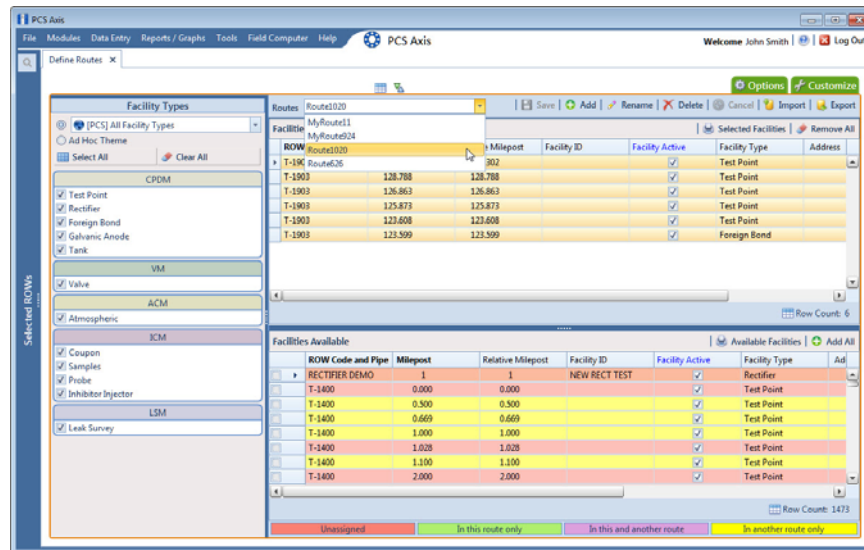
Information in this section assumes one or more routes have previously been created. If no routes exist, skip this section and begin with *Creating a Route* (page 386).

The following procedure explains how to display and set properties in a route. Property settings include selection of a layout and sort theme. Both of these themes determine how PCS Axis displays facility records in a route.


As an option, you can also set up one or more filter groups that apply only to the current session. A filter group filters data in a route by including or excluding certain facility records. It allows you to work with a subset of facility records for the currently selected ROW based on filter selection criteria.

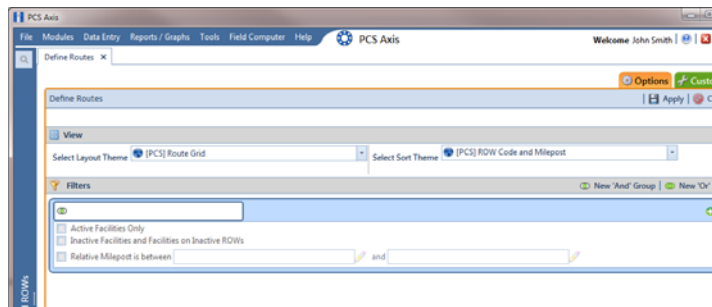
Complete the following steps:

- 1 Select one or more pipeline segments in the *Select ROWs* window. Select pipeline segment(s) with facilities you want to include in the route. Click  **Save** to close the window.
- 2 Click **Data Entry > Define Routes** to open the *Define Routes* window.
- 3 Click the down arrow in **Routes** and select a route in the selection list (Figure 8-1).





**Figure 8-1. Define Routes Selection List**

- 4 Click the **Options** tab  to open the options page (Figure 8-2).



**Figure 8-2. Options**


- 5 Select a layout and sort theme. Click the down arrow in the field **Select Layout Theme** and select a layout theme. Then click the down arrow in the field **Select Sort Theme** and select a sort theme.
- 6 If you want to filter records in the grid and route, complete the following steps. Otherwise, click  **Apply** to save and apply changes. PCS Axis closes the options page and returns to the *Define Routes* window.

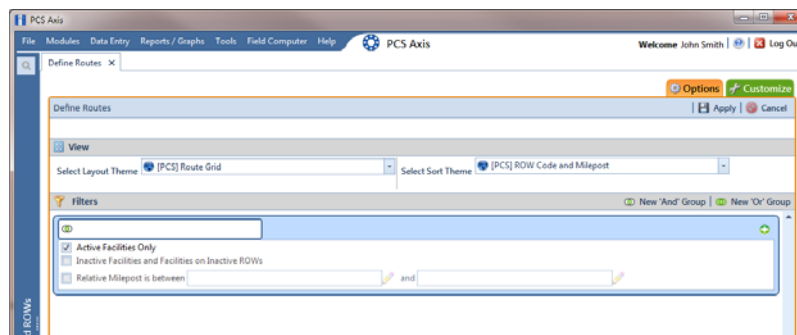
Clicking  **Cancel** allows you to close the options page without saving and applying changes.

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**IMPORTANT:** Filter settings in the options page of *Define Routes* apply only to the current session and are not saved. See *Working with Themes and Filter Groups* (page 421) for information about saving filter settings in a theme.



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- a Click the check box of one or more options in *Filters* and then click  **Apply**. For example, click **Currently Active Facilities Only** to only include active facilities (Figure 8-3).



**Figure 8-3. Filters**

A check mark inside a check box indicates a selection. To clear a selection, click the check box again to remove the check mark.

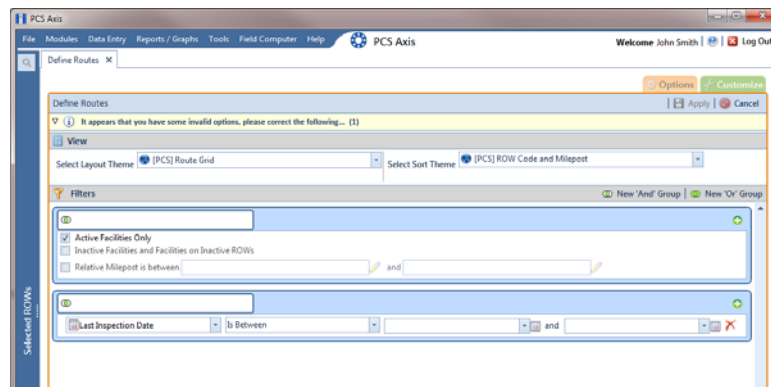
- b** If you want to add a filter, click the  **Add** button and then use filter selection fields to set up filter criteria. Select a PCS Axis field, operator, and one or more filter conditions. Then click  **Apply** to save and apply changes.

PCS Axis closes the options page and returns to the *Define Routes* window.


- c** If you want to add a new AND or OR filter group, continue with one of the following steps:

- To add a new AND filter group continue with **step 7**.
- To add a new OR filter group continue with **step 8**.

- 7** If you want to add a new AND filter group, complete the following steps. With an AND filter group, PCS Axis includes a subset of records that meet *all* filter conditions defined for the filter group. Records are filtered in the grid and in the route (Figure 8-4).




**Figure 8-4. New 'And' Filter Group**



- a** Click  **New 'And' Group** to open the filter properties group box.
- b** Use filter selection fields to set up filter criteria. Select a PCS Axis field, operator, and one or more filter conditions.

When adding a date filter, such as *Last Inspection Date Is Between*, set a date range using one of the following methods:



- 1)** Type a date in the start and end date fields. Enter a start and end date using the format M/DD/YYYY to indicate the month, day, and year.
- 2)** To set a date range using a calendar, click the down arrow in the start date field to open a calendar and select a start date. Then click the down arrow in the end date field to open a calendar and select an end date.

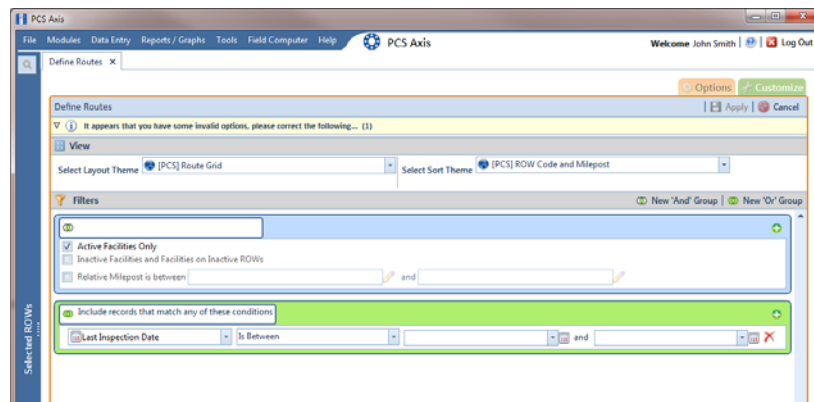
- 3) To set a date range using dynamic start and end dates, click the  calculator button in the start date field and set up dynamic date properties. Repeat this step for the end date field. Clicking the calculator button opens and closes dynamic date property fields.

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**NOTE:** Clicking the  toggle button in the  information bar displays important information related to required settings.

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- c Click  **Apply** to save and apply changes. PCS Axis closes the options page and returns to the *Define Routes* window.
- 8 If you want to add a new OR filter group, complete the following steps. With an OR filter group, PCS Axis includes a subset of records that meet *any* filter condition defined for the filter group. Records are filtered in the grid and in the route:
    - a Click  **New 'Or' Group** to open a filter properties group box (Figure 8-5).





**Figure 8-5. New 'Or Filter Group**



- b Use filter selection fields to set up filter criteria. Select a PCS Axis field, operator, and one or more filter conditions.

When adding a date filter, such as *Last Inspection Date Is Between*, set a date range using one of the following methods:

- 1) Type a date in the start and end date fields. Enter a start and end date using the format M/DD/YYYY to indicate the month, day, and year.

Clicking the  toggle button in the  information bar displays important information related to required settings.



- 2) To set a date range using a calendar, click the down arrow in the start date field to open a calendar and select a start date. Then click the down arrow in the end date field to open a calendar and select an end date.

- 3) To set a date range using dynamic start and end dates, click the  calculator button in the start date field and set up dynamic date properties. Repeat this step for the end date field. Clicking the calculator button opens and closes dynamic date property fields.
- c Click  **Apply** to save and apply changes. PCS Axis closes the options page and returns to the *Define Routes* window.

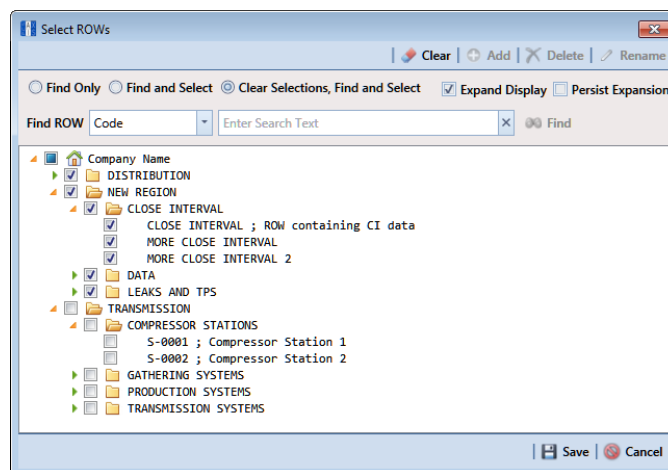
## Creating a Route

The following information explains how to create a route with a list of facilities for inspection. Facilities for inspection are based on the pipeline segment(s) you select in the *Select ROWs* window.

Complete the following steps:

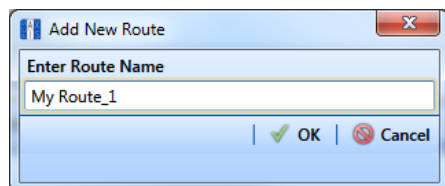
- 1 Click the **Select ROWs** button  to open the *Select ROWs* window (Figure 8-6). Select one or more pipeline segments with facilities you want to include in the route. Click  **Save** to close the window.

**NOTE:** A check mark inside a check box indicates a selection. To clear a selection, click the check box again to remove the check mark. A shaded check box indicates selection of some, not all, child folders, ROWs, and pipelines.



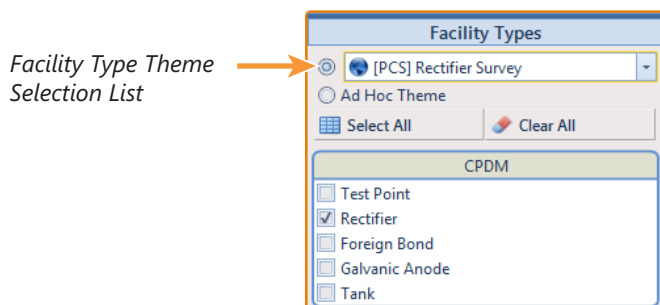
**Figure 8-6. Select ROWs**

- 2 Click **Data Entry > Define Routes**.
- 3 If this is the first route to be created, the *Add New Route* dialog box opens. Type a name for the new route in the field **Enter Route Name**. Then click **OK** (Figure 8-7).



**Figure 8-7. Add New Route**

- 4 Select the facility type(s) you want to work with using the method described in either **step a** or **step b**:
  - a To select a facility type, click the facility type option button and then click the down arrow and select a facility type in the list, such as **[PCS] Rectifier Survey** (Figure 8-8).



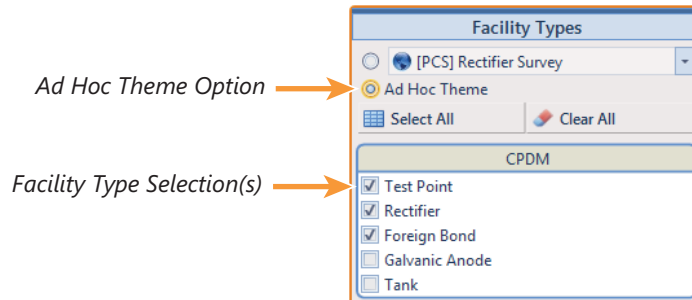
**Figure 8-8. Facility Type Theme Option**

- b To select multiple facility types, click the option button **Ad Hoc Theme** and then click the check box for one or more facility types, such as *Test Point*, *Rectifier*, and *Foreign Bond* (Figure 8-9, page 388).


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**NOTE:** An *Ad Hoc Theme* only applies to the current session and is not saved. A facility type is selected when a check mark appears inside the check box. To clear the check mark, click the check box again.

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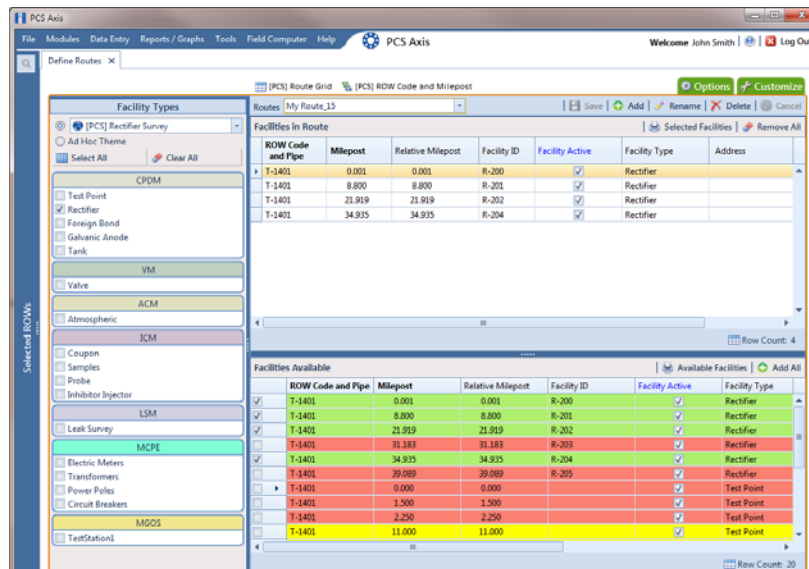
**Figure 8-9. Ad Hoc Theme Option**

- 5 Complete the following steps in the *Facilities Available* grid (Figure 8-10):
  - a Select which facilities to include in the route. To include all facilities, click  **Add All** and then click **Yes** when the *Add All* message opens.

To only include facilities you select, click the check box for each facility in the *Facilities Available* grid. Or double-click each facility.

**NOTE:** Selected facilities display in the *Facilities in Route* grid.

- b Click  **Save** to save changes. Continue with the next section to change the order of facilities in the route.



**Figure 8-10. Define Routes**

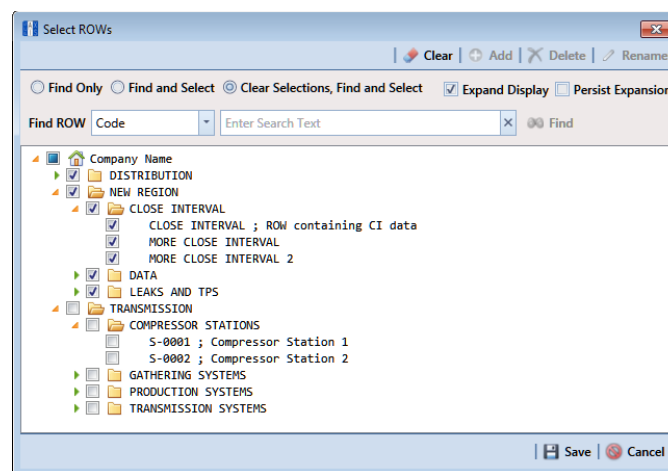


## Changing the Order of Facilities


The order of facilities shown in the *Facilities in Route* grid identifies the facility order used in a route. You can easily change the order of facilities by dragging and dropping one or more grid rows to a different location in the grid. Changing the order allows you to arrange facilities based on particular criteria, such as arranging facilities in the order a survey is taken.

To change the order of facilities in a route, follow these steps:

- 1 If the *Define Routes* window is not open, complete the following steps:
  - a Select one or more pipeline segments in the *Select ROWs* window (Figure 8-11). Click **Save** to close the window.





**Figure 8-11. Select ROWs**

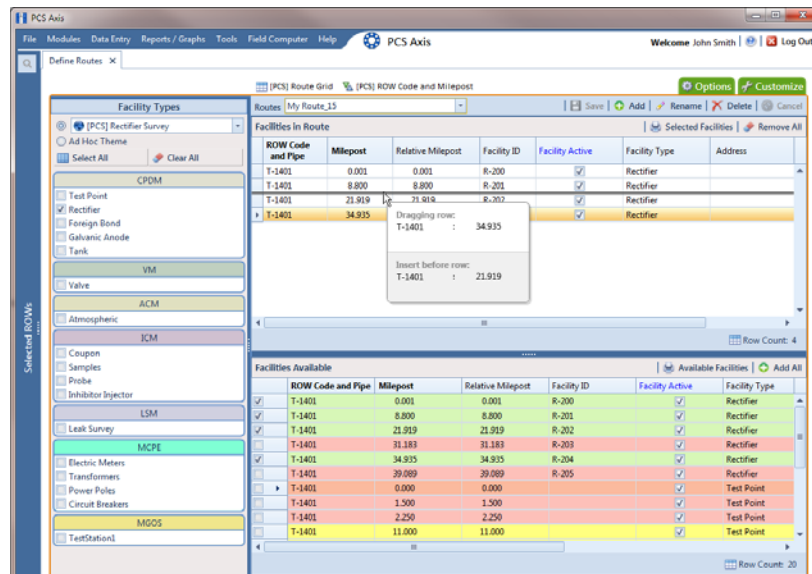
- b Click **Data Entry > Define Routes**, then click the down arrow in **Routes** and select a route (Figure 8-1, page 382).
- 2 Arrange the order of facilities listed in the *Facilities in Route* grid as needed using any of the following methods (Figure 8-12):
  - To move a single grid row, select the row, then drag and drop the row in a different location in the grid. Click  **Save** to save changes.

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**NOTE:** A message displays when moving selected grid rows to confirm the new location in the grid (Figure 8-12, page 390).

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- To move a group of consecutive grid rows, click the first row, press and hold the **Shift** key, then click the last row. Drag and drop selected rows in a different location in the grid. Click  **Save** to save changes.
- To move a group of non-consecutive grid rows, press and hold the **Ctrl** key, then click each row you want to select. Drag and drop selected rows in a different location in the grid. Click  **Save** to save changes.



**Figure 8-12. Arranging the Order of Facilities**

## Preparing a Route for an Averaged Reading Survey

This section applies only to the CPDM module. It explains how to prepare and send a survey to the Allegro based on a route with facilities in an averaged reading survey. Facilities for inspection are also set up with timed reading fields in the *Test Point Information* and *Inspection* data entry grid.

Topics in this section include those in the following list:


- *Adding Timed Reading Fields in the Information Grid*
- *Adding Timed Reading Fields in the Inspection Grid* (page 395)
- *Editing a Route for an Averaged Reading Survey* (page 397)
- *Sending a Survey to the Allegro Based on a Route* (page 399)

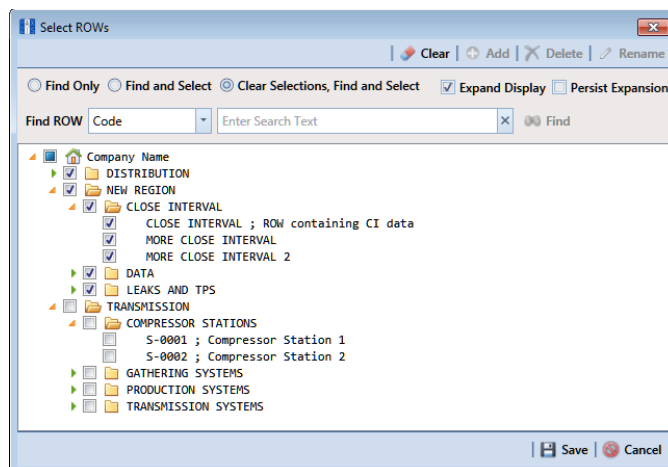
**NOTE:** See the *Allegro User Guide* for information about taking an averaged reading survey using the Periodic Survey software on the Allegro.

## Adding Timed Reading Fields in the Information Grid

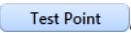
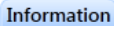
Timed reading fields are added in the *Test Point Information* data entry grid to allow data entry of inspection readings in the *Test Point Inspection* data entry grid for an averaged reading survey. Information in this section explains how to add timed reading fields in a layout theme and then apply the theme to the *Information* data entry grid.

Complete the following steps:

- 1 Select one or more pipeline segments in the *Select ROWs* window (Figure 8-13). Select pipeline segments with facilities you plan to include in the route. Click  **Save** to close the window.



**Figure 8-13. Select ROWs**

- 2 Click **Data Entry > Edit CPDM Data**.
- 3 Click the **Test Point** button , then the **Information** tab  to open the *Test Point Information* data entry grid (Figure 8-14).

ROW Code and Pipe	Milepost	Location Description	Facility Active	Test Point Protection Criteria	Activate Structure P/S	Activate Casing P/S	Activate Foreign P/S	Activate Insulator P/S	Effective Date	Perm Com
T-1401	0.000	Bethel Station	<input checked="" type="checkbox"/>	.85 On	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
T-1401	0.001	Rectifier R-200	<input checked="" type="checkbox"/>	.85 On	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
T-1401	1.000	Alderman #1	<input checked="" type="checkbox"/>	.85 On	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
T-1401	1.500	Willford E #1	<input checked="" type="checkbox"/>	.85 On	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
T-1401	1.627	FM 321	<input checked="" type="checkbox"/>	.85 On	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	12/10/2013	
T-1401	1.750	Park Rd. 64	<input checked="" type="checkbox"/>	.85 On	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
T-1401	2.000	Texas Rd	<input checked="" type="checkbox"/>	.85 On	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
T-1401	2.250	County Rd.	<input checked="" type="checkbox"/>	.85 On	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
T-1401	2.500	Fryer B	<input checked="" type="checkbox"/>	.85 On	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		
T-1401	3.000	Whitaker #1	<input checked="" type="checkbox"/>	.85 On	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>		

Selected	Scheduling Type Name	Last Inspection Date	Due Dates	Delinquent Date	Due Date Calculation Method	Time Between Surveys	Target Month	Target Year
<input checked="" type="checkbox"/>	Test Point	3/22/2006	12/2013 [Del 06/22/2007], 1/2014, 1/2015	6/22/2007	Targets	12 Months	January	N / A

Figure 8-14. Test Point Information Data Entry Grid

- Click the **Customize** tab to open the *Layouts* page (Figure 8-15).

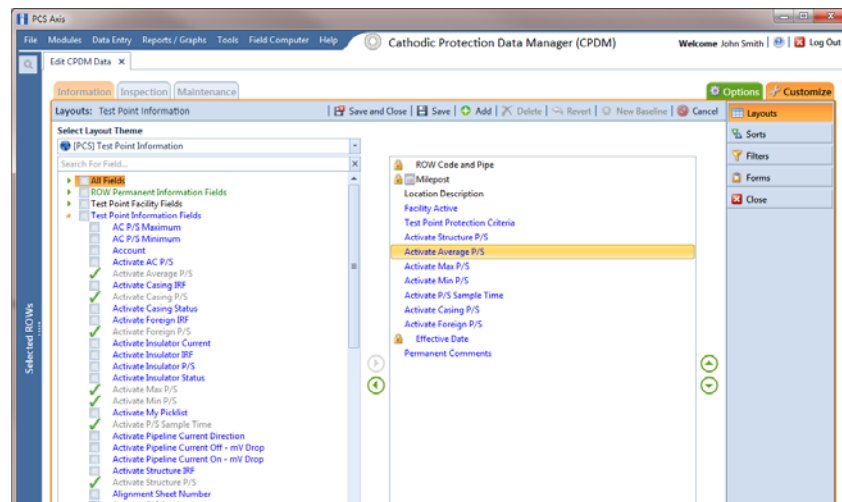
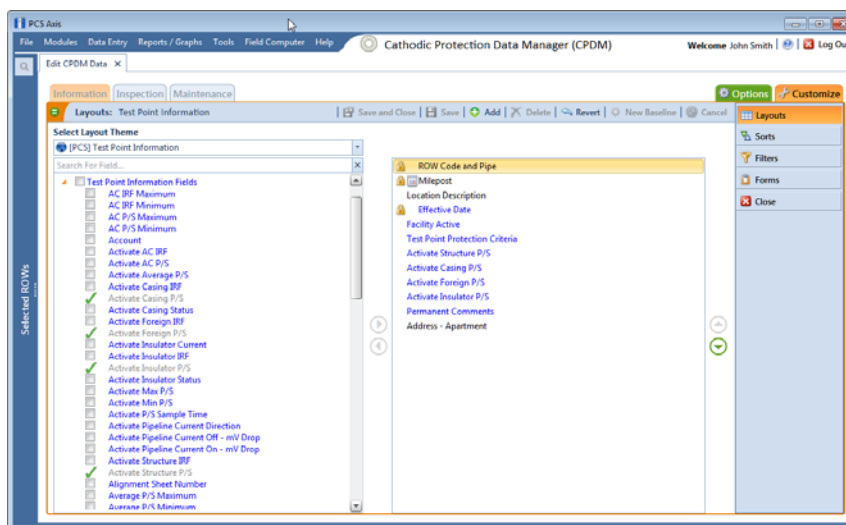




Figure 8-15. Layouts

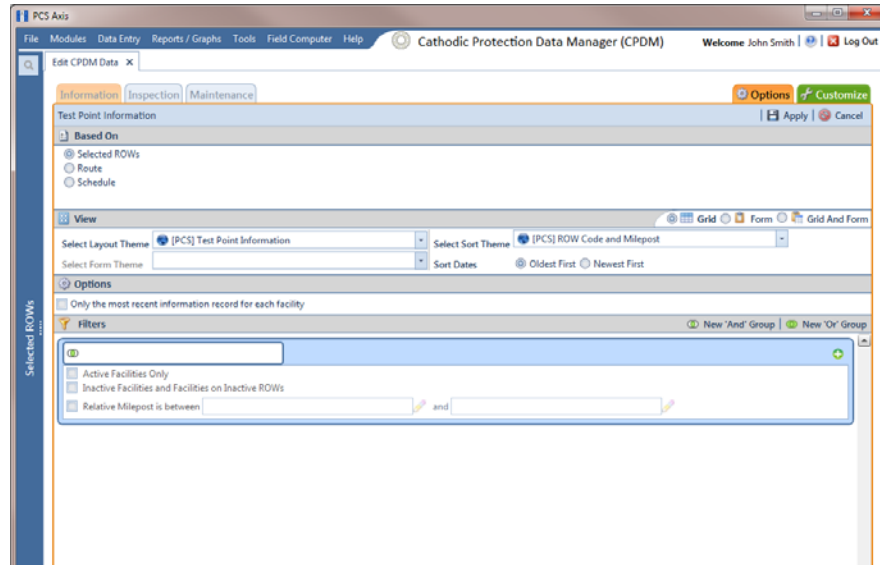
- 5 Select a data entry grid layout theme. Click the down arrow in **Select Layout Theme** and select a theme in the selection list.
- 6 Double-click **Test Point Information Fields** in the left pane of the window to view a list of fields available for selection (Figure 8-16).




**Figure 8-16. Test Point Information Fields**

- 7 Add the following list of timed reading fields in the layout theme. To add fields, double-click each timed reading field listed in the left pane of the *Layouts* page to move fields to the right pane. Add other fields as required. The data entry grid layout theme includes all fields listed in the right pane of the *Layouts* page.
  - Activate Average P/S
  - Activate Max P/S
  - Activate Min P/S
  - Activate P/S Sample Time

- 8 Click  **Save**, then click the **Options** tab  to open the options page (Figure 8-17).



**Figure 8-17. Options**

- 9 Apply the layout theme to the data entry grid. Click the down arrow in the field **Select Layout Theme** and select the layout theme with timed reading fields.
- 10 Click  **Apply** to save and apply changes. PCS Axis closes the options page and returns to the *Test Point Information* data entry grid.
- 11 In each column labeled with an “activate” timed reading field, click the check box associated with the facility you plan to record Allegro timed readings (Figure 8-18).

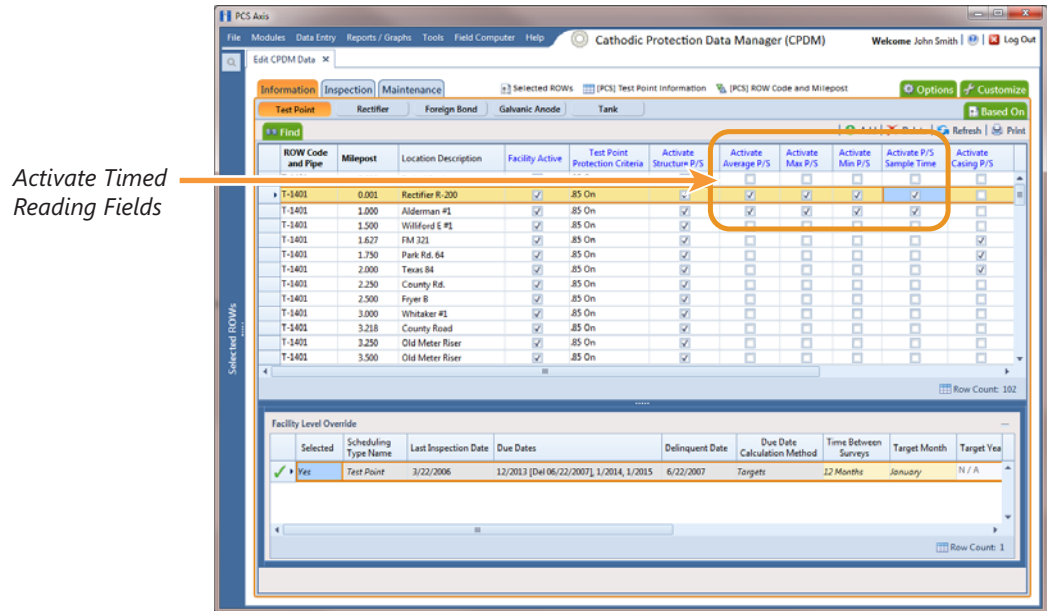
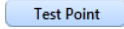





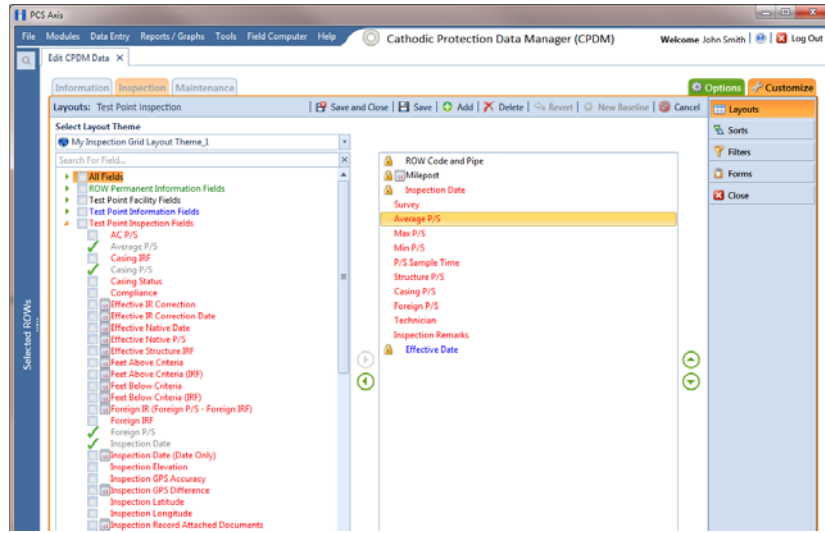
Figure 8-18. Test Point Information Data Entry Grid

- 12 Continue with the next section, *Adding Timed Reading Fields in the Inspection Grid* (page 395).

## Adding Timed Reading Fields in the Inspection Grid

Complete the following steps to add timed reading fields in a layout theme and then apply the theme to the *Test Point Inspection* data entry grid:



- 1 If the *Test Point Inspection* data entry grid is not visible, click the **Test Point** button  and then the **Inspection** tab .
- 2 Click the **Customize** tab  to display the *Layouts* page.
- 3 Select a layout theme. Click the down arrow in **Select Layout Theme** and select a theme in the selection list.
- 4 Double-click  **Test Point Inspection Fields** in the left pane of the window to view a list of fields available for selection (Figure 8-19).

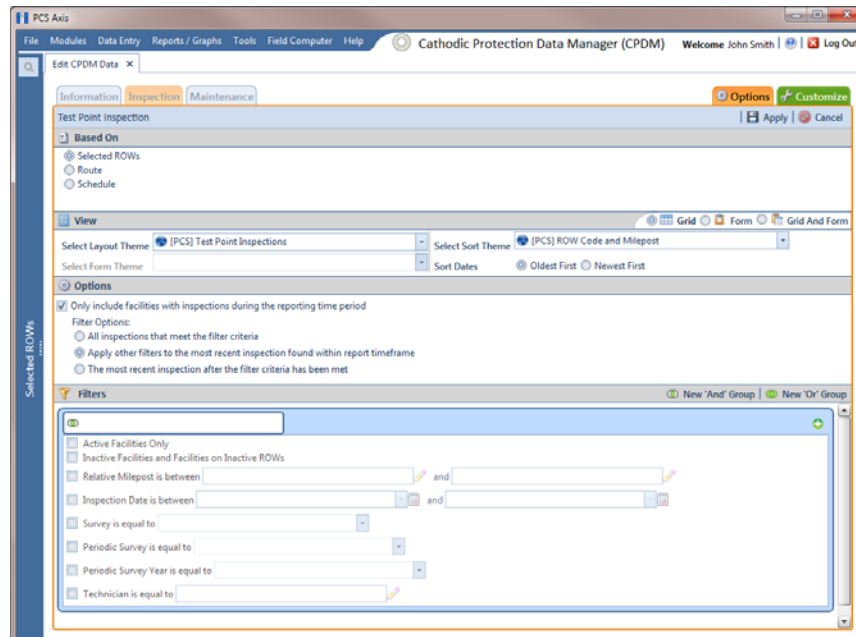


**Figure 8-19. Layouts**



- 5 Add the following list of timed reading fields in the layout theme. To add a field, double-click a timed reading field listed in the left pane to move the field to the right pane. Add other fields as required. The layout theme includes all fields listed in the right pane of the *Layouts* page.
  - Average P/S
  - Max P/S
  - Min P/S
  - P/S Sample Time



- Click  **Save**, then click the **Options** tab  to open the options page (Figure 8-20).




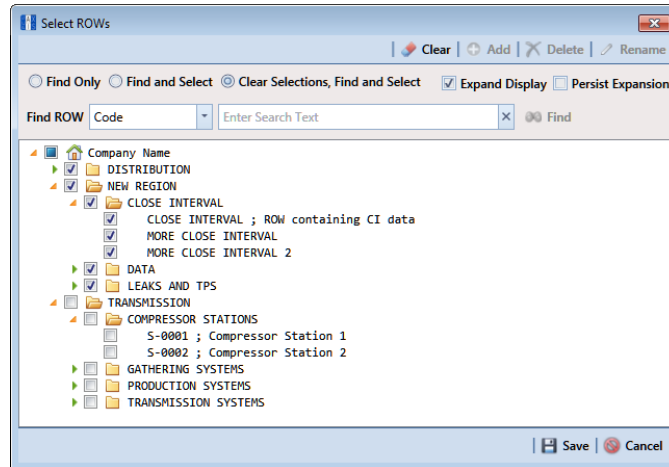
**Figure 8-20. Options**

- Apply the layout theme to the data entry grid. Click the down arrow in the field **Select Layout Theme** and select the layout theme with timed reading fields.
- Click  **Apply** to save and apply changes. PCS Axis closes the options page and returns to the *Test Point Inspection* data entry grid.
- Click the  close icon to close the *Edit CPDM Data* window. Continue with the next section, *Editing a Route for an Averaged Reading Survey* (page 397).

## Editing a Route for an Averaged Reading Survey

Complete the following steps to set up a route with facilities for inspection in an averaged reading survey:

- Select one or more pipeline segments in the *Select ROWs* window (Figure 8-21). Select pipeline segments with facilities you plan to include in a route for an averaged reading survey. Click  **Save** to close the window.



**Figure 8-21. Select ROWs**

- 2 Open the *Define Routes* window and select a route. Click **Data Entry > Define Routes**. Then click the down arrow in **Routes** and select a route in the selection list.
- 3 Click the down arrow in **Facility Types** and select **[PCS] Test Point Survey**. Or, select **Ad Hoc Theme** and then click the **Test Point** check box.
- 4 Select which facilities to include in the route. To include all facilities, click **Add All** and then click **Yes** when the *Add All* message opens.

To only include facilities you select, click the check box for each facility in the *Facilities Available* grid. Or double-click each facility.

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**NOTE:** Selected facilities display in the *Facilities in Route* grid.

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- 5 Arrange the survey order of facilities listed in the *Facilities in Route* grid as needed using any of the following methods:
  - To move a single grid row, select the row, then drag and drop the row in a different location in the grid.

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**NOTE:** A message displays when moving selected grid rows to confirm the new location in the grid (Figure 8-12, page 390).

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- To move a group of consecutive grid rows, click the first row, press and hold the **Shift** key, then click the last row. Drag and drop selected rows in a different location in the grid.

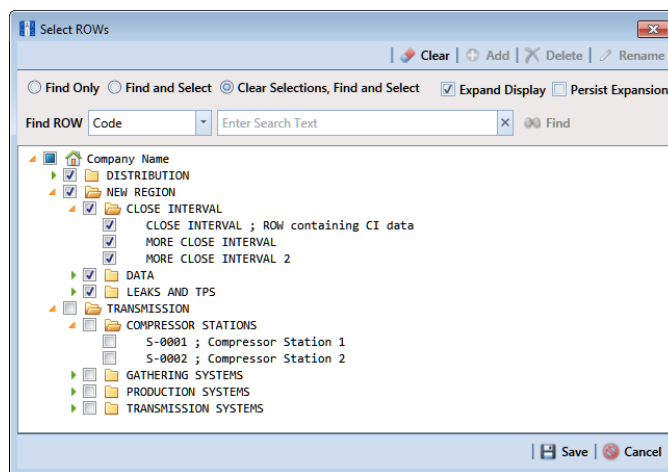
- To move a group of non-consecutive grid rows, press and hold the **Ctrl** key, then click each row you want to select. Drag and drop selected rows in a different location in the grid.
- 6 Click  **Save** to save changes and then click the close icon  to close the *Define Routes* window.
  - 7 Continue with the next section *Sending a Survey to the Allegro Based on a Route* (page 399).

## Sending a Survey to the Allegro Based on a Route

Information in this section explains how to send a survey to the Allegro based on a route with facilities in an averaged reading survey. The process includes adding a theme with prompts for timed reading fields. Prompts are data entry fields in an Allegro survey file that require survey data, such as an inspection reading at each facility location.

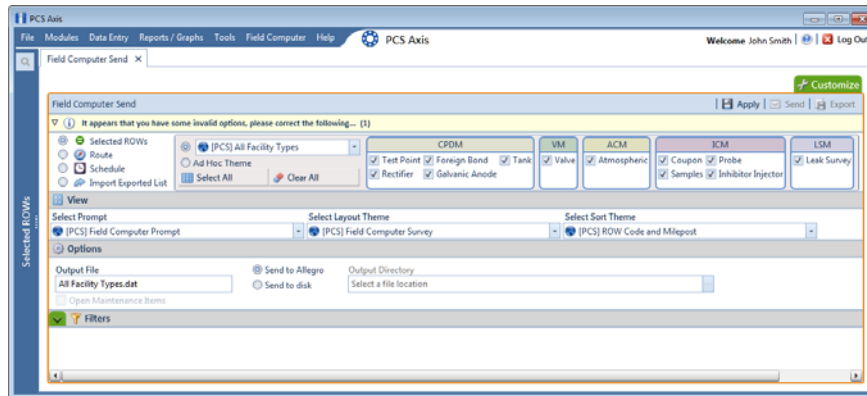
Complete the following steps:

- 1 Verify the Allegro is connected to your computer. If needed, refer to the *Allegro User Guide* for information about how to connect the device.
- 2 Select one or more pipeline segments in the *Select ROWs* window (Figure 8-22). Select pipeline segments with facilities you plan to include in an averaged reading survey. Click  **Save** to close the window.


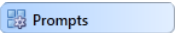


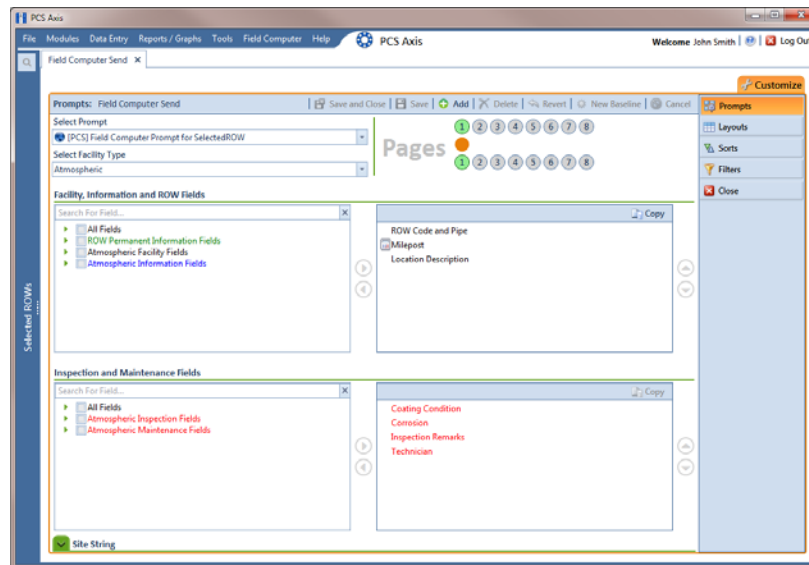
**Figure 8-22. Select ROWs**

- 3 Click **Field Computer** > **Send** to open the *Field Computer Send* window (Figure 8-23).



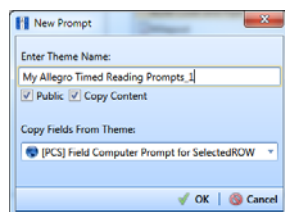
**Figure 8-23. Field Computer Send**

- 4 Click the **Customize** tab , then the **Prompts** button  to open the *Prompts* page (Figure 8-24).




**Figure 8-24. Prompts**


- 5 Click  **Add** to open the *New Prompt* dialog box (Figure 8-25).




**Figure 8-25. New Prompt**

- 6 Type a name for the theme in the field **Enter Theme Name**. Required fields are identified with the  icon and must be completed to continue.
- 7 If you want to create a *public* theme, click the **Public** check box to place a check mark inside the check box. When the check box is empty, the theme saves as a *private* theme.
- 8 If you want to copy fields from an existing theme, click the **Copy Content** check box to place a check mark inside the check box. Then click the down arrow in the field **Copy Fields From Theme** and select a theme in the selection list.


If you do not want to copy fields from an existing prompt theme, clear the check mark inside the *Copy Content* check box by clicking the check box.

- 9 Click  **OK** to save changes and return to the *Prompts* page.
- 10 Verify the name of the new theme displays in the **Select Prompt** field. If not, click the down arrow and select the theme in the selection list.
- 11 Click the down arrow in **Select Facility Type** and select **Test Point**.

12 To add information prompts, follow these steps:

- a Click  **All Fields** in *Facility, Information and ROW Fields* to view a list of fields available for selection.
- b Double-click one or more fields in the selection list to move fields to the right pane. All fields listed in the right pane are included in the prompt theme.


13 To add timed reading prompts, follow these steps:

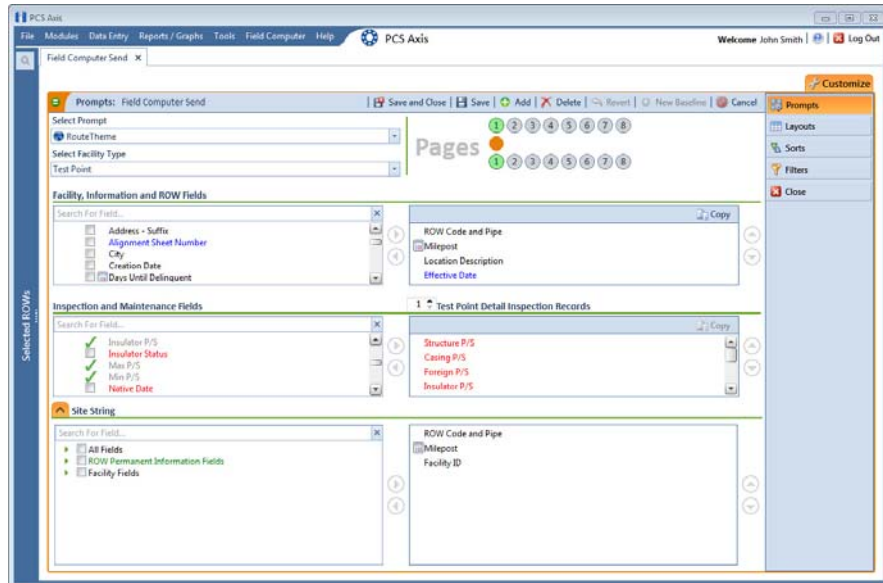
- a Click  **All Fields** in *Inspection and Maintenance Fields*.
- b Double-click the following timed reading fields to move the fields to the right pane:
  - Average P/S
  - Max P/S
  - Min P/S
  - P/S Sample Time

---




**NOTE:** If you want to remove information, inspection, or maintenance fields, double-click a field listed in the right pane to move it back to the left pane.

---

- 14 Complete the following steps to add site string prompts that help identify one facility from another when using the Allegro. Site string prompts are included with each facility and can be viewed in the Allegro *Site List* window.
  - a Click the  **Site String** tab to view a list of fields available for selection (Figure 8-26).





**Figure 8-26. Site String Fields**

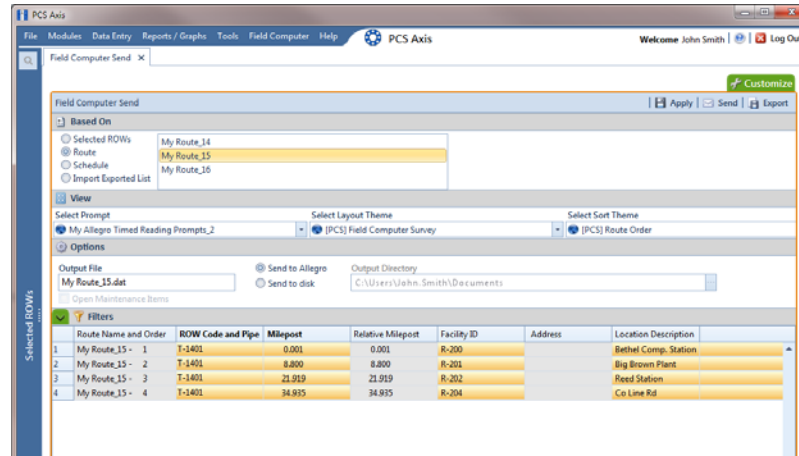
- b Double-click one or more fields in the selection list to move fields to the right pane. For example, double-click **Facility ID** and **Location Description**. Click the  **Site String** tab again to close the pane.
- 15 If you want to add another page of prompts, click  **Copy** and then double-click one or more fields as needed in the left pane of *Inspection and Maintenance Fields*. When you have multiple pages of prompts, clicking a page number icon, such as , displays prompts for the selected page.

---

**NOTE:** Information fields in *Facility, Information, and ROW Fields* automatically copy to each page of prompts.

---

- 16 Click  **Save and Close** to save changes and return to the *Field Computer Send* window.
- 17 Click the **Route** option and select a route in the selection box. Then click  **Apply** to update the grid (Figure 8-27).




**Figure 8-27. Field Computer Send**

- 18 Click the down arrow in **Select Prompt** and select a theme with timed reading fields.
- 19 Select a layout and sort theme as follows:
  - a Click the down arrow in the field **Select Layout Theme** and select a theme in the list.
  - b Click the down arrow in the field **Select Sort Theme** and select a theme in the list.
- 20 If you want to rename the survey file, type a name in the **Output File** field making sure to include the **.dat** file extension.
- 21 Select the option **Send to Allegro**.
- 22 If the check box **Open Maintenance Items** is available for selection, click the check box if you want to include open maintenance records in the survey file.

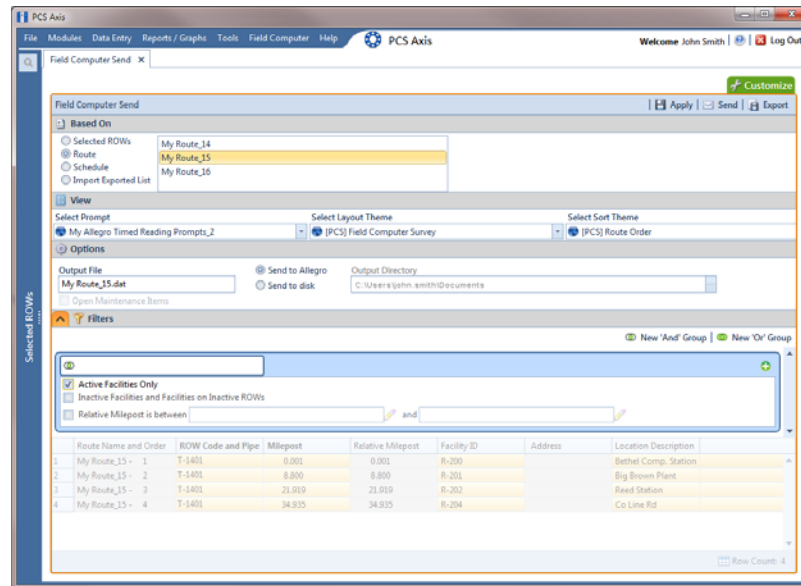
---

**NOTE:** When the selected prompt theme includes maintenance prompts, the check box *Open Maintenance Items* is available for selection. It is disabled and unavailable for selection when maintenance prompts are not included in the currently selected prompt theme.

---


- 23 Click the  **Filters** button to open the *Filters* panel (Figure 8-28).
- 24 If you want to filter records in the grid and in the route sent to the Allegro, select one or more options in *Filters*. For example, click *Active Facilities Only* to only include active facilities.

**IMPORTANT:** Filter settings in *Field Computer Send* apply only to the current session and are not saved. See *Working with Themes and Filter Groups* (page 421) for information about saving filter settings in a theme.

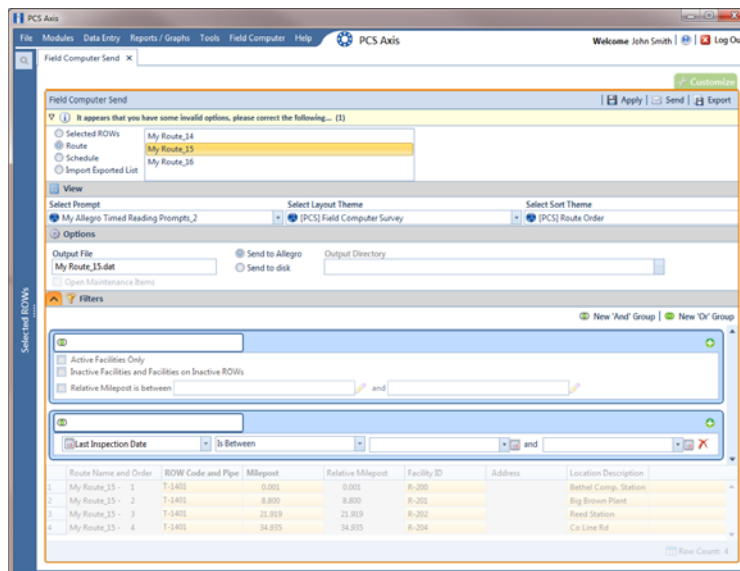


**Figure 8-28. Filters**

If you want to add a new AND or OR filter group, continue with **step 25** or **step 26**.

- 25** To filter records in the grid and in the route sent to the Allegro based on a subset of records that meet *all* filter conditions, complete the following steps to add a new AND filter group:
  - a** Click  **New 'And' Group** to open the filter properties group box (Figure 8-29).








**Figure 8-29. New 'And' Filter Group**


- b** Use filter selection fields to set up filter criteria. Select a PCS Axis field, operator, and one or more filter conditions.

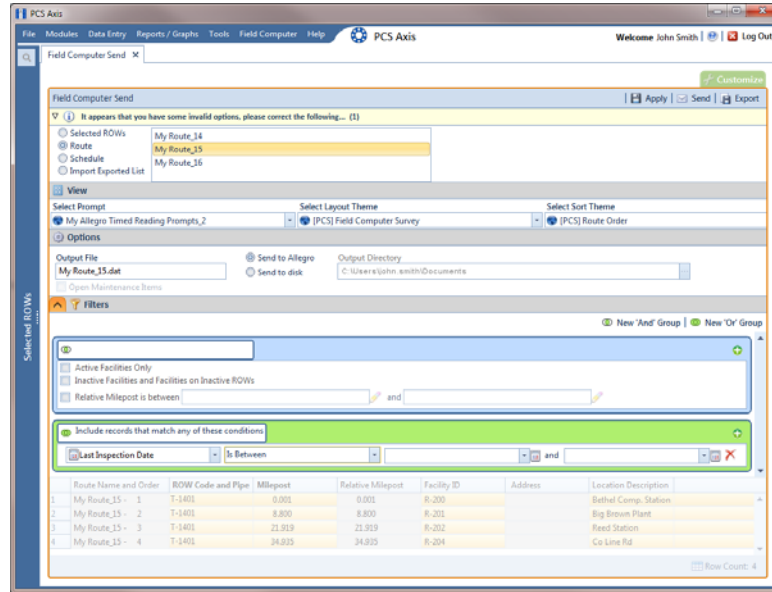
When adding a date filter, such as *Last Inspection Date Is Between*, set a date range using one of the following methods:

- 1)** Type a date in the start and end date fields. Enter a start and end date using the format M/DD/YYYY to indicate the month, day, and year.
- 2)** To set a date range using a calendar, click the down arrow in the start date field to open a calendar and select a start date. Then click the down arrow in the end date field to open a calendar and select an end date.
- 3)** To set a date range using dynamic start and end dates, click the  calculator button in the start date field and set up dynamic date properties. Repeat this step for the end date field. Clicking the calculator button opens and closes dynamic date property fields.

**NOTE:** Clicking the  toggle button in the  information bar displays important information related to required settings (Figure 8-29).

- 26** To filter records in the grid and in the route sent to the Allegro based on a subset of records that meet *any* filter condition, complete the following steps to add a new OR filter group:






- a** Click  **New 'Or' Group** to open a filter properties group box (Figure 8-30).

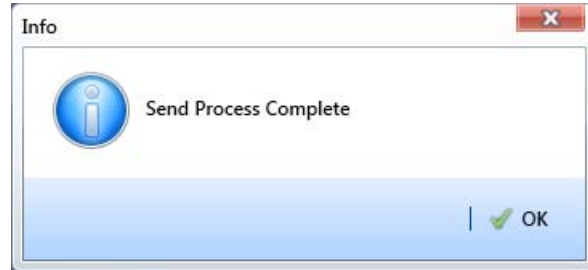


**Figure 8-30. New 'Or' Filter Group**

- b** Use filter selection fields to set up filter criteria. Select a PCS Axis field, operator, and one or more filter conditions.

When adding a date filter, such as *Last Inspection Date Is Between*, set a date range using one of the following methods:

- 1)** Type a date in the start and end date fields. Enter a start and end date using the format M/DD/YYYY to indicate the month, day, and year.
  - 2)** To set a date range using a calendar, click the down arrow in the start date field to open a calendar and select a start date. Then click the down arrow in the end date field to open a calendar and select an end date.
  - 3)** To set a date range using dynamic start and end dates, click the  calculator button in the start date field and set up dynamic date properties. Repeat this step for the end date field. Clicking the calculator button opens and closes dynamic date property fields.
- 27** Click the  **Filters** button to close the *Filters* panel. Then click  **Apply** to update the grid.
  - 28** Click  **Send** to send the survey file to the Allegro.
  - 29** When a message displays confirming the send process is complete, click  **OK** to close the message (Figure 8-31). PCS Axis sends the survey file to the *PSData* folder on the Allegro.



**Figure 8-31. Send Process Complete**

## Preparing a Route for Inspection GPS Fields

This section explains how to prepare and send a survey to the Allegro based on a route with inspection GPS fields. Facilities for inspection are also set up in the *Inspection* data entry grid with inspection GPS fields.

Including inspection GPS fields in a survey allows you to capture GPS location data for each facility inspection reading. These fields also allow you to verify inspection readings are taken at the correct location.


Information in this section applies to all PCS Axis modules. Examples are based on the CPDM module. Topics in this section include those in the following list:

- *Adding Inspection GPS Fields in the Inspection Grid* (page 407)
- *Editing a Route with Facilities for Inspection* (page 410)
- *Sending a Survey to the Allegro Based on a Route* (page 412)

## Adding Inspection GPS Fields in the Inspection Grid

The procedure in this section explains how to add inspection GPS fields in a layout theme and then apply the theme to an *Inspection* data entry grid. The procedure uses the *Test Point Inspection* data entry grid as an example.

Complete the following steps:

- 1 Select one or more pipeline segments in the *Select ROWs* window (Figure 8-32). Select pipeline segments with facilities you plan to include in a route. Click  **Save** to close the window.

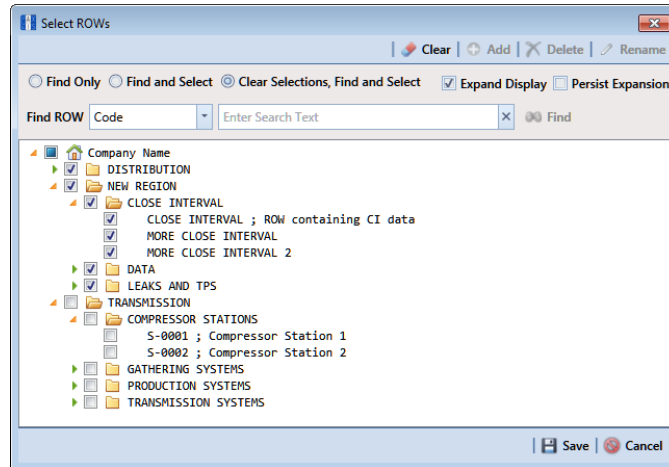
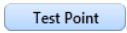




Figure 8-32. Select ROWs

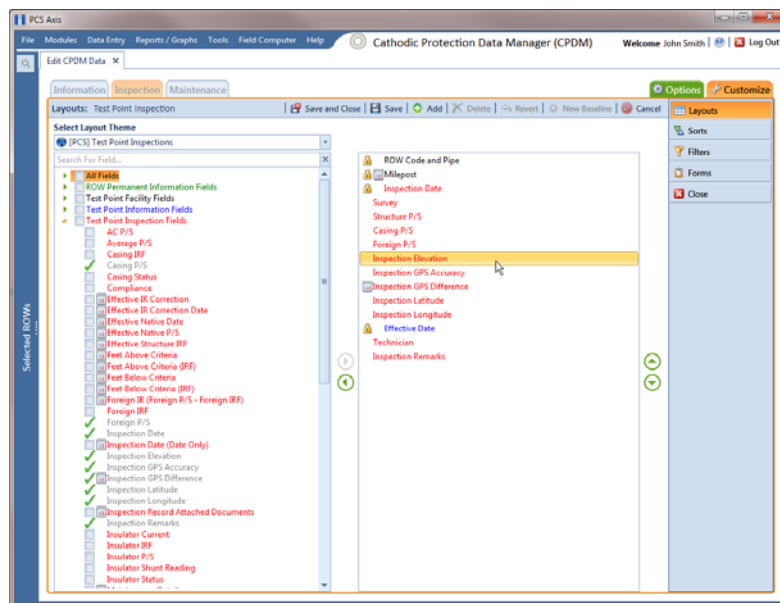
- 2 Open the *Inspection* data entry grid for a facility type.

For example, click **Data Entry** > **Edit CPDM Data**. Click the **Test Point** button , then the **Inspection** tab  to open the *Test Point Inspection* data entry grid (Figure 8-33).

ROW Code and Pipe	Milepost	Inspection Date	Survey	Structure P/S (Volts)	Casing P/S (Volts)	Foreign P/S (Volts)	Insulator P/S (Volts)	Effective Date
T-1401	0.000	3/22/2006	2006 Annual Survey	-1.141				
T-1401	0.001	3/22/2006	2006 Annual Survey	-1.150				
T-1401	1.000	3/22/2006	2006 Annual Survey	-1.173		-0.428		
T-1401	1.500	3/22/2006	2006 Annual Survey	-0.963			-1.410	
T-1401	1.627	3/22/2006	2006 Annual Survey	-0.822	-0.296			
T-1401	1.750	3/22/2006	2006 Annual Survey	-0.895	-0.412			
T-1401	2.000	3/22/2006	2006 Annual Survey		-0.635			
T-1401	2.250	3/22/2006	2006 Annual Survey	-1.091				
T-1401	2.500	3/22/2006	2006 Annual Survey	-0.996			-0.739	
T-1401	3.000	3/22/2006	2006 Annual Survey	-0.717			-0.852	
T-1401	3.218	3/22/2006	2006 Annual Survey	-1.492				
T-1401	3.250	3/22/2006	2006 Annual Survey	-1.118				
T-1401	3.500	3/22/2006	2006 Annual Survey	-0.694			-0.184	
T-1401	4.000	3/22/2006	2006 Annual Survey	-0.686			-0.707	
T-1401	5.000	3/22/2006	2006 Annual Survey	-1.116			-0.665	
T-1401	5.275	3/22/2006	2006 Annual Survey	-1.451			-1.339	
T-1401	6.000	3/22/2006	2006 Annual Survey	-1.024			-0.954	
T-1401	7.000	3/22/2006	2006 Annual Survey	-1.094			-0.648	
T-1401	8.000	3/22/2006	2006 Annual Survey	-0.831			-0.862	
T-1401	8.500	3/22/2006	2006 Annual Survey	-1.020			-0.638	
T-1401	8.717	3/22/2006	2006 Annual Survey	-1.080				
T-1401	8.800	3/22/2006	2006 Annual Survey	-1.720				



Figure 8-33. Test Point Inspection Data Entry Grid

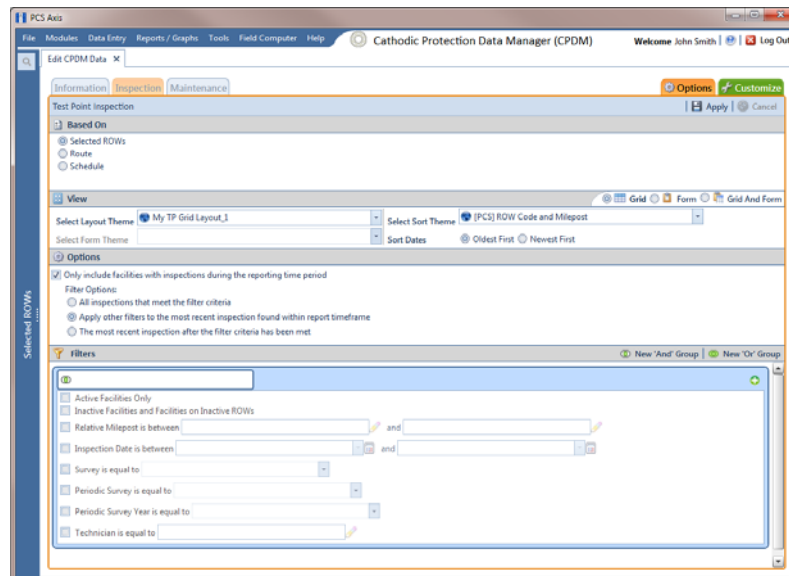
- 3 Click the **Customize** tab  to view the *Layouts* page (Figure 8-34, page 409).




**Figure 8-34. Layouts**

- 4 Select a data entry grid layout theme. Click the down arrow in **Select Layout Theme** and select a theme in the selection list.
- 5 Double-click the *Inspection Fields* category in the left pane of the window to view a list of fields available for selection. For example, double-click **Test Point Inspection Fields**.
- 6 Add the following inspection GPS fields in the layout theme. To add a field, double-click a inspection GPS field in the left pane to move the field to the right pane. Add other fields as required. The layout theme includes all fields listed in the right pane.
  - Inspection Elevation
  - Inspection GPS Accuracy
  - Inspection GPS Difference
  - Inspection Latitude
  - Inspection Longitude

- 7 Click  **Save**, then click the **Options** tab  to open the options page (Figure 8-35).



**Figure 8-35. Options**


- 8 Apply the layout theme to the data entry grid. Click the down arrow in **Select Layout Theme** and select the theme with inspection GPS fields.
- 9 Click  **Apply**.

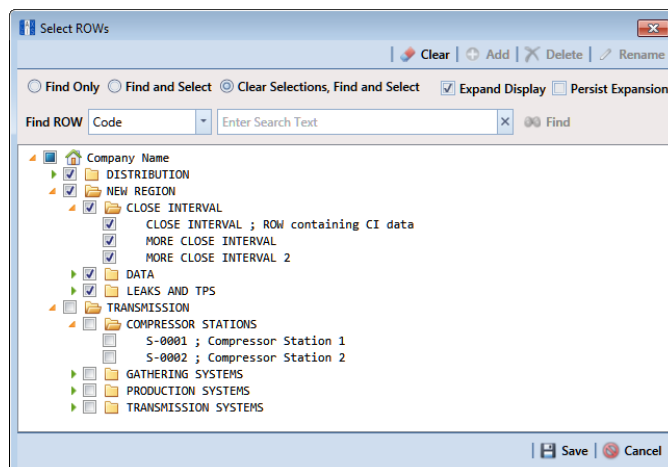
PCS Axis saves and applies changes, then closes the options page and returns to the *Test Point Inspection* data entry grid.

- 10 Click the  close icon to close the *Edit CPDM Data* window. Continue with the next section, *Editing a Route with Facilities for Inspection* (page 410).


## Editing a Route with Facilities for Inspection

Complete the following steps to set up a route with facilities for inspection that include inspection GPS fields:

- 1 Select one or more pipeline segments in the *Select ROWs* window (Figure 8-36). Select pipeline segments with facilities you plan to include in the route. Click  **Save** to close the window.



**Figure 8-36. Select ROWs**

- 2 Open the *Define Routes* window and select a route. Click **Data Entry > Define Routes**. Then click the down arrow in **Routes** and select a route in the selection list.
- 3 Click the down arrow in **Facility Types** and select a facility type theme. Or, select **Ad Hoc Theme** and then click the check box for one or more facility types.
- 4 Select which facilities to include in the route. To include all facilities, click  **Add All** in the *Facilities Available* grid.

To only include facilities you select, click the check box for each facility in the *Facilities Available* grid. Or double-click each facility.

---

**NOTE:** Selected facilities display in the *Facilities in Route* grid.

---



- 5 Arrange the survey order of facilities listed in the *Facilities in Route* grid as needed using any of the following methods:
  - To move a single grid row, select the row, then drag and drop it in a different location in the grid.

---

**NOTE:** A message displays when moving selected grid rows to confirm the new location in the grid (Figure 8-12, page 390).

---


- To move a group of consecutive grid rows, click the first row, press and hold the **Shift** key, then click the last row. Drag and drop selected rows in a different location in the grid.

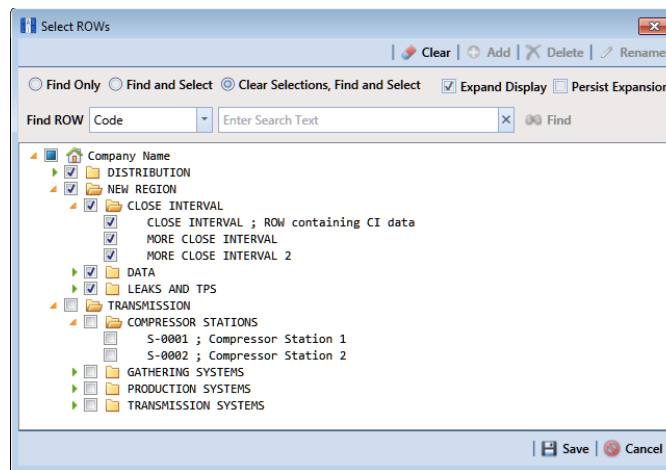
- To move a group of non-consecutive grid rows, press and hold the **Ctrl** key, then click each row you want to select. Drag and drop selected rows in a different location in the grid.
- 6 Click  **Save** to save changes. Then click the close icon  to close the *Define Routes* window.
  - 7 Continue with the next section *Sending a Survey to the Allegro Based on a Route* (page 412).

## Sending a Survey to the Allegro Based on a Route

Information in this section explains how to send a survey to the Allegro based on a route with facilities that include inspection GPS fields. The process includes adding a prompts theme with prompts for inspection GPS fields. Prompts are data entry fields in an Allegro survey file that require survey data, such as GPS data for each facility inspection reading.

Complete the following steps:

- 1 Verify the Allegro is connected to your computer. If needed, refer to the *Allegro User Guide* for information about how to connect the device.
- 2 Select one or more pipeline segments in the *Select ROWs* window (Figure 8-37). Select pipeline segments with facilities you plan to survey. Click  **Save** to close the window.



**Figure 8-37. Select ROWs**

- 3 Click **Field Computer** > **Send** to open the *Field Computer Send* window (Figure 8-38).



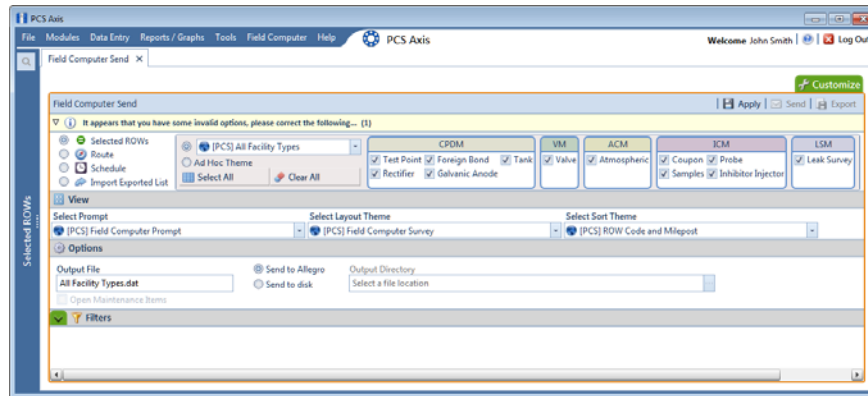

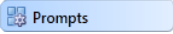


Figure 8-38. Field Computer Send

- 4 Click the **Customize** tab , then the **Prompts** button  to open the *Prompts* page (Figure 8-39).

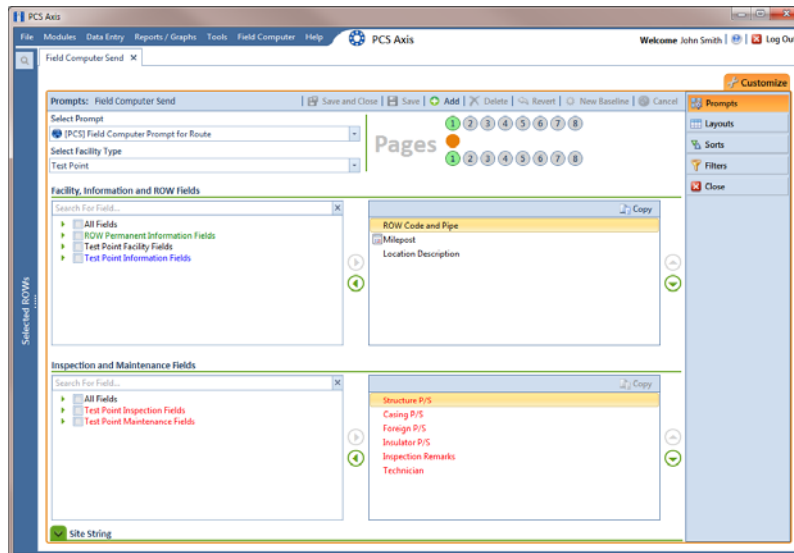




Figure 8-39. Prompts

- 5 Click the  **Add** button to open the *New Prompt* dialog box (Figure 8-40). Required fields are identified with the  icon and must be completed to continue.

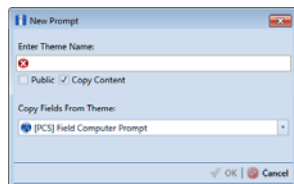
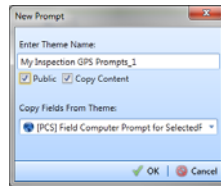


Figure 8-40. New Prompt

- 6 Type a name for the theme in the field **Enter Theme Name** (Figure 8-41).

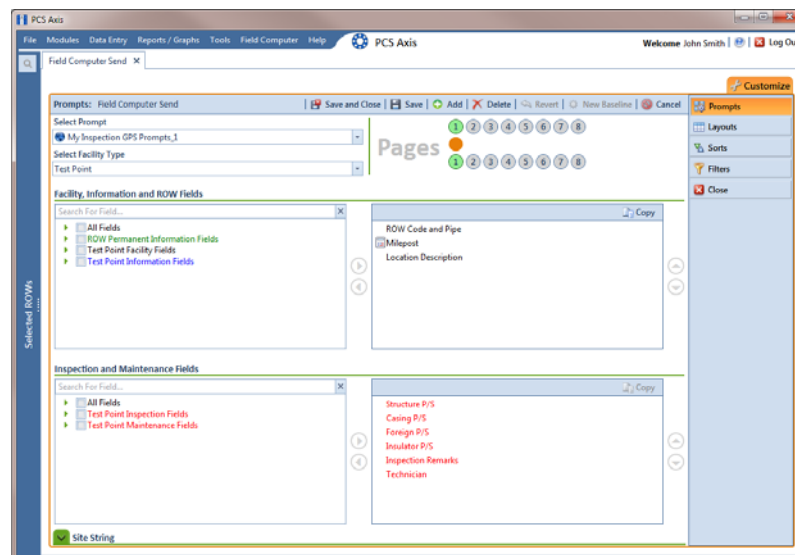


**Figure 8-41. New Prompt**

- 7 If you want to create a public theme, click the **Public** check box to place a check mark inside the check box. When the check box is empty, the theme saves as a private theme.
- 8 If you want to copy fields from an existing theme, click the **Copy Content** check box to place a check mark inside the check box. Then click the down arrow in the field **Copy Fields From Theme** and select a theme in the selection list.



If you do not want to copy fields from an existing prompt theme, remove the check mark inside the *Copy Content* check box by clicking the check box.

- 9 Click **OK** to save changes and return to the *Prompts* page.
- 10 Verify the name of the new theme displays in the **Select Prompt** field. If not, click the down arrow and select the theme in the selection list (Figure 8-42).
- 11 Click the down arrow in **Select Facility Type** and select a facility type in the selection list. For example, select *Test Point*.









**Figure 8-42. Prompts**

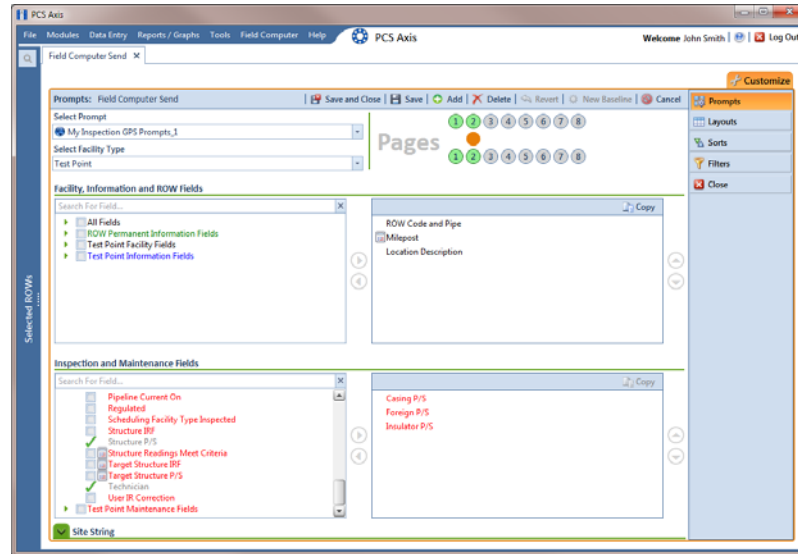
- 12 To add information prompts, follow these steps (Figure 8-42):

- 
- a** Double-click  **All Fields** in *Facility, Information and ROW Fields* to view a list of fields available for selection.
    - b** Double-click one or more fields in the selection list to move fields to the right pane. All fields listed in the right pane are included in the prompt theme.
  - 13** To add inspection GPS prompts, follow these steps:
    - a** Double-click  **All Fields** in *Inspection and Maintenance Fields*.
    - b** Double-click the following inspection GPS fields to move the fields to the right pane:
      - Inspection Elevation
      - Inspection GPS Accuracy
      - Inspection GPS Difference
      - Inspection Latitude
      - Inspection Longitude
- 



**NOTE:** If you want to remove information, inspection, or maintenance fields, double-click a field listed in the right pane to move it back to the left pane.

---

- 14** Complete the following steps to add site string prompts that help identify one facility from another when using the Allegro. Site string prompts are included with each facility and can be viewed in the Allegro *Site List* window.
    - a** Click the  **Site String** and then double-click  **All Fields** in the left pane to view a list of fields available for selection (Figure 8-42, page 414).
    - b** Double-click one or more fields in the left pane to move fields to the right pane. For example, double-click **Facility ID** and **Facility Location**. Click the  **Site String** button again to close the pane.
  - 15** If you want to add another page of prompts, click  **Copy** and then double-click one or more fields as needed in the left pane of **Inspection and Maintenance Fields**. Information fields in *Facility, Information, and ROW Fields* automatically copy to each page of prompts (Figure 8-42, page 414).
  - 16** Click  **Save**.
  - 17** If you have multiple pages of prompts, clicking a page number icon displays prompts for the selected page. For example, clicking  displays prompts set up in page 2 as shown in the following example (Figure 8-43).
-



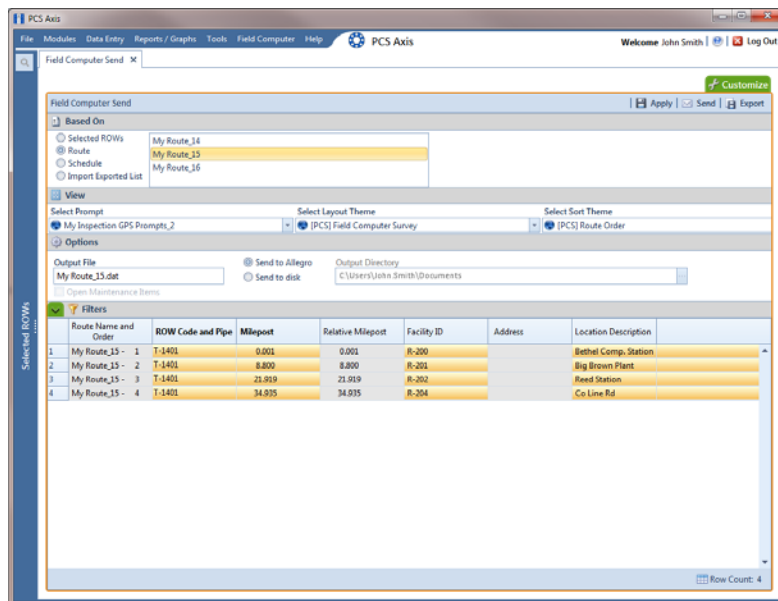
**Figure 8-43. Prompts**

- 18 Click  **Close** to return to the *Field Computer Send* window.
- 19 Click the **Route** option and select a route in the selection box. Then click  **Apply** to update the grid (Figure 8-44).
- 20 Complete the following steps to select a prompt, layout, and sort theme:
  - a Click the down arrow in **Select Prompt** and select the prompt theme with inspection GPS fields.
  - b Click the down arrow in **Select Layout Theme** and select a layout theme in the selection list.
  - c Click the down arrow in **Select Sort Theme** and select a sort theme in the selection list.
- 21 If you want to rename the survey file, type a name in the field **Output File**.
- 22 Select **Send to Allegro** to send the survey file to the Allegro.
- 23 If the check box **Open Maintenance Items** is available for selection, click the check box if you want to include open maintenance records in the survey file.

---

**NOTE:** When the selected prompt theme includes maintenance prompts, the check box *Open Maintenance Items* is available for selection. It is disabled when maintenance prompts are not included in the currently selected prompt theme.

---

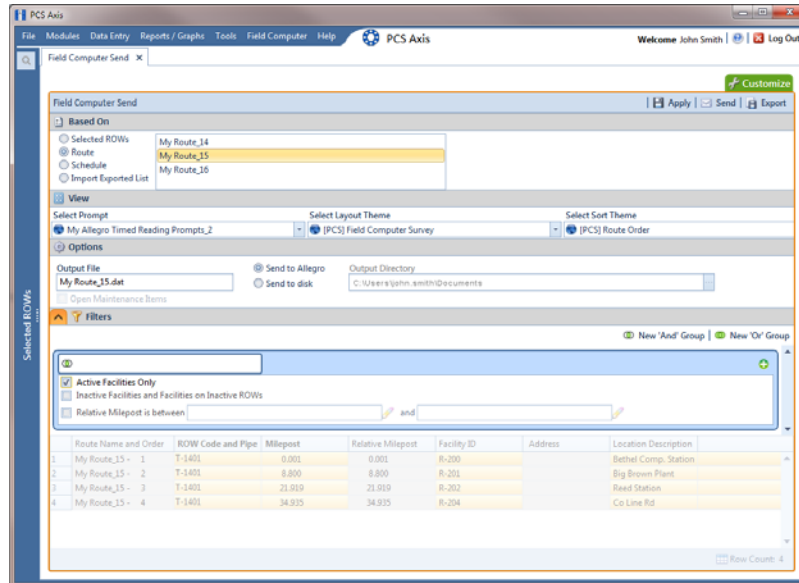


**Figure 8-44. Field Computer Send**

- 24** If you want to filter records in the grid and in the route sent to the Allegro, complete the following steps.

**IMPORTANT:** Filter settings in *Field Computer Send* apply only to the current session and are not saved. See *Working with Themes and Filter Groups* (page 421) for information about saving filter settings in a theme.

- a** Click the  **Filters** tab to open the *Filters* panel (Figure 8-44).






**Figure 8-45. Filters**

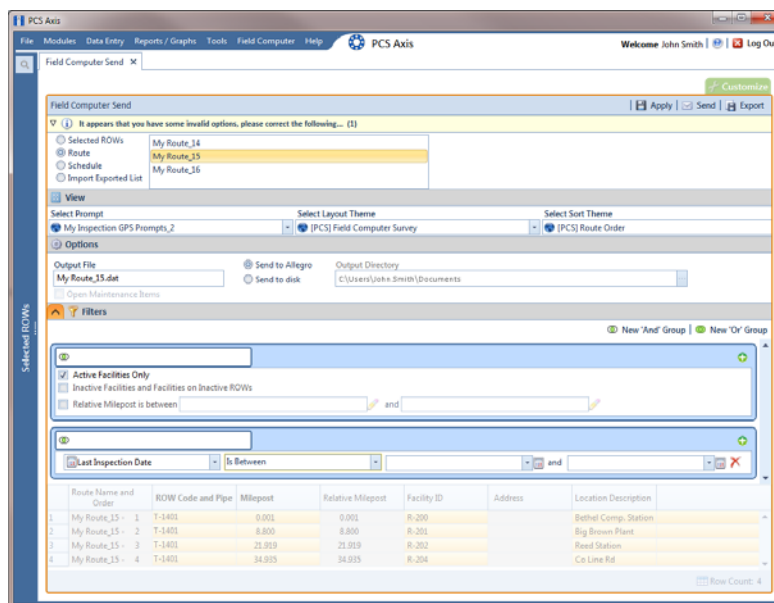
- b** Select one or more options in *Filters*. For example, click **Currently Active Facilities Only** to only include active facilities in the grid and in the route sent to the Allegro (Figure 8-45).
  - c** If you want to add a new AND or OR filter group, continue with one of the following steps. Otherwise continue with **step 27**.
    - To add a new AND filter group continue with **step 25**.
    - To add a new OR filter group continue with **step 26**.
- 25** If you want to add a new AND filter group, complete the following steps. With an AND filter group, PCS Axis includes a subset of records that meet *all* filter conditions defined for the filter group. Records are filtered in the grid and in the route sent to the Allegro (Figure 8-46).
- a** Click **New 'And' Group** to open the filter properties group box.
  - b** Use filter selection fields to set up filter criteria. Select a PCS Axis field, operator, and one or more filter conditions.

When adding a date filter, such as *Last Inspection Date Is Between*, set a date range using one of the following methods:

- Type a date in the start and end date fields. Enter a start and end date using the format M/DD/YYYY to indicate the month, day, and year.
- To set a date range using a calendar, click the down arrow in the start date field to open a calendar and select a start date. Then click the down arrow in the end date field to open a calendar and select an end date.


- To set a date range using dynamic start and end dates, click the  calculator button in the start date field and set up dynamic date properties. Repeat this step for the end date field. Clicking the calculator button opens and closes dynamic date property fields.

**NOTE:** Clicking the  toggle button in the  information bar displays important information related to required settings.




**Figure 8-46. New 'And' Filter Group**



**26** If you want to add a new OR filter group, complete the following steps. With an OR filter group, PCS Axis includes a subset of records that meet *any* filter condition defined for the filter group. Records are filtered in the grid and in the route sent to the Allegro (Figure 8-47):

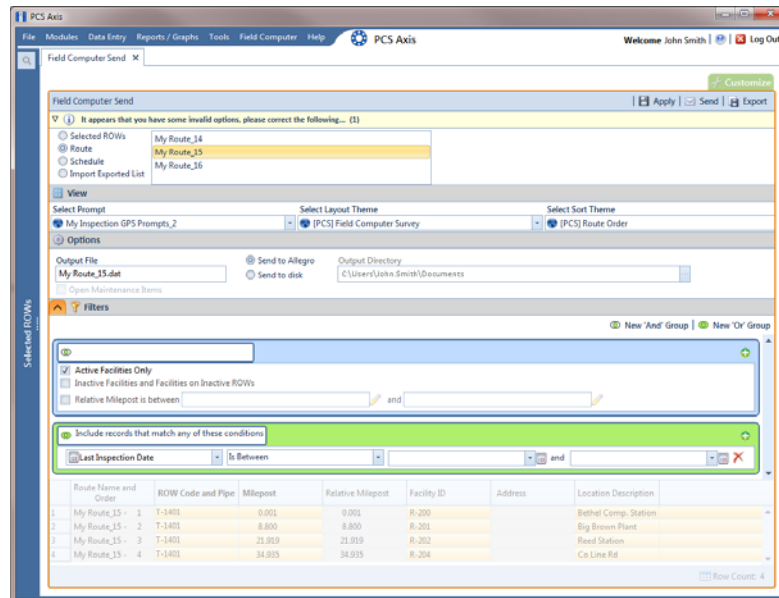
- Click  **New 'Or' Group** to open a filter properties group box.
- Use filter selection fields to set up filter criteria. Select a PCS Axis field, operator, and one or more filter conditions.

When adding a date filter, such as *Last Inspection Date Is Between*, set a date range using one of the following methods:





- Type a date in the start and end date fields. Enter a start and end date using the format M/DD/YYYY to indicate the month, day, and year.
- To set a date range using a calendar, click the down arrow in the start date field to open a calendar and select a start date. Then click the down arrow in the end date field to open a calendar and select an end date.

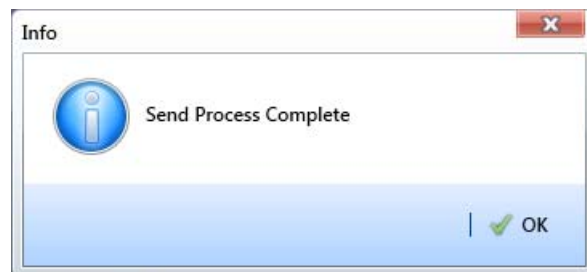
- To set a date range using dynamic start and end dates, click the  calculator button in the start date field and set up dynamic date properties. Repeat this step for the end date field. Clicking the calculator button opens and closes dynamic date property fields.

**NOTE:** Clicking the  toggle button in the  information bar displays important information related to required settings.



**Figure 8-47. New 'Or' Filter Group**

- 27 Click the  **Filters** tab to close the *Filters* panel. Then click  **Apply** to update the grid.
- 28 Click  **Send** to send the survey file to the Allegro.
- 29 Click  **OK** when the message *Send Process Complete* displays (Figure 8-48). PCS Axis sends the survey file to the *PSData* folder on the Allegro.




**Figure 8-48. Send Process Complete**



## Working with Themes and Filter Groups

A theme is a group of named settings saved for later use, such as a grid layout or sort theme. Themes are either public or private. A public theme is available for use by all PCS Axis users. A private theme is available only to the user who creates it.

Several installed themes are provided with the PCS Axis software installation. PCS Axis installed themes are public themes available to all PCS Axis users. These themes are identified with a globe icon and PCS in brackets [PCS], such as  **[PCS] Route Grid**.

---

**NOTE:** Only public themes for layouts, sorts, and reports are available for selection. If you would like to use a private theme, your company's system administrator must make your private theme a public one.

---

A filter group is a named set of one or more filters that affect the data output in the *Define Routes* grid and subsequently the route itself. PCS Axis provides two types of filter groups you can define. These include the AND and OR filter groups.

When you add a filter group, you define filter conditions that determine which records to include or exclude in the *Define Routes* grid and the route. Adding an AND filter group produces a subset of records that meet *all* filter conditions. Adding an OR filter group produces a subset of records that meet *any* filter condition. When you apply a filter group, PCS Axis processes filters in descending order beginning with the filter at the top of the group.

The following sections describe how to add a layout theme, sort theme, and one or more optional filter groups. Topics include those in the following list:

- *Working with a Layout Theme*
- *Working with a Sort Theme* (page 430)
- *Adding an AND Filter Group* (page 438)
- *Adding an OR Filter Group* (page 441)
- *Editing and Arranging Filters and Filter Groups* (page 444)

## Working with a Layout Theme


A layout theme is a named set of fields that are present when working in the route grid. A layout theme also determines which fields are included when printing a route.

Two types of layout themes are available for use. They include *installed* and *addition* layout themes. An installed layout theme is one that has been installed during the PCS Axis software installation, such as *[PCS] Route Grid*. A layout theme addition is one that you create.

Topics in this section explain how to work with a layout theme and include those in the following list:


- *Editing an Installed Layout Theme*
- *Adding a Layout Theme Addition* (page 425)
- *Editing a Layout Theme Addition* (page 427)

### Editing an Installed Layout Theme

An installed layout theme includes [PCS] in the name of the theme, such as  **[PCS] Route Grid**. A layout theme determines which fields are present when viewing or printing a route. The procedure in this section explains how to complete the following tasks to edit a PCS Axis installed layout theme:

- add fields in an installed layout theme
- remove fields in an installed layout theme
- revert an installed layout theme

To edit a PCS Axis installed layout theme, follow these steps:

- 1 Select one or more pipeline segments in the *Select ROWs* window (Figure 8-49). Click  **Save** to close the window.

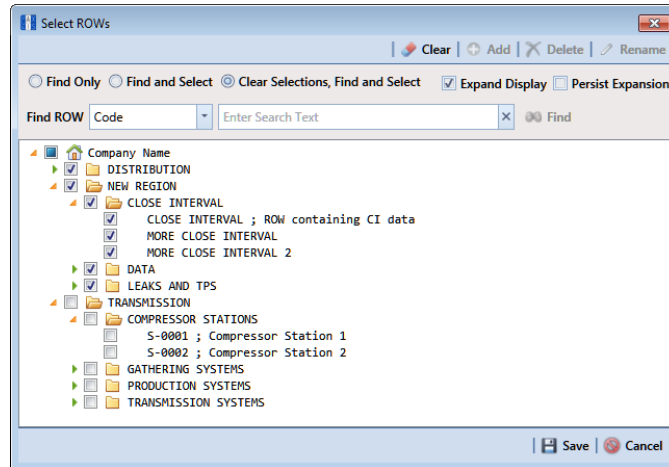


Figure 8-49. Select ROWs

- 2 Click **Data Entry > Define Routes** to open the *Define Routes* window. Click the down arrow in the **Routes** field and select a route in the list (Figure 8-50).

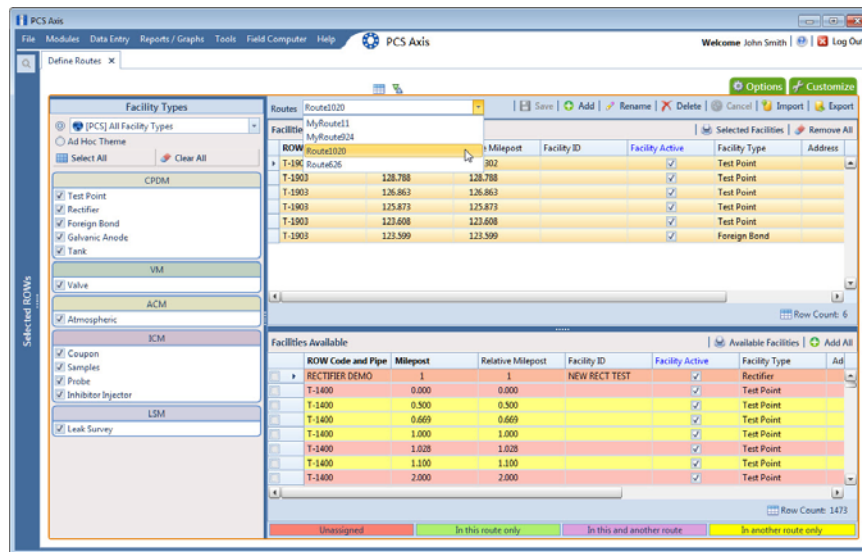
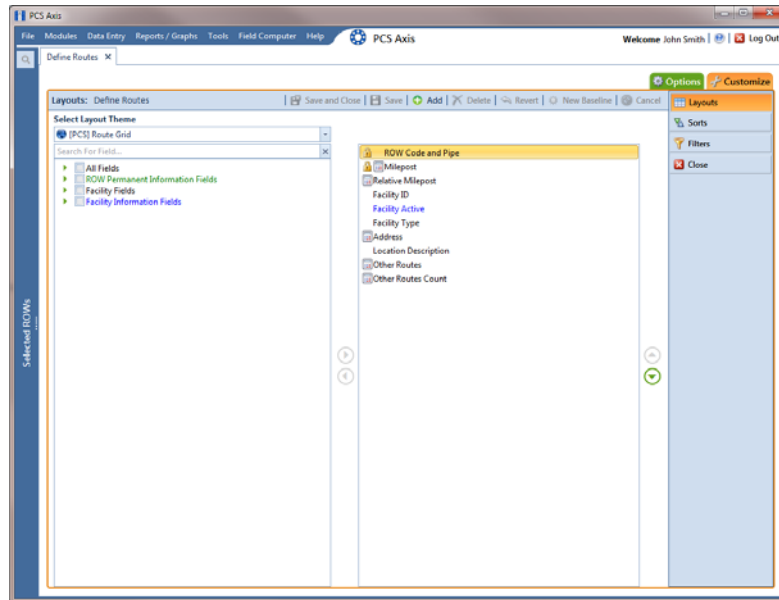






Figure 8-50. Define Routes

- 3 Click the **Customize** tab  to view the *Layouts* page (Figure 8-51).




**Figure 8-51. Layouts**

- 4 Select a PCS Axis installed layout theme. Click the down arrow in **Select Layout Theme** and select a theme in the selection list, such as  **[PCS] Route Grid**.
- 5 Click the toggle arrow  for a field category in the left pane to view a list of fields available for selection, such as  **All Fields**.
- 6 Click the check box for each field you want to include in the theme. Then click the top arrow button  to move selected fields to the right pane. The theme includes all fields listed in the right pane.



---

**NOTE:** Double-clicking a field in the left pane also moves it to the right pane.




---

- 7 To remove fields in an installed layout theme:
  - Select one or more fields listed in the right pane, then click the bottom arrow button .

---


**NOTE:** Double-clicking a field in the right pane also moves it back to the left pane. Fields with a lock icon  are required and cannot be removed from the theme, such as  **Milepost**.

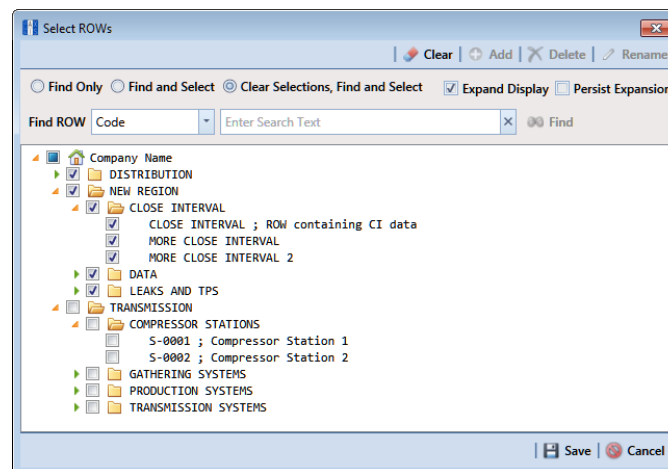
---

- 8 Click  **Save** to save changes.
- 9 To revert an installed theme and restore settings prior to editing, click  **Revert**, then click **Yes** when the *Confirm Revert* message displays.
- 10 Click  **Save and Close** to save changes and return to the *Define Routes* window.



## Adding a Layout Theme Addition

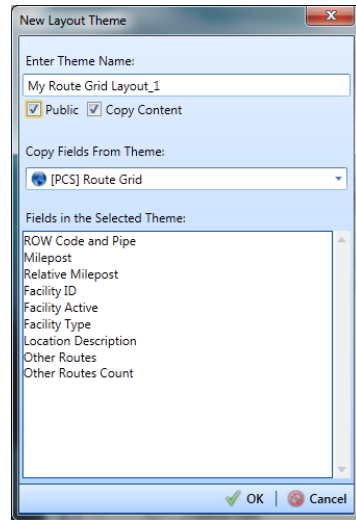
Complete the following steps to add a layout theme addition:

- 1 Select one or more pipeline segments in the *Select ROWs* window (Figure 8-52). Click  **Save** to close the window.



**Figure 8-52. Select ROWs**

- 2 Click **Data Entry > Define Routes** to open the *Define Routes* window. Click the down arrow in the **Routes** field and select a route in the selection list (Figure 8-50, page 423).
- 3 Click the **Customize** tab  to view the *Layouts* page (Figure 8-51).
- 4 Click  **Add** to open the *New Layout Theme* dialog box (Figure 8-53).






**Figure 8-53. New Layout Theme**

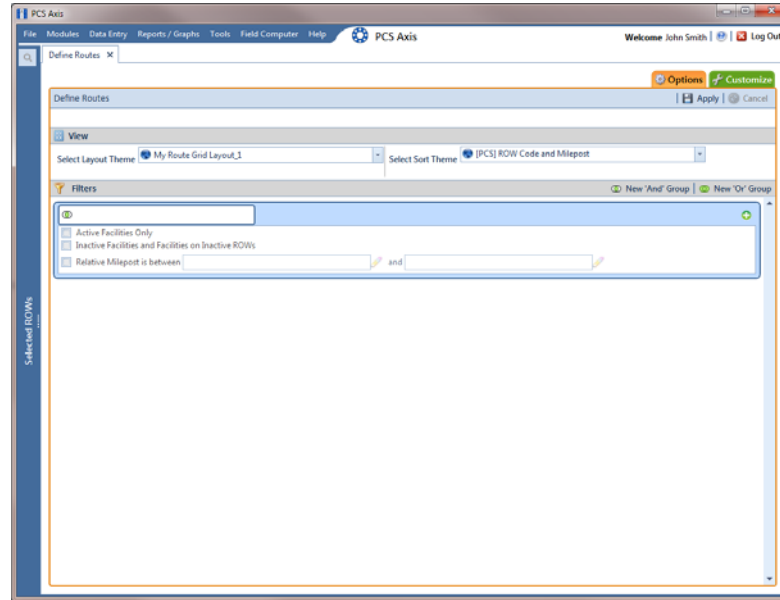
- 5 Type a name for the theme in the field **Enter Theme Name**.
- 6 Select the **Public** check box if you want the new theme available to all PCS Axis users. When a theme is not public, it is a private theme available only to the user who creates it.

---


**NOTE:** Creating public themes is a function available only to users assigned the SysAdmin user role. Private themes can be created by users assigned the User, Read Only, or SysAdmin user role. See *System Security* (page 855) for more information.

---


- 7 Select a layout theme with fields you want to copy to the new layout theme. Click the **Copy Content** check box and then click the down arrow in **Copy Fields From Theme** and select a theme in the selection list.
- 8 Click  **OK** to save changes and return to the *Layouts* page.
- 9 Verify the name of the new layout theme displays in the field *Select Layout Theme*. If not, click the down arrow in **Select Layout Theme** and select the new theme in the selection list.
- 10 Add and remove fields in the new layout theme as required. If needed, refer to *Editing a Layout Theme Addition* (page 427). When you finish, click  **Save**.
- 11 To apply the new layout theme in the *Define Routes* grid, follow these steps:
  - a Click the **Options** tab  to open the options page (Figure 8-54).



**Figure 8-54. Options**

- b** Click the down arrow in **Select Layout Theme** and select the new layout theme in the selection list.
- c** Click  **Apply** to apply changes and return to the grid in *Define Routes*.

---

**NOTE:** Clicking  **Cancel** allows you to close the *Options* page without saving changes.


---

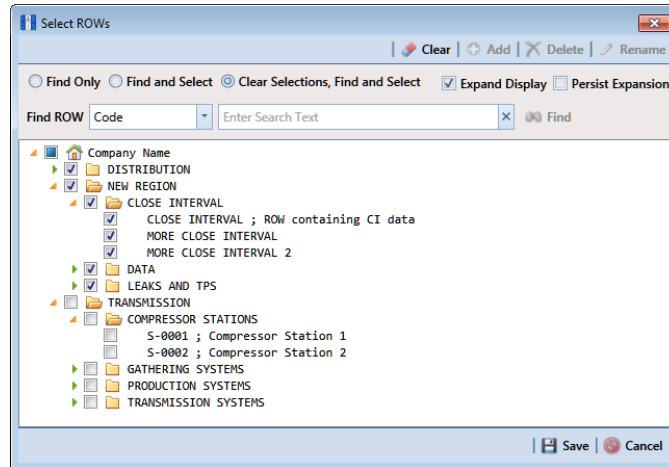
## Editing a Layout Theme Addition

Information in this section explains how to perform the following tasks when working with a layout theme addition:





- add or remove fields in a layout theme addition
- revert a layout theme addition
- create a new baseline layout theme addition
- delete a layout theme addition

Complete the following steps:

- 1** Select one or more pipeline segments in the *Select ROWs* window (Figure 8-55). Click  **Save** to close the window.



**Figure 8-55. Select ROWs**

- 2 Click **Data Entry > Define Routes** to open the *Define Routes* window. Click the down arrow in the **Routes** field and select a route in the selection list (Figure 8-50, page 423).
- 3 Click the **Customize** tab  to view the *Layouts* page (Figure 8-51, page 424).
- 4 Click the down arrow in **Select Layout Theme** and select a layout theme in the selection list.
- 5 To add fields in a layout theme addition:
  - a Click the toggle arrow  for a field category in the left pane to view a list of fields available for selection, such as  **All Fields**.
  - b Click the check box for each field you want to include in the theme. Then click the top arrow button  to move selected fields to the right pane. The theme includes all fields listed in the right pane.


---


**NOTE:** Double-clicking a field in the left pane also moves it to the right pane.

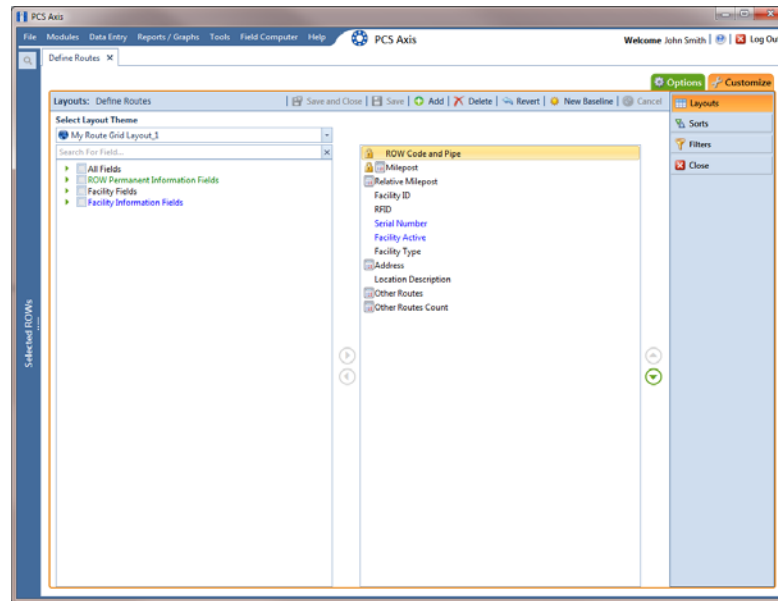
---

- c Click  **Save** to save changes.







- 6 To remove fields in a layout theme addition:
  - Select one or more fields listed in the right pane of the window, then click the bottom arrow button .

To multi-select fields in the right pane, press the *Ctrl* key when selecting fields in non-consecutive order; or press the *Shift* key when selecting fields in consecutive order.
- 7 Click  **Save** to save changes. The layout theme includes all fields listed in the right pane (Figure 8-56).



**Figure 8-56. Layouts**

- 8 To revert a layout theme addition and restore settings prior to editing, click  **Revert**, then click **Yes** when the *Confirm Revert* message displays.
- 9 To save current settings as new baseline settings, click  **New Baseline**. When future changes are made and then reverted, PCS Axis restores the theme with baseline settings.
- 10 To delete a layout theme addition:
  - a Click the down arrow in **Select Layout Theme** and select a layout theme addition.
  - b Click  **Delete**, then click **Yes** when the *Confirm Delete* message displays.
- 11 Click  **Close** to close the *Layouts* page and return to the *Define Routes* window.

## Working with a Sort Theme


A sort theme is a named set of one or more fields that indicate the sorting order of grid rows in the route grid. A sort theme also determines the sorting order when printing a route.

Two types of sort themes are available for use. They include *installed* and *addition* sort themes. An installed sort theme is one that has been installed during the PCS Axis software installation, such as *[PCS] Address*, *[PCS] Facility ID*, and *[PCS] ROW Code and Milepost*. A sort theme addition is one that you create.

Topics in this section explain how to work with a sort theme and include those in the following list:


- *Editing an Installed Sort Theme*
- *Adding a Sort Theme Addition* (page 432)
- *Editing a Sort Theme Addition* (page 435)

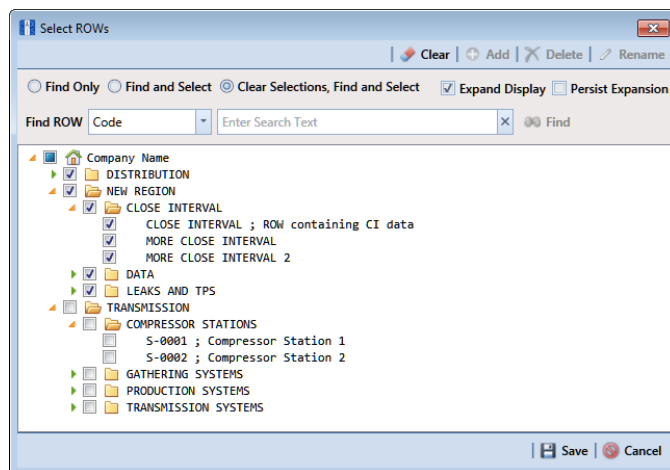
### Editing an Installed Sort Theme

An installed sort theme includes [PCS] in the name of the theme, such as  *[PCS] Facility ID*. The procedure in this section explains how to complete the following tasks to edit an installed layout theme:


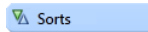




- add fields in an installed sort theme
- remove fields in an installed sort theme
- revert an installed sort theme

To edit an installed sort theme, follow these steps:

- 1 Select one or more pipeline segments in the *Select ROWs* window (Figure 8-57). Click  **Save** to close the window.








**Figure 8-57. Select ROWs**

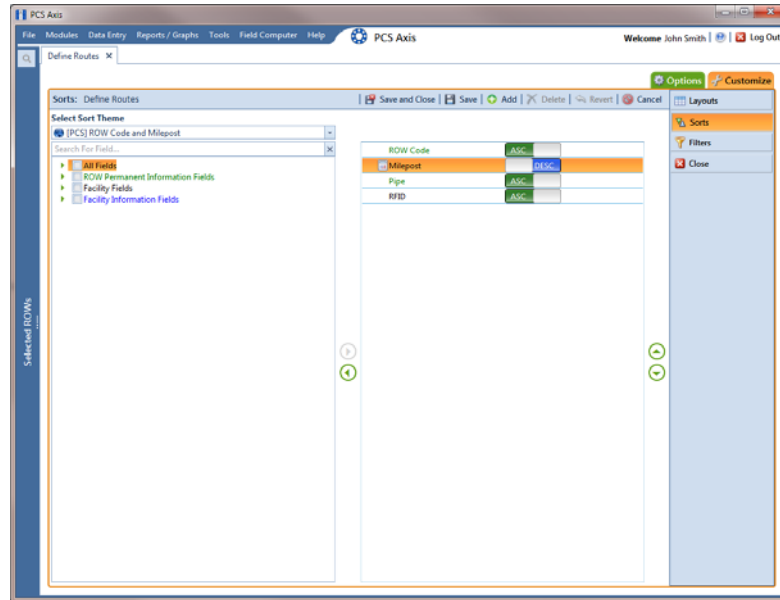
- 2 Click **Data Entry > Define Routes** to open the *Define Routes* window. Click the down arrow in the **Routes** field and select a route in the selection list (Figure 8-50, page 423).
- 3 Click the **Customize** tab , then the **Sorts** button  to open the *Sorts* page (Figure 8-58, page 432).
- 4 Click the down arrow in **Select Sort Theme** and select a PCS Axis installed sort theme, such as  **[PCS] Facility ID**.
- 5 Click the toggle arrow  for a field category in the left pane to view a list of fields available for selection, such as  **All Fields**.
- 6 Click the check box for each field you want to include in the theme. Then click the top arrow button  to move selected fields to the right pane. The theme includes all fields listed in the right pane.

---



**NOTE:** Double-clicking a field in the left pane also moves it to the right pane.

---


- 7 Select a sort method for each field listed in the right pane. To sort grid rows in ascending order, click the toggle button to select **ASC** . To sort in descending order, click the toggle button to select **DESC** .
- 8 To change the order of fields listed in the right pane and subsequently in the grid, click and drag a field to a new position in the list. Or, select a field and then click the up  or down  button.
- 9 Click  **Save**.



**Figure 8-58. Sorts**

- 10** To apply the sort theme in the grid, follow these steps:
  - a** Click the **Options** tab  to open the options page.
  - b** Click the down arrow in **Select Sort Theme** and select the sort theme in the selection list.
  - c** Click  **Apply** to apply changes and return to the grid in *Define Routes*.


---

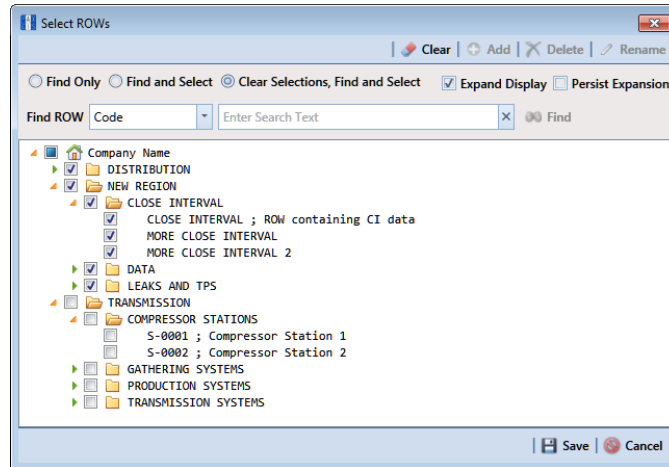
**NOTE:** Clicking  **Cancel** allows you to close the *Options* page without saving changes.

---


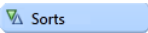

## Adding a Sort Theme Addition

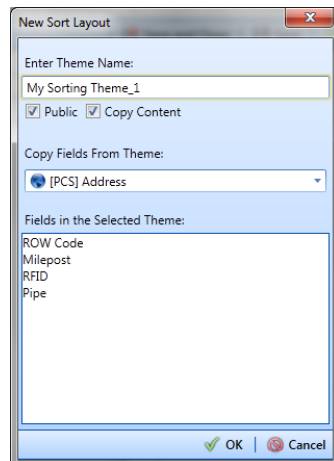
Complete the following steps to add a sort theme addition:

- 1** Select one or more pipeline segments in the *Select ROWs* window (Figure 8-59). Click  **Save** to close the window.



**Figure 8-59. Select ROWs**

- 2 Click **Data Entry** > **Define Routes** to open the *Define Routes* window. Click the down arrow in the **Routes** field and select a route in the selection list (Figure 8-50, page 423).
- 3 Click the **Customize** tab , then the **Sorts** button  to open the *Sorts* page (Figure 8-58, page 432).
- 4 Click  **Add** to open the *New Sort Layout* dialog box (Figure 8-60).



**Figure 8-60. New Sort Layout**








- 5 Type a name for the theme in the field **Enter Theme Name**.

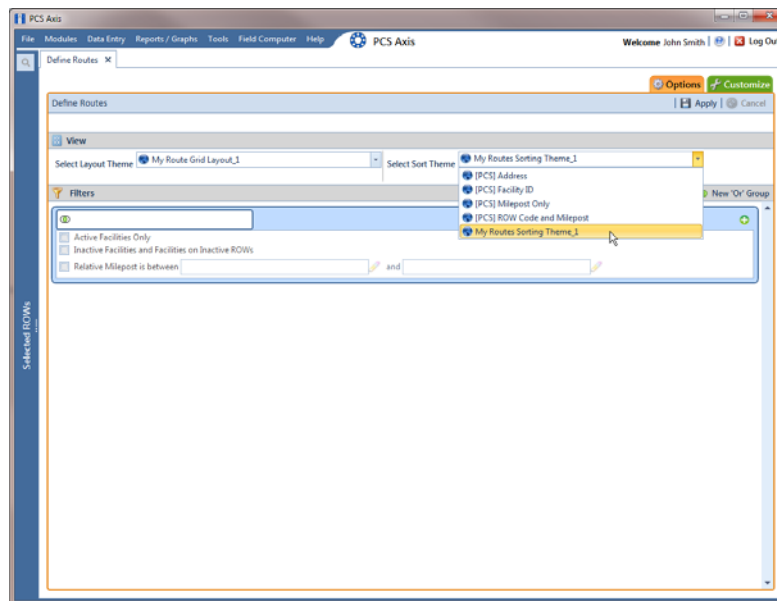
- 6 Select the **Public** check box if you want the new theme available to all PCS Axis users. When a theme is not public, it is a private theme available only to the user who creates it.

---


**NOTE:** Creating public themes is a function available only to users assigned the SysAdmin user role. Private themes can be created by users assigned the User, Read Only, or SysAdmin user role. See *System Security* (page 855) for more information.

---


- 7 Select a layout theme with fields you want to copy to the new layout theme. Click the **Copy Content** check box and then click the down arrow in **Copy Fields From Theme** and select a theme in the selection list.
- 8 Click  **OK** to save changes and return to the *Sorts* page.
- 9 Verify the name of the new sort theme displays in the field *Select Sort Theme*. If not, click the down arrow in **Select Sort Theme** and select the new theme in the selection list (Figure 8-61, page 435).
- 10 Add and remove fields in the new theme as required. If needed, refer to *Editing a Layout Theme Addition* (page 427).
- 11 Select a sorting method for each field listed in the right pane. To sort grid records in ascending order, click the toggle button to select **ASC** . To sort in descending order, click the toggle button to select **DESC** .
- 12 To change the order of fields listed in the right pane and subsequently in the grid, click and drag a field to a new position in the list. Or, select a field and then click the up  or down  button.
- 13 Click  **Save** to save changes.
- 14 To apply the sort theme in the grid, follow these steps:
  - a Click the **Options** tab  to open the options page (Figure 8-61).



**Figure 8-61. Options**

- b** Click the down arrow in **Select Sort Theme** and select the sort theme in the selection list.
- c** Click  **Apply** to apply changes and return to the grid in *Define Routes*.

---

**NOTE:** Clicking  **Cancel** allows you to close the *Options* page without saving changes.


---

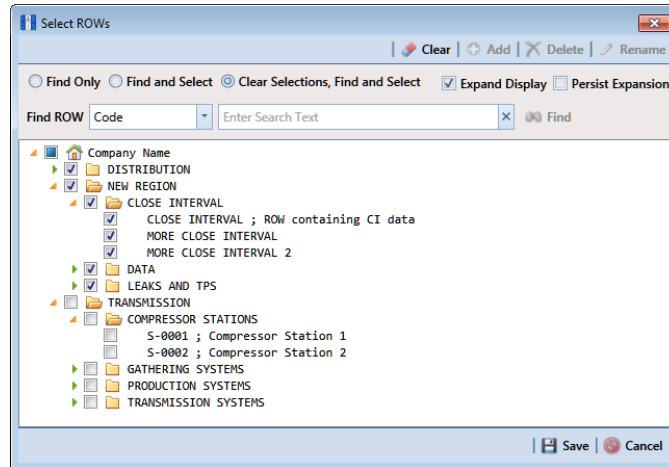
## Editing a Sort Theme Addition

The following procedure explains how to perform the following tasks to edit a sort theme addition:


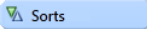
- add or remove one or more sort fields
- revert a sort theme addition
- delete a sort theme addition

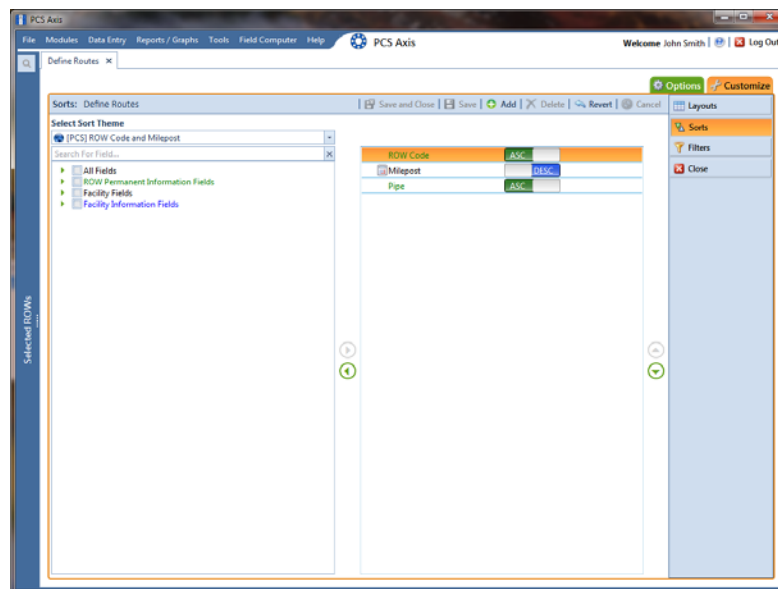
Complete the following steps:

- 1** Select one or more pipeline segments in the *Select ROWs* window (Figure 8-62). Click  **Save** to close the window.





**Figure 8-62. Select ROWs**


- 2 Click **Data Entry > Define Routes** to open the *Define Routes* window. Click the down arrow in the **Routes** field and select a route in the selection list (Figure 8-50, page 423).
- 3 Click the **Customize** tab , then the **Sorts** button  to open the *Sorts* page (Figure 8-63).



**Figure 8-63. Sorts**

- 4 Click the down arrow in **Select Sort Theme** and select a sort theme addition.
- 5 To add fields and select a sort order:
  - a Click the toggle arrow  for a field category in the left pane to view a list of fields available for selection, such as  **All Fields**.














- b** Click the check box for each field you want to include in the theme. Then click the top arrow button  to move selected fields to the right pane. The theme includes all fields listed in the right pane.


---

**NOTE:** Double-clicking a field in the left pane also moves it to the right pane.

---

- c** Select a sorting method for each field listed in the right pane. To sort grid rows in ascending order, click the toggle button to select **ASC** . To sort in descending order, click the toggle button to select **DESC** .
- d** To change the order of fields listed in the right pane and subsequently in the grid, click and drag a field to a new position in the list. Or, select a field and then click the up  or down  button.
- e** Click  **Save** to save changes.
- 6** To remove fields in the sort theme addition:
- Select one or more fields listed in the right pane of the window, then click the bottom arrow button . Click  **Save** to save changes. The sort theme includes all fields listed in the right pane.
- To multi-select fields in the right pane, press the *Ctrl* key when selecting fields in non-consecutive order; or press the *Shift* key when selecting fields in consecutive order.
- 7** To revert a sort theme addition and restore settings prior to editing:
- Click  **Revert**, then click **Yes** when the *Confirm Revert* message displays.
- 8** To delete a sort theme addition:
- a** Click the down arrow in **Select Sort Theme** and select a sort theme addition.
- b** Click  **Delete**, then click **Yes** when the *Confirm Delete* message displays.
- 9** To apply a sort theme addition in the grid, follow these steps:
- a** Click the **Options** tab  to open the options page (Figure 8-61, page 435).
- b** Click the down arrow in **Select Sort Theme** and select the sort theme in the selection list.


- c Click  **Apply** to apply changes and return to the grid in *Define Routes*.

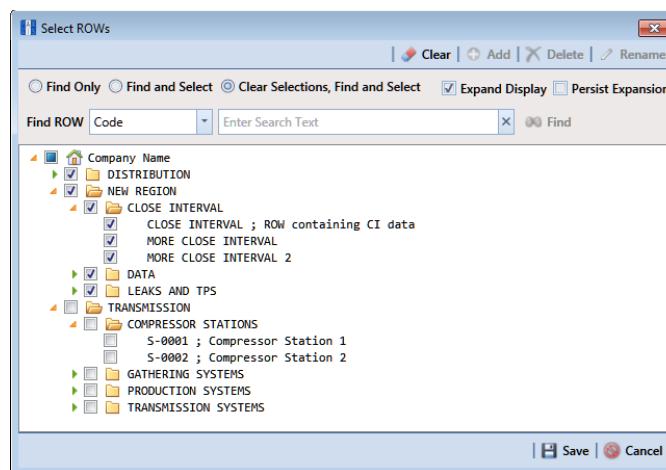
**NOTE:** Clicking  **Cancel** allows you to close the *Options* page without saving changes.

## Adding an AND Filter Group




An AND filter group is a named set of one or more filters that affect the data output in a route selected in *Define Routes*. Adding an AND filter group produces a subset of records that meet *all* filter conditions. PCS Axis processes filters in a filter group in descending order beginning with the filter at the top of the filter group.

To add an AND filter group, follow these steps:

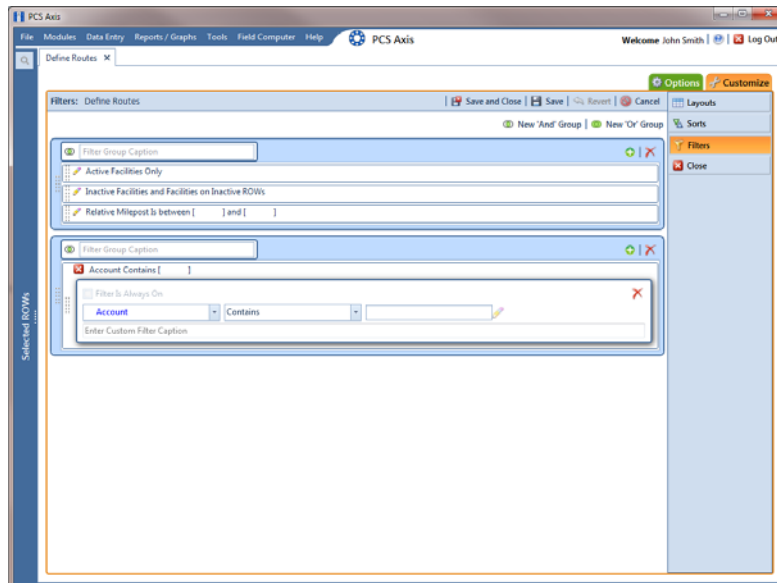
- 1 Select one or more pipeline segments in the *Select ROWs* window (Figure 8-64). Click  **Save** to close the window.






**Figure 8-64. Select ROWs**

- 2 Click **Data Entry** > **Define Routes** to open the *Define Routes* window. Then click the down arrow in **Routes** and select a route in the selection list (Figure 8-50, page 423).
- 3 Click the **Customize** tab , then the **Filters** button  to open the *Filters* page.
- 4 Click  **New 'And' Group** to open a filter properties group box (Figure 8-65).

- 5 Type a name for the filter group in the field **Filter Group Caption**.
- 6 Use filter selection fields to set up filter criteria. Select a PCS Axis field, operator, and one or more filter conditions.



**Figure 8-65. Filters**

- 7 If you want the filter to remain on for all sessions when working with the selected route, click the check box **Filter is Always On**. When this check box is not selected, toggle the filter on and off in the options page using the filter's check box.
- 8 Type a name for the filter in the field **Enter Custom Filter Caption**.
- 9 If you want to set up additional filter criteria for the filter group:
  - a Click **+ Add** to open another filter properties group box. Then click the  edit icon to display selection fields.
  - b Type a name for the filter in the field **Enter Custom Filter Caption**. Repeat **step 6** through **step 8** to set up filter criteria.
- 10 To move a filter to a different position in the filter group or a filter group to a different position in a group of filters:
  - a Point the mouse at the filter handle  to change the cursor to a vertical resize cursor .

- b** Drag and drop the filter or the filter group to a new location.


---

**NOTE:** PCS Axis processes filters in descending order beginning with the filter at the top of the filter group.

---



- 11** Click  **Save**.

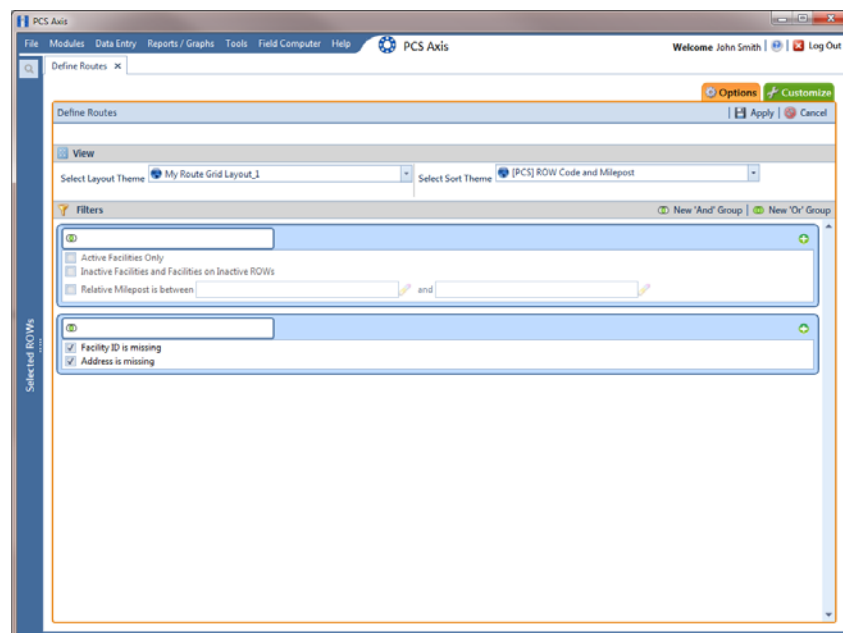
---

**NOTE:** Clicking the  edit icon for a particular filter opens that filter's property settings allowing you to change settings as needed.

---

- 12** To apply one or more filters to the selected route and the *Define Routes* grid (Figure 8-66):

- a** Click the **Options** tab  to open the options page.
- b** Click the check box for each filter you want to apply. Then click  **Apply** to save changes and return to the *Define Routes* grid.




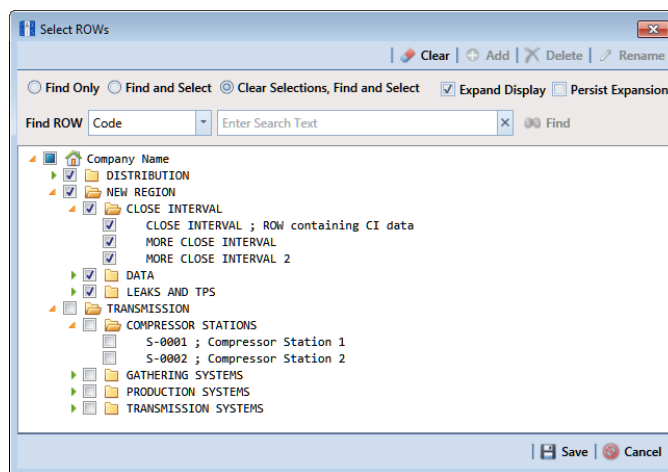
**Figure 8-66. Options**

## Adding an OR Filter Group



An OR filter group is a named set of one or more filters that affect the data output of a route selected in *Define Routes*. Adding an OR filter group produces a subset of records that meet any filter condition. PCS Axis processes filters in a filter group in descending order beginning with the filter at the top of the filter group.


To add an OR filter group, follow these steps:

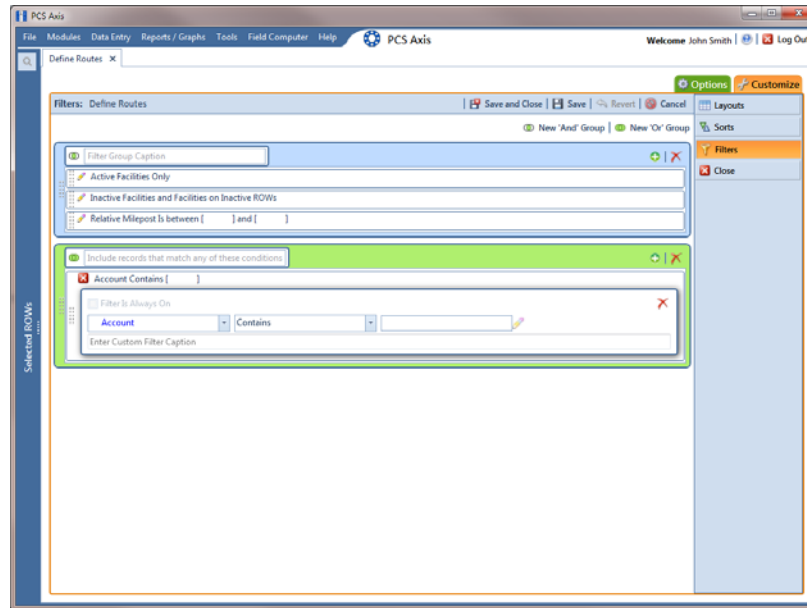
- 1 Select one or more pipeline segments in the *Select ROWs* window (Figure 8-67). Click  **Save** to close the window.





**Figure 8-67. Select ROWs**



- 2 Click **Data Entry** > **Define Routes** to open the *Define Routes* window. Then click the down arrow in **Routes** and select a route in the selection list (Figure 8-50, page 423).
- 3 Click the **Customize** tab , then the **Filters** button  to open the *Filters* page.

- 4 Click  **New 'Or' Group** to open a filter properties group box (Figure 8-68).



**Figure 8-68. Filters**

- 5 Type a name for the filter group in the field **Include records that match any of these conditions.**
- 6 Use filter selection fields to set up filter criteria. Select a PCS Axis field, operator, and one or more filter conditions.
- 7 If you want the filter to remain on for all sessions when working with the selected route, click the check box **Filter is Always On**. When this check box is not selected, toggle the filter on and off in the options page using the filter's check box.
- 8 Type a name for the filter in the field **Enter Custom Filter Caption.**
- 9 If you want to set up additional filter criteria for the filter group:
  - a Click  **Add** to open another filter properties group box. Then click the  edit icon to display filter selection fields.
  - b Repeat **step 5** through **step 8** to set up the filter group.

- 10 To move a filter to a different position in the filter group or a filter group to a different position in a group of filters:
  - a Point the mouse at the filter handle  to change the cursor to a vertical resize cursor .
  - b Drag and drop the filter or the filter group to a new location.


---

**NOTE:** PCS Axis processes filters in descending order beginning with the filter at the top of the filter group.



---

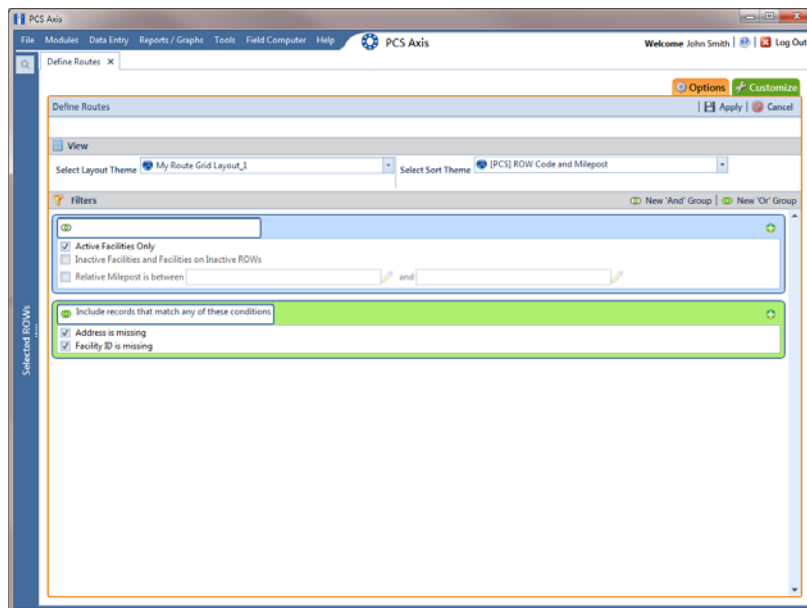
- 11 Click  **Save**.

---

**NOTE:** Clicking the  edit icon for a particular filter opens that filter's property settings allowing you to change settings as needed.

---

- 12 To apply one or more filters to the selected route and the *Define Routes* grid (Figure 8-69):
  - a Click the **Options** tab  to open the options page.
  - b Click the check box for each filter you want to apply. Then click  **Apply** to save changes and return to the *Define Routes* grid.




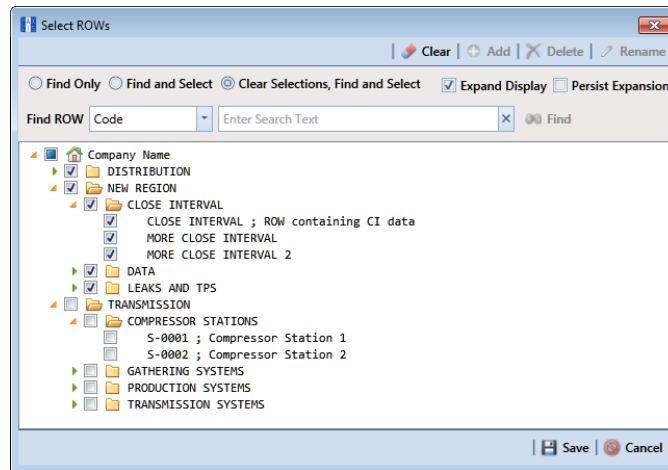
**Figure 8-69. Options**

## Editing and Arranging Filters and Filter Groups


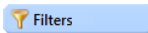
PCS Axis processes filters in a filter group in descending order beginning with the filter at the top of the filter group. Filter groups are processed similarly. Information in this section explains how to edit filter property settings and how to arrange filters and filter groups.

Complete the following steps:


- 1 Select one or more pipeline segments in the *Select ROWs* window (Figure 8-70). Click  **Save** to close the window.

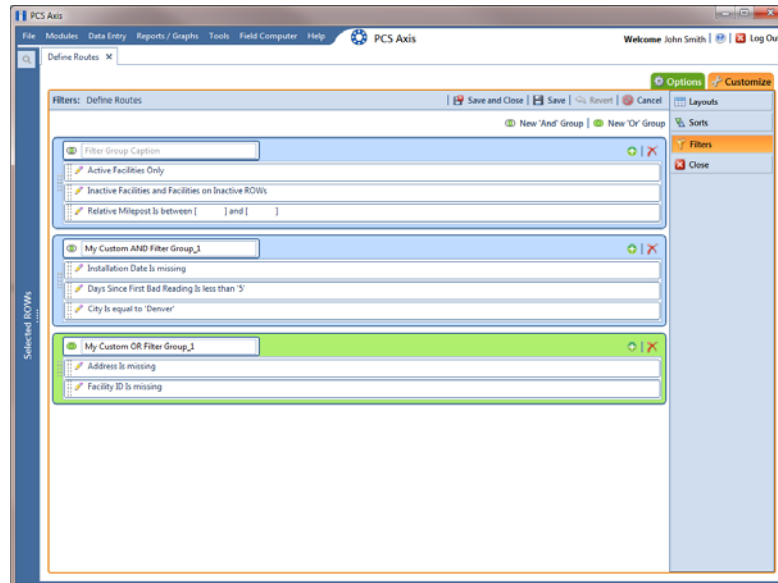


**Figure 8-70. Select ROWs**




- 2 Click **Data Entry** > **Define Routes** to open the *Define Routes* window. Then click the down arrow in **Routes** and select a route in the selection list (Figure 8-50, page 423).
- 3 Click the **Customize** tab , then the **Filters** button  to open the *Filters* page.





- 4 Click the edit icon  to display a filter's property settings (Figure 8-71).



**Figure 8-71. Filters**




- 5 To delete a filter in a filter group, click the filter's  delete button. Then click  **OK** when the *Delete* message displays.
- 6 To rename a filter, type a description in the filter's name field.
- 7 To change filter criteria, use filter selection fields to select a PCS Axis field, operator, and one or more filter conditions.
- 8 To enable a filter for all sessions of the data entry grid, click the check box **Filter is Always On** to place a check mark inside the check box. When this check box is not selected, toggle the filter on and off in the options page using the filter's check box.
- 9 Click the  close button to close the filter's property settings group box.

- 10** To move a filter to a different position in a filter group, or to move a filter group to a different position, follow these steps:
  - a** Point the mouse at the handle  of a filter or filter group to display a vertical resize cursor .
  - b** Drag and drop the filter or filter group to a new location.

---

**NOTE:** PCS Axis processes filters in descending order beginning with the filter at the top of the filter group.

---


- 11** Click  **Save**.
- 12** To apply filter changes to the selected route and the *Define Routes* grid:
  - a** Click the **Options** tab  to open the options page.
  - b** Click  **Apply** to apply filter changes and return to the *Define Routes* grid.

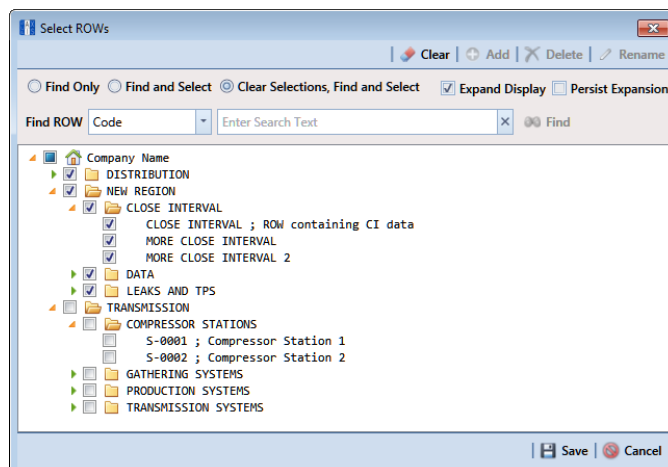
## Previewing a Route

Information in this section describes how to view, print, and export a route with selected or available facilities.


Selected facilities are those included in the route. These facilities are also listed in the *Facilities in Route* grid of the *Define Routes* window (Figure 8-73, page 448). Available facilities are linked to the current ROW selection, but are *not* included in the route. Available facilities are listed in the *Facilities Available* grid of the *Define Routes* window.


Complete the following steps:



- 1** Select one or more pipeline segments in the *Select ROWs* window (Figure 8-72). Click  **Save** to close the window.






**Figure 8-72. Select ROWs**

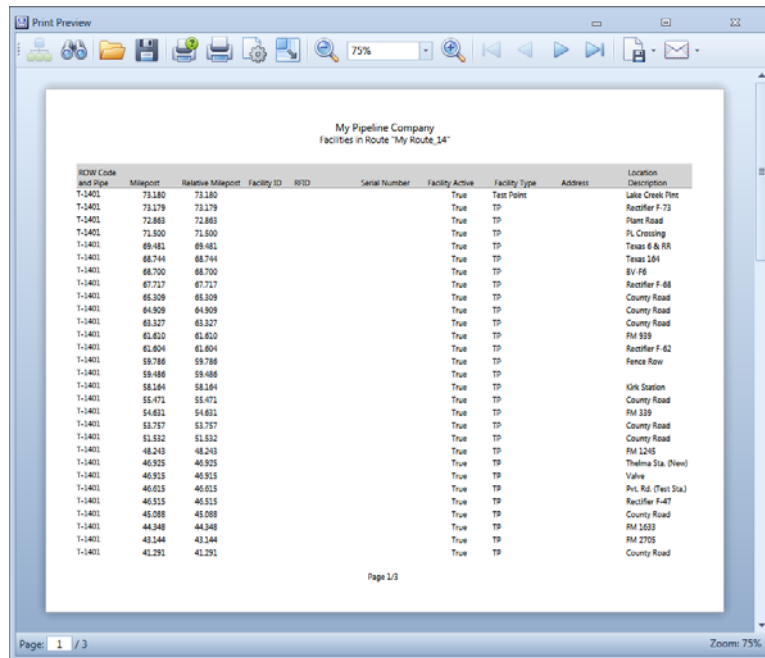
- 2 Click **Data Entry > Define Routes** to open the *Define Routes* window. Click the down arrow in the **Routes** field and select a route in the selection list.
- 3 To view selected facilities in a *Print Preview* window (Figure 8-73), click the  **Selected Facilities** button in the *Facilities in Route* grid.

To view available facilities in a *Print Preview* window, click the  **Available Facilities** button in the *Facilities Available* grid.

Clicking  *Selected Facilities* allows you to view a report with facilities included in the route. Clicking  *Available Facilities* opens a report with facilities listed in the *Facilities Available* grid.

- 4 Click the  **Print** button to open the *Print* dialog box and select a printer to print the route. Or, click the  **Quick Print** button to print the route using the default printer set up in Windows.
- 5 If you want to export the route, click the  **Export Document** button and select any of the following file formats: PDF, HTML, MHT, RTF, XLS, XLSX, CSV, TXT, IMG, and XPS.

- Click the **X Close** button to close the *Print Preview* window and return to the *Define Routes* window.





**Figure 8-73. Print Preview**

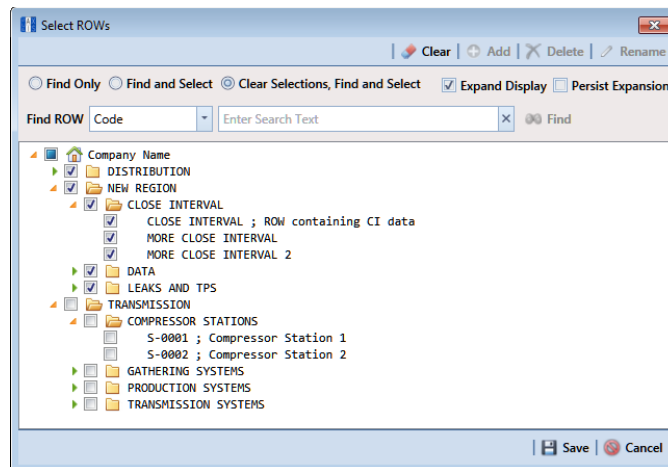
## Exporting and Importing a Route

The following information explains how to import or export a defined route in either Microsoft Excel (.xls) or CSV (.csv) format. Facilities for inspection are based on the pipeline segment(s) you select in the *Select ROWs* window.

Complete the following steps:

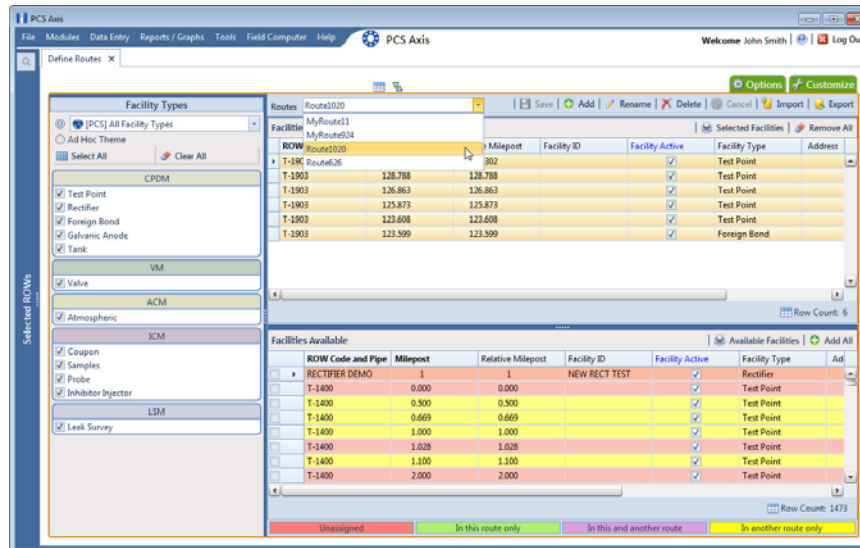
- 1 Click the **Select ROWs** button  to open the *Select ROWs* window (Figure 8-74). Select one or more pipeline segments with facilities you want to include in the route. Click  **Save** to close the window.

**NOTE:** A check mark inside a check box indicates a selection. To clear a selection, click the check box again to remove the check mark. A shaded check box indicates selection of some, not all, child folders, ROWs, and pipelines.





**Figure 8-74. Select ROWs**

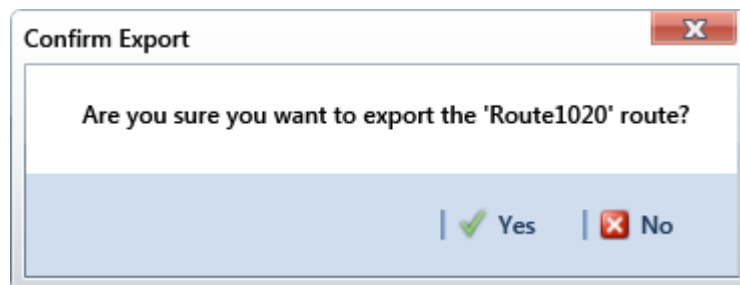
- 2 Click **Data Entry > Define Routes** to open the *Define Routes* window. Click the down arrow in the **Routes** field and select a route in the list (Figure 8-75).



**Figure 8-75. Define Routes**

If you have not defined any routes, refer to *Creating a Route* for instructions on creating a route.

- 3 To add a facility to the *Facilities in Route* grid, double-click the name of the facility in the *Facilities Available* grid.
- 4 Click  **Save** to save the changes.
- 5 To export the route, click  **Export**.
- 6 Click **Yes** in the *Confirm Export* dialog box (Figure 8-76).



**Figure 8-76. Confirm Export**



