PROJECT PLANNING AND SCHEDULING

USING

PRIMAVERA® P6™

For all industries including Version 4 to 7

Planning and Progressing Project Schedules

With and Without Roles and Resources

in an

Established Enterprise Environment

BY

PAUL EASTWOOD HARRIS

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INTRODUCTION

This publication is an upgrade of the *Project Planning & Control Using Primavera P6 For all industries including Versions 4 to 6* and has been written to enable new users to learn the planning and scheduling functions of Primavera Versions 3.5 to 7.

Many users will have prior experience with SureTrak, P3, Asta Powerproject or Microsoft Project and the author explains where there are differences in the products' functionality.

The author would appreciate any constructive comments on how this publication may be improved.

SUMMARY

The publication may be used as:

- A training manual for a three-day training course, or
- A self teach book, or
- A reference manual.

The screen shots for this publication are taken from both Primavera Version 6.0 and Version 7 but this publication may be used to learn Primavera Version 3.5, 4.1, 5.0, 6.0, 6.1, 6.2 or 7.

One, two or three-day training course may be run using this publication and it includes exercises for the students to complete at the end of each chapter. After the course students may use this publication as a reference book.

This publication is ideal for people who would like to quickly gain an understanding of how the software operates and explains how the software differs from Primavera P3, SureTrak and Microsoft Project, thus making it ideal for people who wish to convert from these products.

CUSTOMIZATION FOR TRAINING COURSES

Training organizations or companies that wish to conduct their own training may have this publication tailored to suit their requirements. This may be achieved removing, reordering or adding content to the publication and by writing their own exercises. Please contact the author to discuss this service.

AUTHOR'S COMMENT

As a project controls consultant I have used a number of planning and scheduling software packages for the management of a range of project types and sizes. The first publications I published were user guides/training manuals for Primavera SureTrak, P3 and Microsoft Project users. These were well received by professional project managers and schedulers, so I decided to turn my attention to Primavera Enterprise which is now called Primavera P6. This publication follows the same proven layout of my previous publications. I trust this publication will assist you in understanding how to use Primavera P6 on your projects.

APPRECIATION

I would like thank my daughter Samantha Harris, Andrew Dick and editor Susan Aaron for their assistance in the production of this book.

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Project Planning Using SureTrak® for Windows Version 2.0

8 FORMATTING THE DISPLAY

This chapter shows you how to set up the on-screen presentation so that the schedule will be easier to read and more consistent. This chapter covers the following display customizing topics:

Topic	Menu Command
• Formatting Columns	Open the **Column** form: • Select **View**, **Columns**…, or • Click on the button.
• Formatting Activity Bars	Open the **Bar** form: • Select **View**, **Bars**…, or • Click on the button.
• Format Gridlines	**Bar Chart Gridlines** are formatted in the **View**, **Bar Chart Options**… form, **Sightlines** tab.
• Format Data Date	The **Data Date** is formatted in the **Bar Chart Options**… form, **Data Date** tab.
• Formatting Row Height	Open the **Table**, **Font and Row** form by: • Selecting **View**, **Table Font and Row**….
• Formatting Colors	There are limited options for formatting colors: • **Text** colors are formatted in the **Color** form accessed from the **Table**, **Font and Row** form which is opened by selecting **View, Table Font and Row**…, AaBbYyZz button. • **Bar Colors** are covered in the **Formatting the Bars** paragraph of this chapter. • **Band** colors are selected as part of the formatting of the layout by selecting **View**, **Group and Sort**… or clicking on the button.
• Formatting Fonts	There are limited options for formatting fonts: • **Text** fonts are formatted in the **Font** form accessed from the **Table**, **Font and Row** form which is opened by selecting **View**, **Table Font and Row**…, AaBbYyZz button. • **Notebook** entries may be edited when entered.
• Format Timescale	• Click on the button, or • Select **View**, **Timescale**…, or • Right-click in the Bar Chart area and select **Timescale**….

The formatting is applied to the current **Layout** and is automatically saved as part of the Layout when another Layout is selected. Views are covered in the **Group, Sort and Layouts** chapter.

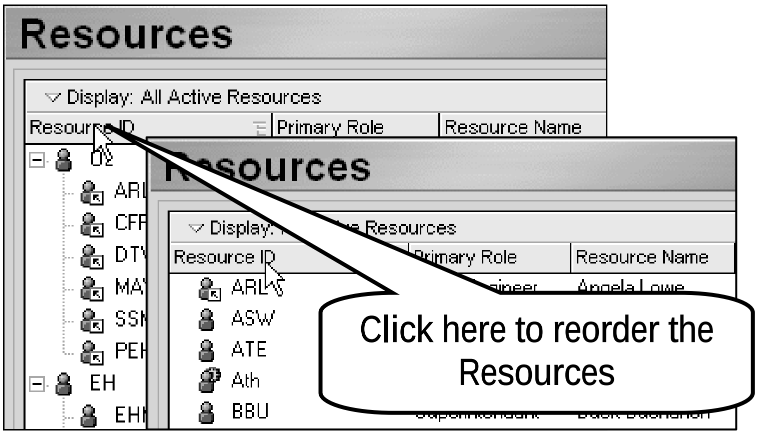
8.1 Formatting the Project Window

The formatting of the Project Window is very similar to the formatting of the Activity Window and will not be covered separately. Formatting, Filters and Layouts all work in the same way, except one is dealing with projects and not activities.

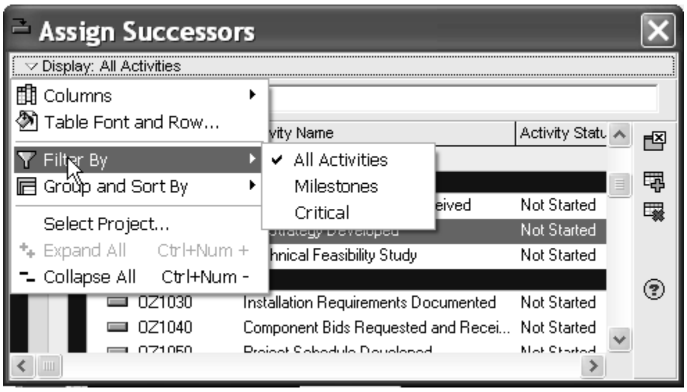
8.2 Understanding Forms

Unlike many software packages Primavera has sorting and filtering functions in most forms and the principals are the same in most forms. This section will demonstrate some of the functions but you must be prepared to experiment with each form to see how they operate.

- Clicking in the **Resource ID** column of the Resources Window take the formatting from hierarchical to alphabetical to reverse alphabetical. This function works in other forms with a hierarchical structure.



- The **Assign Successors** form has a **Filter** and **Group and Sort By** option which affect which data and how it is Grouped.



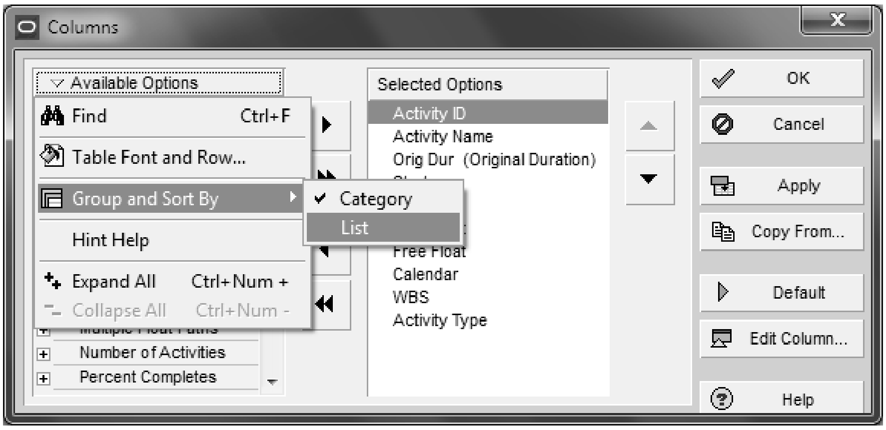
- The **Assign Resource** form has a **Filter** and **Group and Sort By** option which affect what data is available.

8.3 Formatting Columns

8.3.1 Selecting the Columns to be Displayed

The columns are formatted through the **Columns** form which may be opened by:

- Select **View**, **Columns…**, or
- Click on the button, or
- Right-click to open a menu and select **Columns…**:

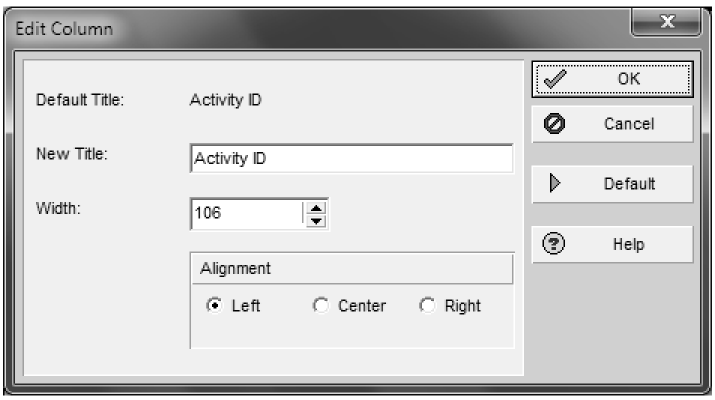


The **Column** form may be resized by dragging the edges.

- The available columns are displayed in the right window and may be listed under **Categories** or as a single **List**.
- To select how the column titles are displayed, click the **Available Options** drop down box and then select **Group and Sort By** to choose either **List** or **Categories**, as per the picture above.
- The columns to be displayed are listed in the right **Selected Options** window and are copied from the **Available Options** to and from **Selected Options** using the and buttons.
- The Default button sets the columns back to the default column display.

8.3.2 Column Header Alignment

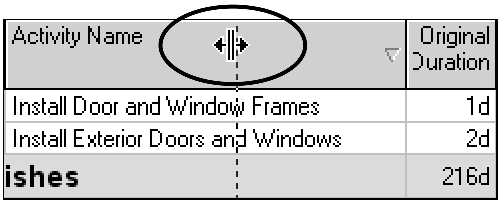
- Select **View**, **Columns…**, or
- Click on the button, then
- Select the Edit Column... , (Edit Title... in Version 5.0) and earlier, option which opens the **Edit Column** form and enables a user definable column title to be created in the **New Title:** cell and the **Column Title Alignment** to be set to Left, Center or Right.



8.3.3 Adjusting the Width of Columns

You may adjust the width of the column in two ways:

- By dragging the column title separator; move the mouse pointer to the nearest vertical line of the column. A ↔ icon will then appear and enable the column to be adjusted by Right-clicking and dragging.



- From the **Column** form select the Edit Column... , (Edit Title... in Version 5.0) and earlier, to open the **Edit Column Title** form and enter the width of the column in pixels.

8.3.4 Setting the Order of the Columns from Left to Right on the Screen

The order of the columns on the screen, from left to right, is the same as the order in the **Columns** form **Selected Options** window from top to bottom. The order of the columns may be altered:

- Highlight the column in the **Columns** form **Selected Options** window and use the ▲ and ▼ buttons, or
- Right-click the column title in a Window and drag the column.

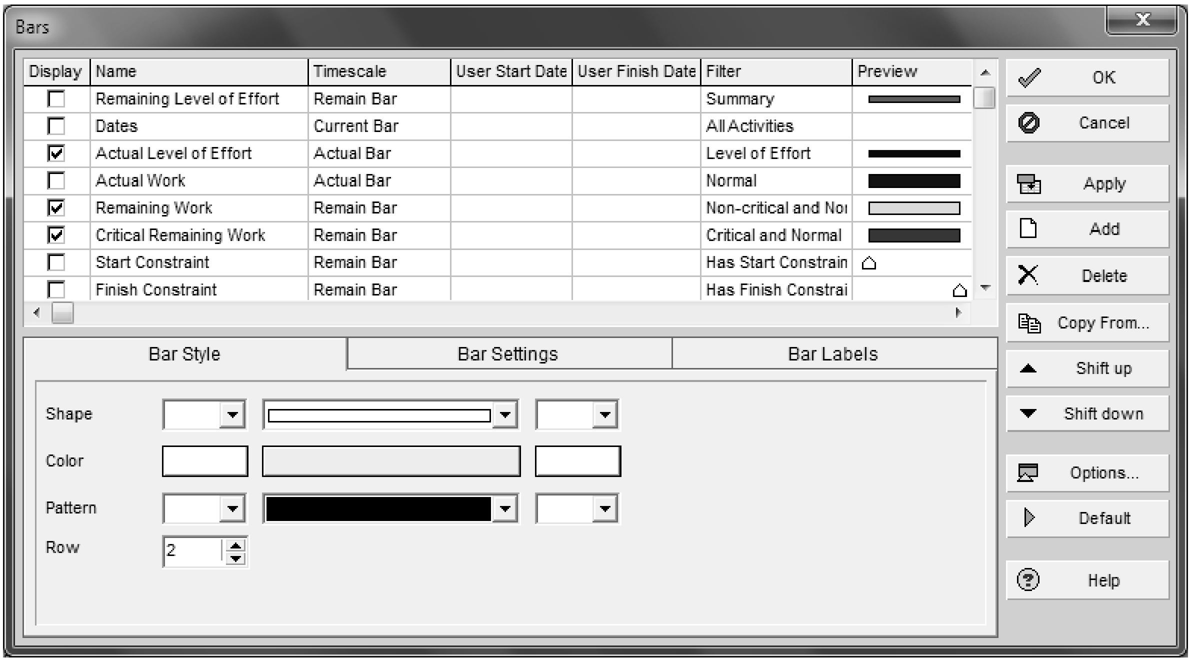
8.4 Formatting the Bars

The bars in the Gantt Chart may be formatted to suit your requirements for display. Primavera does not have the option to format individual bars but is able to assign a filter to a bar style so that a style is applied to activities that meet a filter definition.

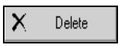
8.4.1 Formatting Activity Bars

To format all the bars you must open the **Bar** form:

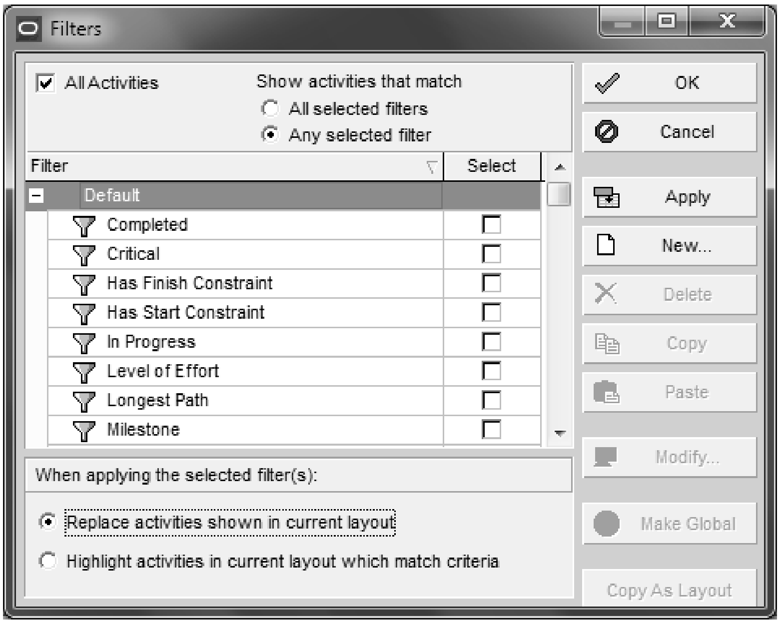
- Select **View**, **Bars**…, or
- Click on the  button, or
- Right-click in the bars area and select **Bars**… from the menu.



The following notes are the main points for using this function. Detailed information is available in the help facility by searching for "Bar styles dialog box."

- Each bar listed in the table may be displayed on the bar chart by checking the box in the **Display** column.
- New bars may be added by clicking on the  button and deleted by clicking on the  button.
- The bar at the top of the list is placed on the screen and then the one below drawn over the top of it, so it would be simple to hide one bar with a second. The  and  buttons are used to move the bars up or down the list and therefore determine which bar is drawn on top of the next.
- The **Name** is the title assigned to the bar and may be displayed in the printout legend.
- The **Timescale** option is similar to the **Show For … Tasks** option in the Microsoft Project **Bar Styles** form or the **Data Item** in the SureTrak **Format Bars** form, and enables the nomination of a predefined bar which is selected from the drop down box.
- Version 4.1 introduced **User Defined Dates** that may be used for formatting **User Defined Bars Styles**, see the first line on the bars form above.

- Double clicking on a cell in the **Filter column** opens the **Filters** form where you are able to select the filter/s which will determine which activities are displayed with the assigned bar format. Filters will be covered in detail in the **Filters** chapter.



- **Negative Float** is displayed in a similar way as in Microsoft Project and requires another bar in addition to the **Positive Float** bar and both the **Timescale** and **Filter** selected as Negative Float.
- The **Float** bar shows **Total Float**; there is no **Free Float** bar available, as in P3.
- The **% Complete** bar is linked to the **Activity % Complete**.

8.4.2 Formatting Bars Issues

There are a number of issues with the Primavera standard bar formatting that need to be understood so the user may display the activity bars logically:

- It is recommended that you use the Primavera default bar display options displaying the **Actual Work** (this bar is displayed from the **Start** date to the **Data Date**), **Remaining Work** and **Critical Remaining Work** bars (these bars are displayed from the **Data Date** to the **Finish** date with the appropriate filter) because the **Early** bar will not display actual progress as in other software packages. Please read the **Understanding Dates** section in the **Tracking Progress** chapter to understand how the dates are calculated that are used to draw each bar.
- When a Baseline Bar is displayed then the Planned Dates are displayed as the Baseline Bar so ensure you have a Baseline set before displaying a Baseline Bar.
- The relationships are displayed on the Baseline Bar when the Baseline Bar is listed in the Bars form above other bars. To prevent this the Baseline Bars should be moved below all other bars in the Baseline form.
- Displaying a Baseline Bar does not display the Baseline Milestones and the Baseline Milestones have to be displayed separately.
- The Total Float Bar is called the Float Bar in the Bars form.
- The default total **Float Bar** displays a float bar on completed activities, but the Total Float field will not display a value. To prevent this happening you should edit the total **Float Bar Filter** in the **Bars** form so it is only displayed for and Not Started and In Progress activities:

Display	Name	Timescale	User Start Date	User Finish Date	Filter	Preview
☑	Float Bar	Float Bar			Not Started or In Progress	

8.4.3 Bar Style Tab

The appearance of each bar is edited in the lower half of the form. The bar's start, middle, and end points may have their color, shape, pattern, etc., formatted.

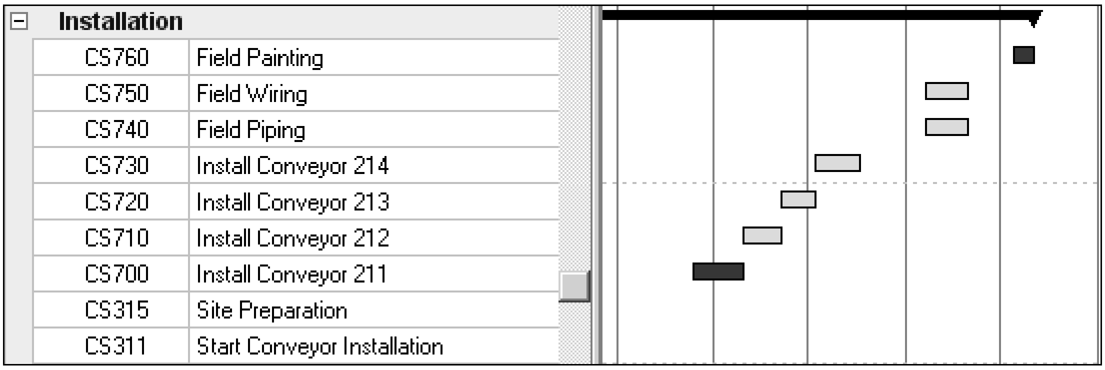
The bars may be placed on one of three rows numbered from 1 to 3, from top to bottom one bar above the other. If multiple bars are placed on the same row, the bar at the top of the list will be drawn first and the ones lower down the list will be drawn over the top.

8.4.4 Bar Settings Tab

Grouping Band Settings

This sets the style for summary bars only, which may be displayed when the WBS Node is both summarized and not summarized.

- This would not normally be used when a Summary Bar has been defined as the result would be two summary bars.
- **Show bar when collapsed** option displays the detailed bars on a single line when the WBS Node has been summarized; see the two pictures following:
  - Before summarizing:



  - After summarizing:

This is similar to the Microsoft Project **Always roll up Gantt bars** option in the **Layout** form.

Show bar for grouping bands

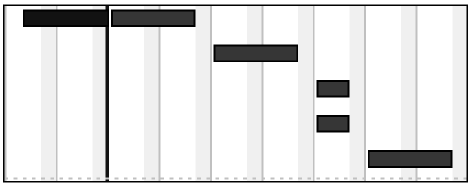
This shows a summarized bar all the time and converts the filter automatically to "Summary" bars only.

When formatting the **Bar Style** for Milestones it is important to take note of the checked boxes and Filter format. If the box **Show bar for grouping bands** is checked, Milestones will appear at the ends of Summary Bars and not in line with the actual activities they belong too. The filter in this case will read **Summary** and not **Milestone.**

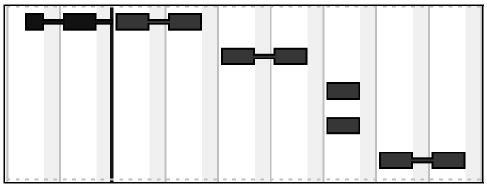
Bar Necking Settings

Bar Necking displays a thinner bar during times of inactivity such as weekends and holidays and applies only to Current Bar setting column in the **Bars** form.

Un-necked bars



Necked bars



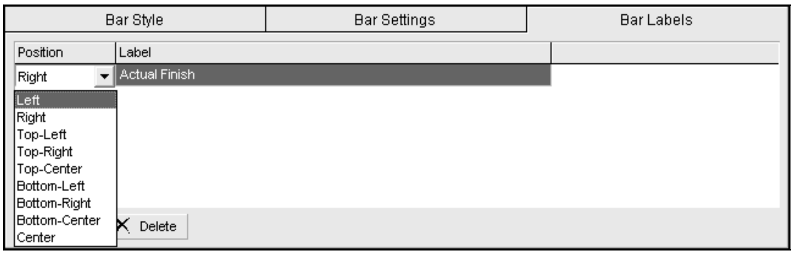
- **Calendar nonwork time** necks the bar based on the activity’s calendar.
- **Activity nonwork intervals** necks the bar when Out of Sequence Progress options of Actual Dates or Retained Logic causes a break in the work. See the **Advanced Scheduling Options** paragraph.

There is no Resource Bar available and Primavera will not neck on the resource calendar so when an activity is Resource Dependent and the resource is on a different calendar to the activity then the bar may neck when the resource is working or not necked when the resource is not working.

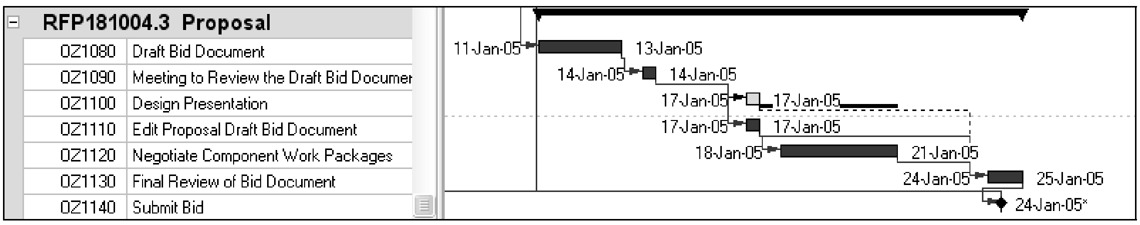
8.4.5 Bar Labels Tab

This tab enables the placement of text with a bar, above, below, to the left and to the right. The following pictures show how the start and finish dates are formatted and displayed on the bar chart:

- Select the bar that you wish to add the label to.
- Click on the Add and the Delete buttons at the bottom of the **Bars** form to add and delete a **Label** item.



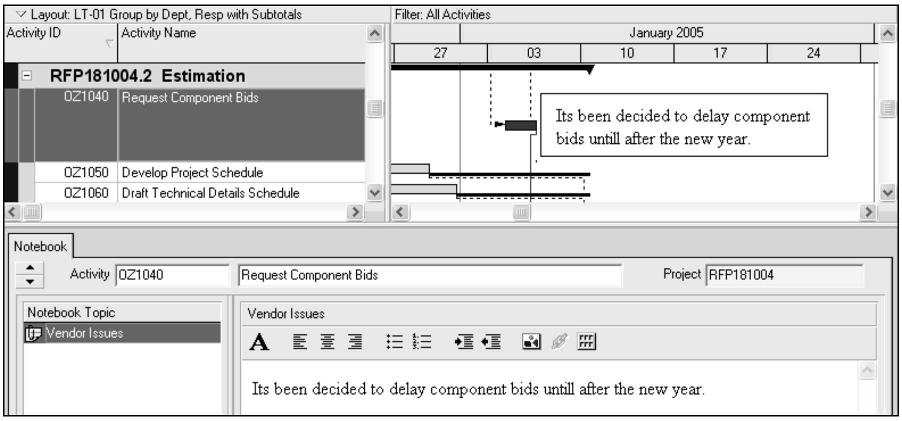
- Select the **Position** and **Label** from the drop down boxes in the **Bar Labels** tab.



- The dates on the bar chart are adopted from the **User Preferences** and may not be formatted separately.

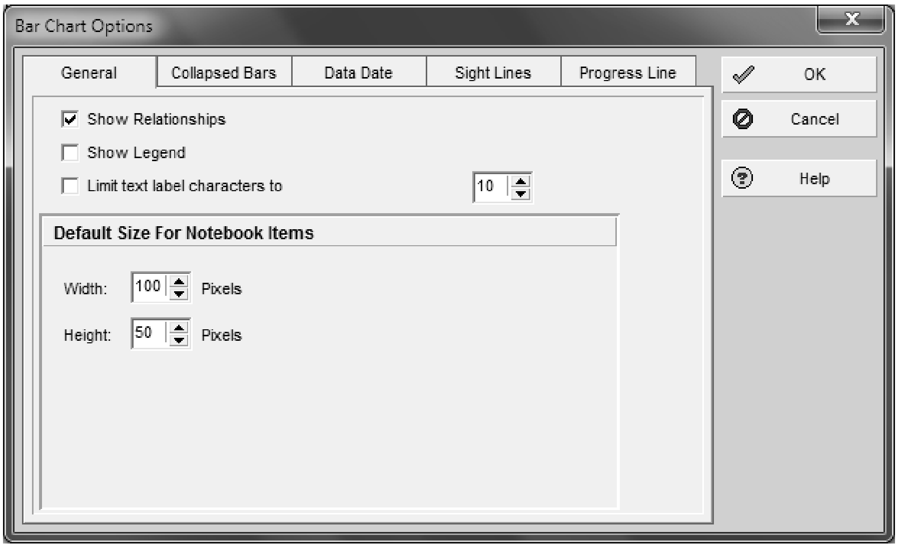
It is often useful to create a bar that only displays the text. This bar may be displayed or not displayed as required, which is much simpler than reformatting a bar to show text.

- Each **Notebook Topic** may be displayed on a bar one at a time by selecting the topic in the **Bar Labels** tab. After the box containing the label is displayed on the screen it may be adjusted in size by dragging.

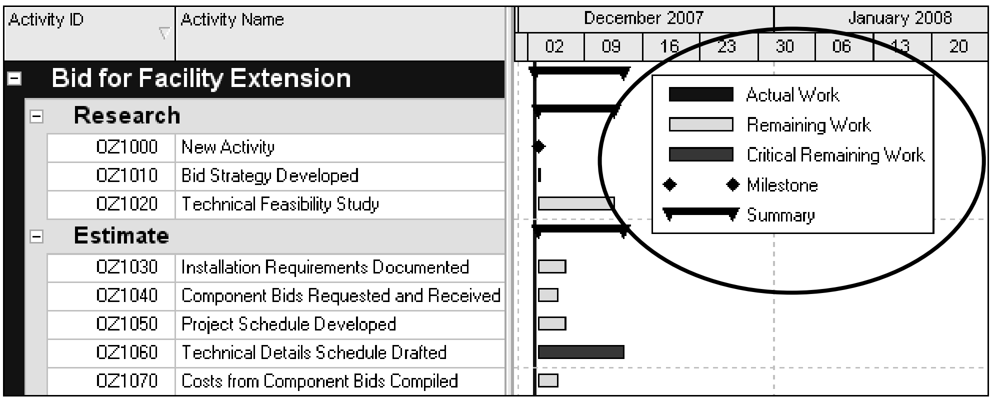


8.4.6 Bar Chart Options Form

The **Bar Chart Options** form is displayed by clicking on the Options... button from the **Bars** form or by selecting **View**, **Bar Chart Options…**:



- The **General** tab has a variety of options for formatting the bar chart which are mainly self explanatory.
  - ➢ **Show Relationships** has the same result as clicking on the icon and displays the relationships.
  - ➢ **Show Legend** Displays a legend on the bar chart in the Activities view, see the following picture:

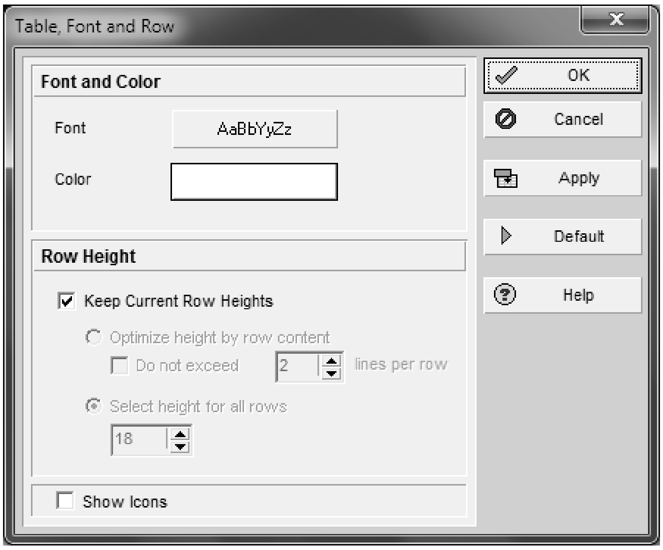


  - The default size of the box displaying a **Notebook** topic may be set in the **Bar Chart Options** form, **General** tab, which is displayed by clicking on the Options... button from the **Bars** form.
- The **Collapsed Bar** tab is to format the bars when a WBS band has been collapsed and displays a summarized bar.
- The **Data Date** tab is for formatting the Data Date, its style, color and size.
- Primavera Version 5.0 introduced the **Sight Lines** tab which enables the specification of both Major and Minor vertical and horizontal Sight Lines, which brings this functionality up to match P3, SureTrak and Microsoft Project.
- Primavera P6 Version 7 introduced the **Progress Line** Display on the Gantt Chart which is covered in detail in the next paragraph.

8.5 Row Height

Row heights may be adjusted to display text that would otherwise be truncated by a narrow column.

- The height of all rows may be formatted by selecting **View**, **Table Font and Row...** to open the **Table, Font and Row** form. The options in this form are self-explanatory.



- The **Show Icons** option will display a different icon in front of the Activity and WBS.
  - In the **Projects Window** a indicates a **What-if** project, a **Planned** project and an **Active** or **Inactive** project.
  - In the **Activity Window** indicates a WBS Node, a blue a complete activity, a blue and green an in-progress activity and a green an un-started activity.

  - In the **Resources Window** indicates a Resource, a resource assigned to an open project, and an unassigned and assigned **Nonlabor Resource** and and a unassigned and assigned **Material Resource**,
- The height of a single row may be manually adjusted in a similar way to adjusting row heights in Excel, click the row; the pointer will change to a double-headed arrow ; then drag the row with the mouse. These manually adjusted rows are not saved with a Layout.

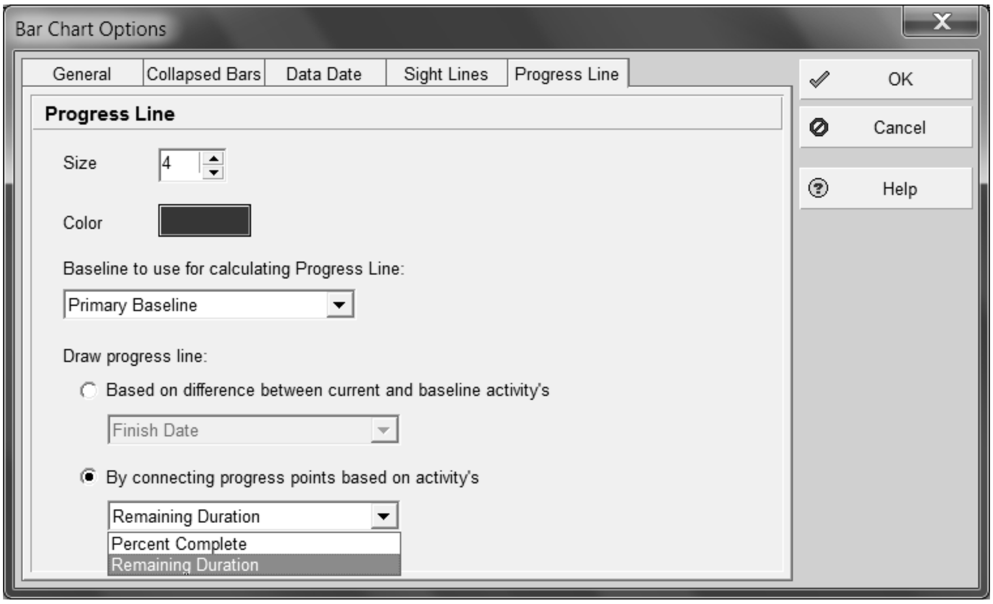
8.6 Progress Line Display on the Gantt Chart

A progress line displays how far ahead or behind activities are in relation to the Baseline. Either the Project Baseline or the Primary User Baseline may be used and there are four options:

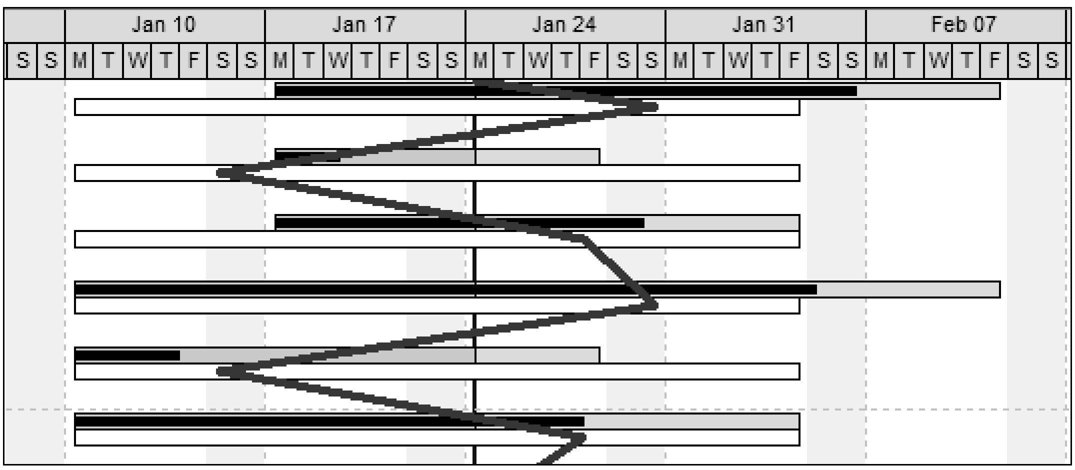
- Difference between the Baseline Start Date and Activity Start Date,
- Difference between the Baseline Finish Date and Activity Finish Date,
- Connecting the progress points based on the Activity % Complete,
- Connecting the progress points based on the Activity Remaining Duration.

There are several main components of displaying a Progress Line in P7:

- Firstly the progress line is formatted using the View, Bar Chart Options form, Progress Line tab, which may also be opened by right clicking in the Gant Chart area:



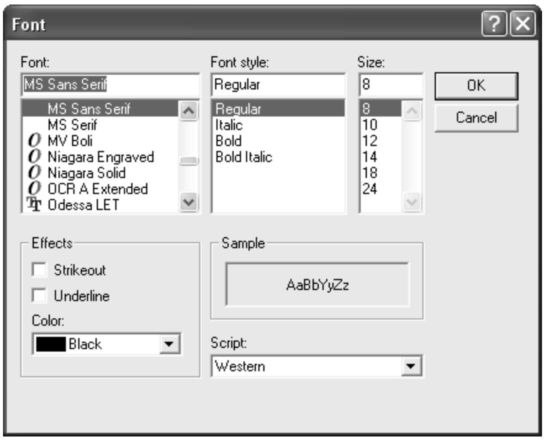
- Selecting View, Progress Line to hide or display the Progress Line.
- If you use either of the options of Percent Complete or Remaining Duration then you must display the appropriate Baseline Bar that has been selected as the Baseline to use for calculating Progress Line:.
- The picture below shows the option highlighted above of Percent Complete:



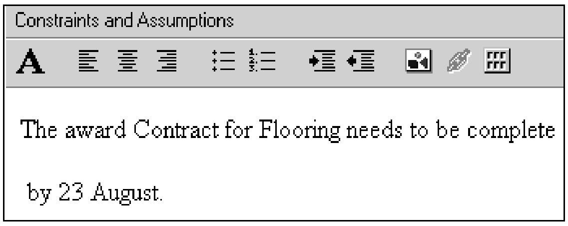
8.7 Format Fonts and Font Colors

The format font options are:

- The **Activity Data** fonts are formatted in the **Table, Font and Row** form (displayed in the paragraph above) by selecting **View**, **Table Font and Row….**
  - ➢ Clicking on the AaBbYyZz, the **Font** button, will open the font form where normal Windows functions are available.
  - ➢ Clicking on the **Color** button will enable the selection of a color for the background of both the **Bar Chart** and the **Columns** area.



- The **Notebook Topics** may be formatted using the formatting features above where the Notebook items are entered in the lower pane.
- Some forms may have the fonts for displaying data edited when there is a menu on the top left side with the **Table Font and Row…** menu item.

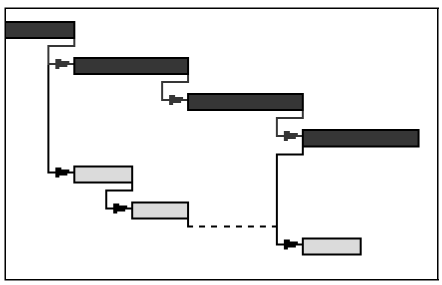


- The text in a **Text Box** that has been inserted onto the Bar Chart may be formatted when the box is created.

8.8 Format Colors

These are the main options for formatting colors:

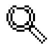
- **Band** colors in layouts are formatted in the **Group and Sort** form by clicking on the button or selecting **View**, **Group and Sort….**
- **Text** colors were covered in the **Format Font and Colors** paragraph.
- **Bar Colors** were covered in the **Formatting the Bars** paragraph.
- **Timescale** and **Column Headers** see the **Format Timescale Command** paragraph.
- **Sight Lines (Gridline)** colors may not be formatted.
- The **Progress Line** color is selected in the **Bar Chart Options** for **Sight Line** tab.
- The **Data Date** is formatted in the **Bar Options** form, **Data Date** tab.
- The **Relationship Lines**, also known as **Dependencies**, **Logic**, or **Links**, may not be formatted and are displayed with the following characteristics:
  - ➢ Solid Red for Critical,
  - ➢ Solid Black for Driving, and
  - ➢ Dotted Black for Non-driving.



8.9 *Format Timescale*

8.9.1 Moving and Rescaling the Timescale

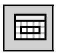
To display hidden parts of the schedule the timescale may be grabbed and moved by placing the cursor in the top half of the Timescale, the cursor will turn into a , right-click and drag left or right.

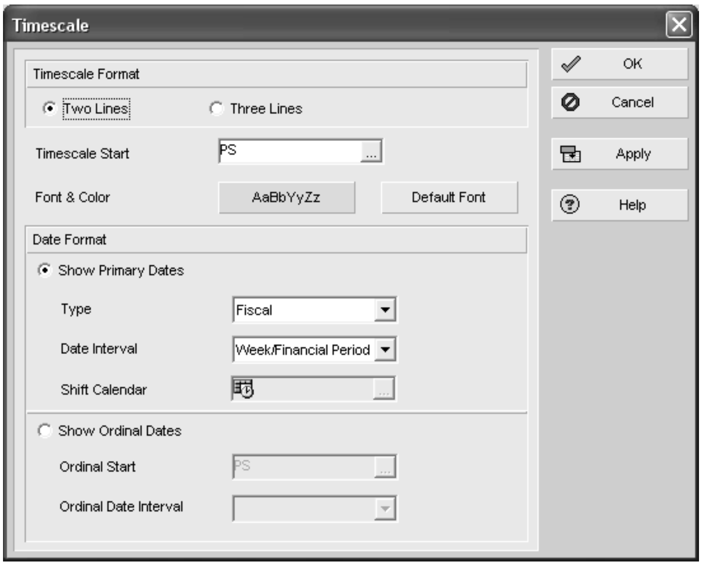
The timescale may be rescaled, therefore increasing or decreasing the length of the bars and displaying more or less of the schedule by placing the cursor in the bottom half of the Timescale, the cursor will turn into a , right-click, and drag left to make the bars shorter and right to make the bars longer.

When there are no bars in view when you are viewing a time ahead or behind the activity dates you may double-click in the **Gantt Chart** area to bring them back into view.

8.9.2 Format Timescale Command

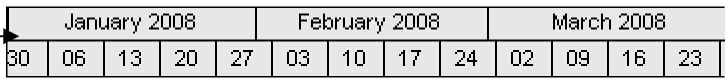
The **Timescale** form provides a number of options for the display of the timescale, which is located above the Bar Chart. To open the **Timescale** form:

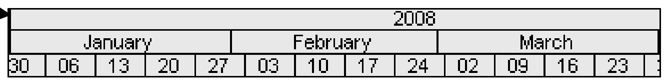
- Click on the  button, or
- Select **View**, **Timescale**..., or
- Right-click in the Bar Chart area and select **Timescale**...



The options available in the **Timescale** form are:

- **Timescale Format** in Primavera Version 6.0 now has the options of:
  - Two Lines, or
  - Three lines

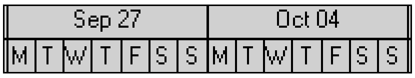




- **Font and Color**
  - The AaBbYyZz button opens the **Edit Font and Color** form which enables the timescale and column headers font and color to be changed.
  - By clicking on the Default Font button all changes will be reversed.

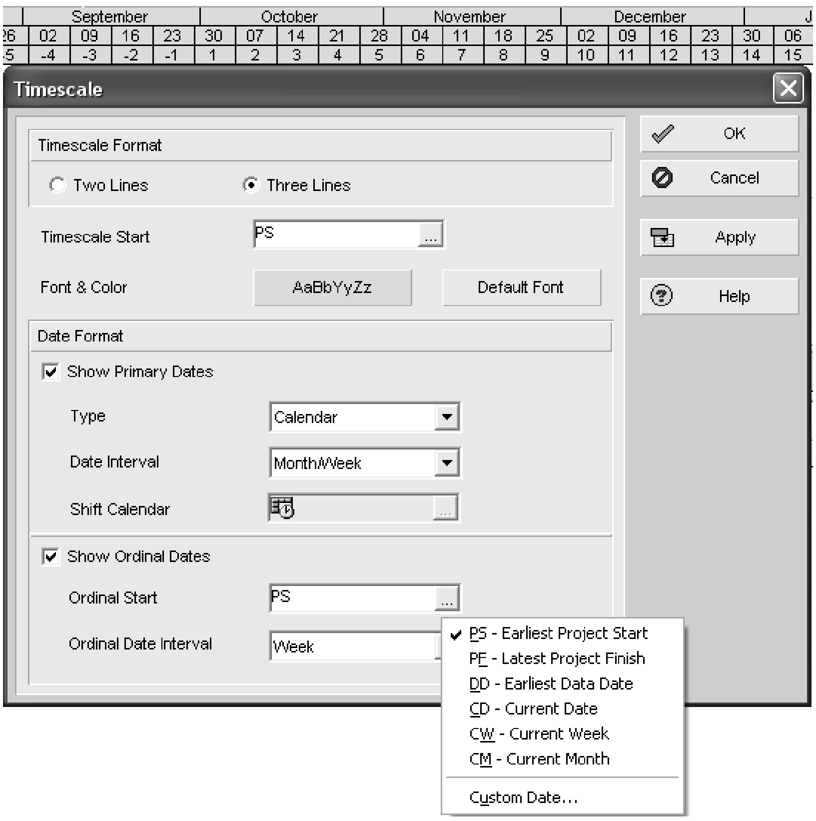
- **Date Interval** sets the timescale and has the options in the picture to the right:

  - The **Week/Day 1** displays the Days like this:



  - The **Week/Day 2** displays the Days like this:

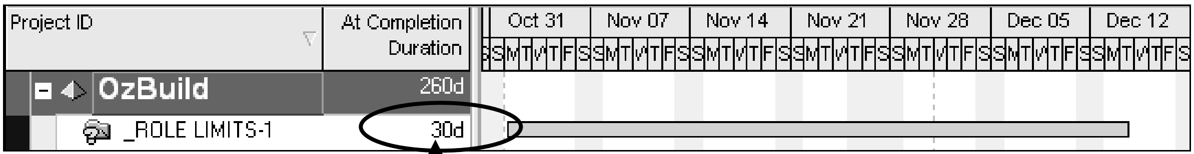
  - The **Date Interval** may also be adjusted by clicking on the or the which moves the timescale setting up and down the list shown above.
- **Shift Calendar** breaks the day into time intervals to suit the shift intervals when the **Day/Shift** option has been selected.
- Date Format
  - **Calendar** displays a normal calendar.
  - **Fiscal Year** displays the fiscal year in the year line. The Fiscal Year Start Month is set in the **Settings** tab of the **Project Details** form in the **Projects Window.**
  - **Week of the Year** displays the week of the year starting from "1" for the first week in January and is often termed **Manufacturing Week.**
  - **Ordinal Dates** displays the timescale to be counted by the unit selected in the **Date Interval**. This is useful for displaying a schedule when the start of the project is unknown. Ordinal dates display the time scale by counting in the selected units starting from a user definable start date. This option works in a similar way to the P3 function where the Ordinal start date may be selected. When 3 lines are displayed the ordinal dates and calendar dates may be displayed



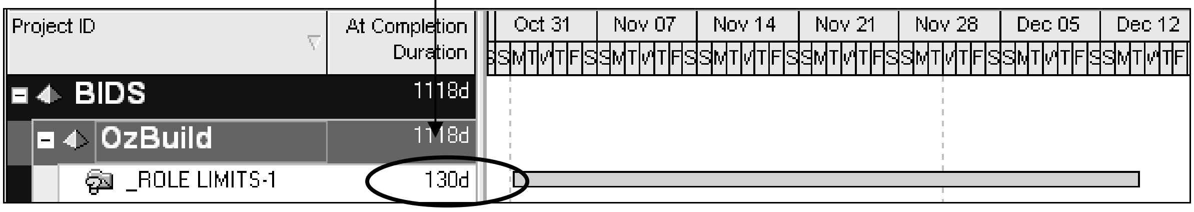
Fiscal Year: When the scale was set to Month/Week on the author's system the Fiscal Year did not display in accordance with date formatting settings. When the scale was set to Week and Days, the Date were displayed in US format (MM/DD/YYYY) which is not correct for countries that use the DD/MM/YYYY format.

8.9.3 Non Work Period Shading in Timescale

The non work period shading behind the bars is set by the database **Default Calendar** and is selected by selecting **Enterprise**, **Calendars** and checking a calendar in the **Default Column.** The **At Completion Duration** of 30d is calculated from the user database **Default Calenda**r.



The problem is when the default calendar is swapped to a 24hr/day 7days/week there is no Non Work Period Shading but also in Primavera Version 6.2 and earlier versions the duration of a project that is 44 elapsed days is now displayed as 130days.

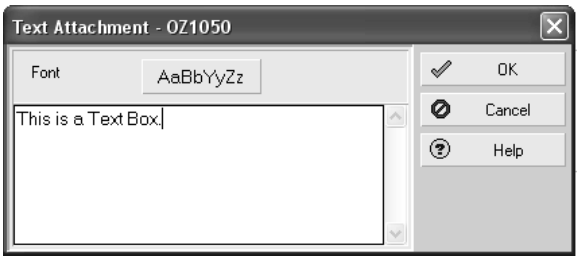


8.10 *Inserting Attachments - Text Boxes and Curtain*

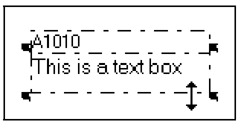
8.10.1 Adding a Text Box

A text box may be inserted in a bar chart area:

- Select the Activity which the new Text Box is to be associated with, either
- Right-click in the Bar Chart to open the menu, select **Attachments**, **Text** or
- Select **View**, **Attachments**, **Text** and
- The **Text Attachment** form will be displayed,

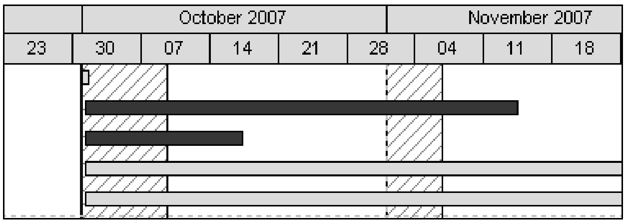


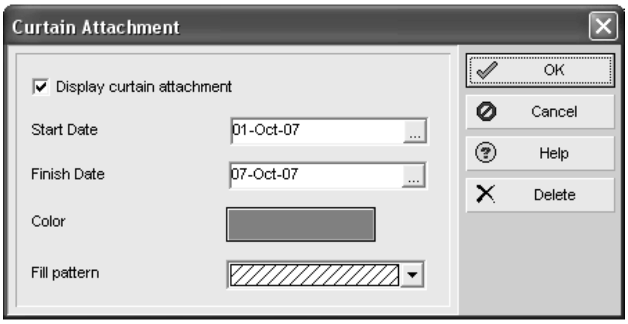
- Type in the text and format the font by clicking on the AaBbYyZz button.
- A **Text Box** may be repositioned by clicking on the text and using the curser to drag the corners and sides.



8.10.2 Adding a Curtain

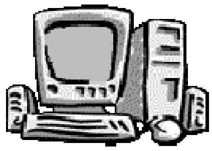
Primavera Version 5.0 introduced a function allowing the placing of multiple curtains on the Gantt Chart which may be all hidden or displayed. A **Curtain**, used to highlight periods of time over part of the bar chart, may be displayed in a similar way to P3 and SureTrak. Select **View**, **Attachments** to display the **Curtain** menu or right-click a bar and select **Attachments**, **Curtain**:





- **Add Curtain** opens the **Curtain Attachment** form used to create a curtain:
- **Show All** shows all the curtains,
- **Hide All** hides all the curtains and
- Clicking on a curtain in the Gantt Chart also opens the **Curtain Attachment** form where individual curtains may be deleted or hidden.
- Using the **Start Date** and **Finish Date** boxes, or
- Grabbing the left or right edge of the Curtain in the Bar Chart (the cursor will change to a) and dragging the start or finish date, or
- Grabbing the Curtain in the centre (the cursor will change to a) and dragging the whole Curtain.

8.11 Workshop 6 - Formatting the Bar Chart



Background

Management has received your draft report and requests that some changes be made to the presentation.

Assignment

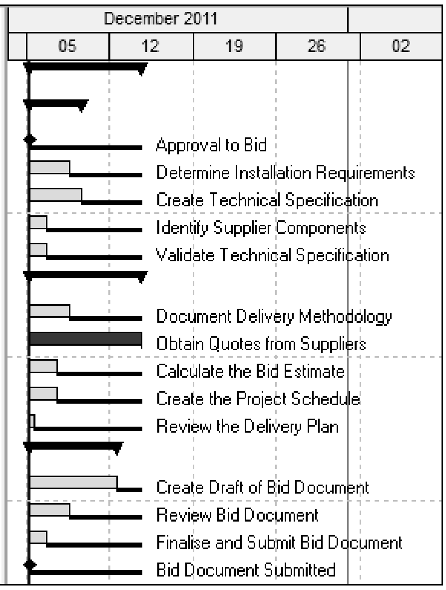
Format your schedule as follows:

1. Depending on the default settings your Gantt Chart view may differ from that shown, e.g., there may be no summary bars.
2. Apply the **Classic WBS Layout**.
3. Add a **Calendar** and **Activity Type** columns, from the **General** section of the **Columns** form, to the right of the Activity Name.
4. Adjust the column widths by dragging the column headers divider lines.
5. Press the **F9** key and click the Schedule button which will schedule the project and calculate the float.
6. Edit the **Float Bar** (Total Float bar) so the only show float for Not Started or In Progress activities. Ensure you select the **Any selected filter** in the **Filters** form.

Display	Name	Timescale	User Start Date	User Finish Date	Filter	Preview
☑	Float Bar	Float Bar			Not Started or In Progress	

7. Now hide and display the **Float Bar** (Total Float bar) and **Neg Float Bar** (Negative Total Float bar) then leave the bars displayed.
8. Remove all text from all bars in the bars form and delete the Current Bar Label bar if it exists.
9. Create a bar titled 'Activity Name' which does not display a bar and shows the Activity Name to the right of a bars and display it.
10. Change the Row Height to 30 points by selecting **View**, **Table Font and Row**....
11. Now check the **Optimize height by row content box**, not exceeding 1 line per row.
12. Now change the setting to 18 point height for all rows.
13. Format Timescale to Year and Month, then Week and Day (two options), then Month and Week by using the buttons
14. Format the Vertical lines with a solid Major line every month and a Minor line every week by selecting **View**, **Bar Chart Options**... and select the **Sight Lines** tab.
15. Expand and contract the timescale and adjust it so that all the descriptions and bars are visible.
16. See the following page for the expected results:

Activity ID	Activity Name	Activity Type	Calendar
Bid for Facility Extension			
Technical Specification			
OZ1000	Approval to Bid	Start Milestone	OzBuild 5d/w
OZ1010	Determine Installation Requirements	Task Dependent	OzBuild 5d/w
OZ1020	Create Technical Specification	Task Dependent	OzBuild 5d/w
OZ1030	Identify Supplier Components	Task Dependent	OzBuild 5d/w
OZ1040	Validate Technical Specification	Task Dependent	OzBuild 5d/w
Delivery Plan			
OZ1050	Document Delivery Methodology	Task Dependent	OzBuild 5d/w
OZ1060	Obtain Quotes from Suppliers	Task Dependent	OzBuild 5d/w
OZ1070	Calculate the Bid Estimate	Task Dependent	OzBuild 6d/w
OZ1080	Create the Project Schedule	Task Dependent	OzBuild 6d/w
OZ1090	Review the Delivery Plan	Task Dependent	OzBuild 5d/w
Bid Document			
OZ1100	Create Draft of Bid Document	Task Dependent	OzBuild 5d/w
OZ1110	Review Bid Document	Task Dependent	OzBuild 5d/w
OZ1120	Finalise and Submit Bid Document	Task Dependent	OzBuild 5d/w
OZ1130	Bid Document Submitted	Finish Milestone	OzBuild 5d/w



13 FILTERS

This chapter covers the ability of Primavera to control which activities are displayed, both on the screen and in printouts, by using **Filters**.

13.1 Understanding Filters

Primavera has an ability to display activities that meet specific criteria. You may want to see only the incomplete Activities, or the work scheduled for the next couple of months or weeks, or the Activities that are in-progress.

Primavera defaults to displaying all activities. There are a number of pre-defined filters available that you may use or edit. You may also create one or more of your own.

A filter may be applied to display or to highlight only those activities that meet a criteria.

There are four types of filters:

- **Default** filters which are supplied with the system and may not be edited or deleted but may be copied and then edited or modified and are often used in conjunction with the display of bars.
- **Global** filters which are made available to anyone working in the database, and
- **User-Defined** filters which are defined by a user and available only to that user unless it is made into a **Global** filter.
- **Layout** filters which make the filter only available when the current layout is applied. **NOTE:** If the current layout is a **Project** layout then this effectively makes the **Layout** filter a project filter.

The following types of filters are not available:

- Drop down or Auto filters as in Excel and Microsoft Project.
- Interactive filters as available in SureTrak and Microsoft Project. This is when a filter is applied and the user is offered choices from drop down list. The lack of this function may result in an excessive quantity of filters being generated or the user continually editing frequently used filters.

There are no dedicated project filters (except by creating a Layout filter) available in Primavera, so you might consider placing the project name or number at the start of a filter name so you may identify which filters belong to which projects. When you have a number of **User Filters** or there are a number of **Global Filters.**

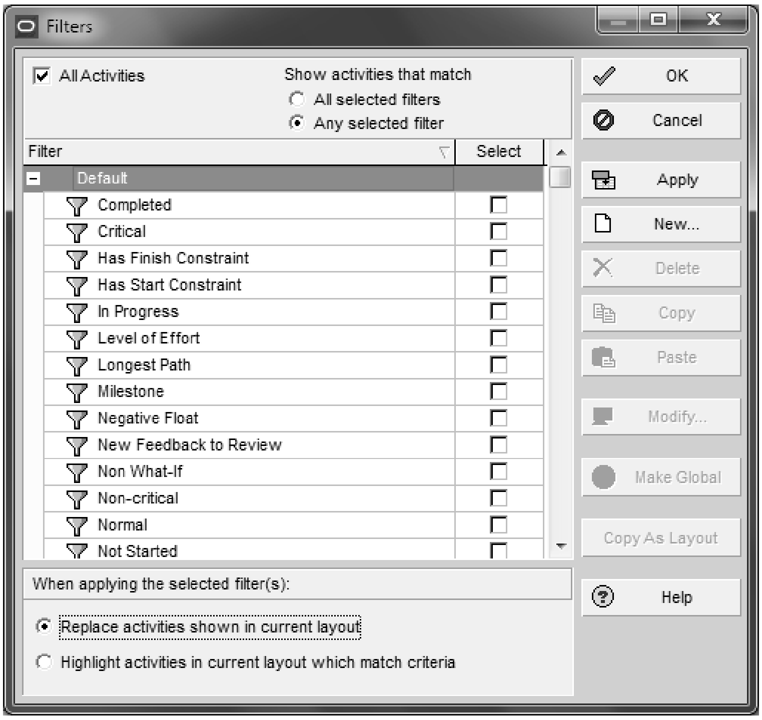
Topic	Menu Command
• To apply, edit, create or delete a filter open the **Filters** form.	• Click on the button, or • Select **View**, **Filters**..., or • Right-click in the columns area and select **Filters**....

13.2 *Applying a Filter*

13.2.1 Filters Form

Filters are applied from the **Filters** form which may be opened by:

- Clicking on the button, or
- Selecting **View**, **Filters…**, or
- Right-clicking in the columns area and selecting **Filters…**



13.2.2 Applying a Single Filter

A single filter is applied by:

- Checking the **Select** check box beside one filter, and
- Clicking on the Apply button to apply the filter and not close the form. If the result is undesirable another option may be selected, or
- Clicking on OK to apply the filter and close the form.
- **When applying the selected filter(s):**
  - Only activities that comply to the filter criteria will be displayed when the **Replace activities shown in the current layout button** is checked.
  - These activities will be highlighted in the **Select Activity** color when the **Highlight activities in current layout which match criteria** button is checked.

13.2.3 Applying a Combination Filter

A combination filter has two or more filters selected and has two options under **Show activities that match**:

- **All selected filters** where an activity to be displayed or highlighted has to match the criteria of ALL the filters, or
- **Any selected filters** where an activity to be displayed or highlighted has to match the criteria of ONLY ONE filter.

In many places in the software there will be an option of either clicking on the OK button or the Apply button:

- The Apply button applies the format however leaves the form open.
- The OK button applies the format and closes the form.

13.3 Creating a New Filter

Filters may be created from the **Filters** form by:

- Clicking on the New... button to open the **Filter** form and creating a new filter, or
- Copying an existing filter using the Copy and Paste buttons and then editing the new filter.

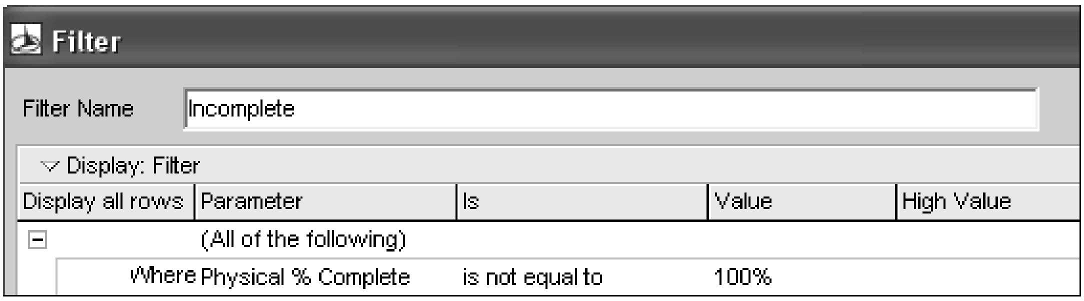
New filters will be created in the **User-Defined** filter area at the bottom of the list.

13.4 Modifying a Filter

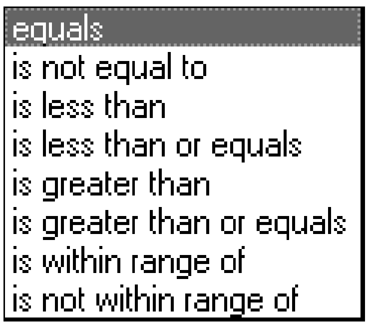
There are a large number of options available to create a filter and from the following examples you should be able to experiment and add your own filters. To modify an existing filter, select it from the **Filters** form and click the Modify... button.

13.4.1 One Parameter Filter

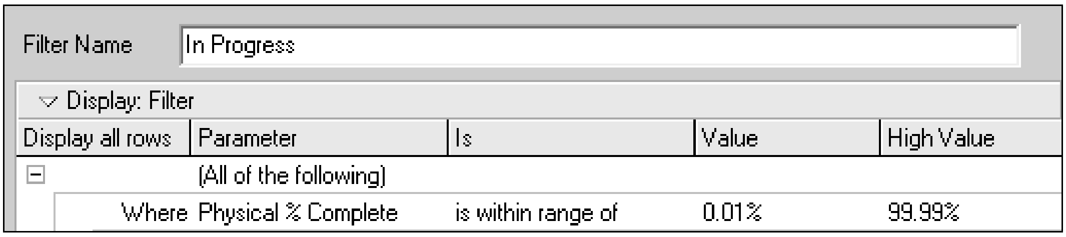
The following example is a filter to display incomplete activities:



- **Parameter** is used to select any of the available database fields,
- Select one of the options from the **Is** drop down box:
- The parameter selected in the **Is** box determines if it is required to use only the **Value** (which is the same as the **Low Value** in P3 and SureTrak), or **Value** and **High Value**. **Value** and **High Value** are used with only the **is within range of** and **is not within range of** options.



The following example is a filter to display in-progress activities using the **is within range of** and **Value** and **High Value** options:

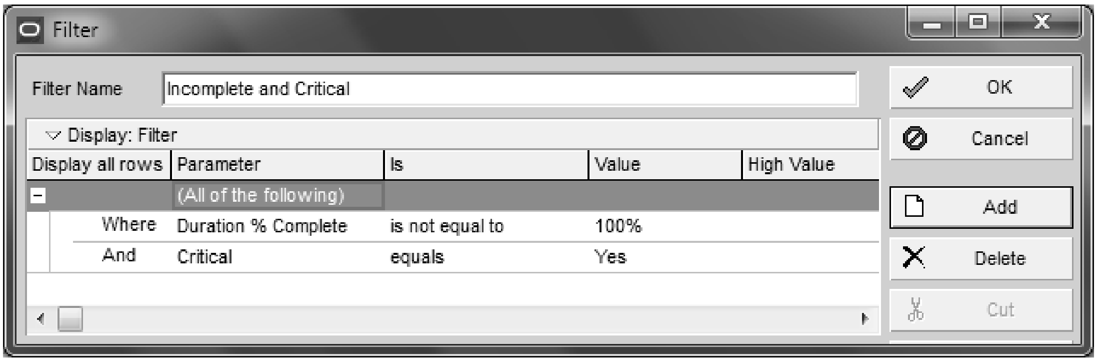

Filter Name: In Progress

Display: Filter

Display all rows	Parameter	Is	Value	High Value
	(All of the following)			
Where	Physical % Complete	is within range of	0.01%	99.99%

13.4.2 Two Parameter Filter

The following example is a filter to display incomplete activities on the critical path:


Filter

Filter Name: Incomplete and Critical

Display: Filter

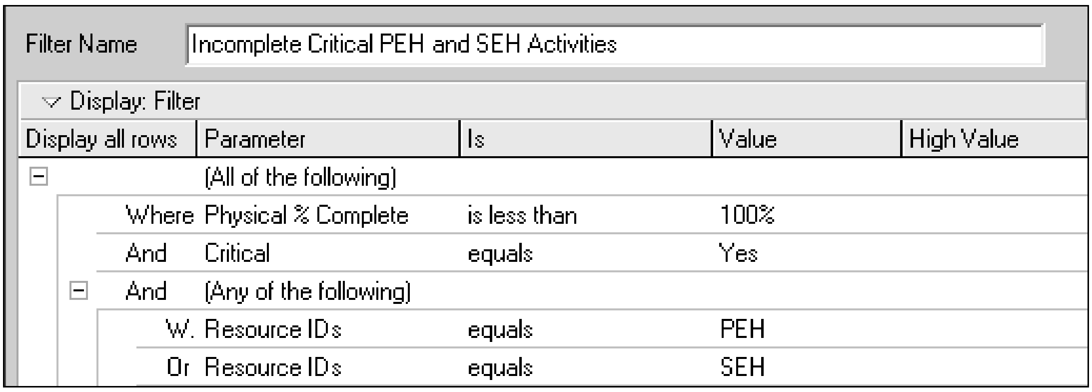
Display all rows	Parameter	Is	Value	High Value
	(All of the following)			
Where	Duration % Complete	is not equal to	100%	
And	Critical	equals	Yes	

- The drop down box under **Parameter** has two options:
  - **(All of the following).** This is used when an activity must meet all of the parameters selected below.
  - **(Any of the following).** This is used when an activity must meet any of the parameters selected below.

  In the case of a filter that is to display the **Incomplete Critical Activities** it must be set to **All** and not **Any**, otherwise all of the **Incomplete** and all of the **Critical** activities will be displayed.
- The **Value** options on the second line are now **Yes** or **No.** The options for **Value** change with the data selected in the **Parameter** box.

13.4.3 Multiple Parameter Filter

The following example is a filter to display incomplete activities on the critical path with resources PEH and SEH:


Filter Name: Incomplete Critical PEH and SEH Activities

Display: Filter

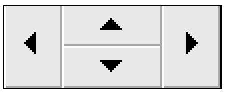
Display all rows	Parameter	Is	Value	High Value
	(All of the following)			
Where	Physical % Complete	is less than	100%	
And	Critical	equals	Yes	
And	(Any of the following)			
W.	Resource IDs	equals	PEH	
Or	Resource IDs	equals	SEH	

- In this example, **(Any of the following)** was selected from the **Parameters** drop down box which enables a nesting effect of filter parameters.
- This function is similar to the filter levels in P3.

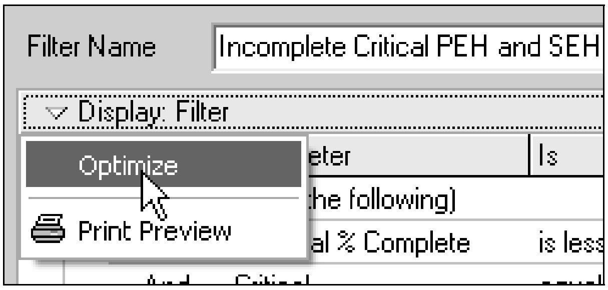
13.4.4 Editing and Organizing Filter Parameters

Lines in a filter are added, copied, pasted and deleted using the appropriate buttons in the **Filters** form.

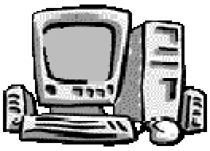
The arrows allow the filter lines to be moved up and down and indented to the left and outdented to the right in a similar way to indenting and outdenting tasks in Microsoft Project.



A filter may be optimized to delete the redundant filter lines using the **Optimize** command:



13.5 Workshop 111 - Filters



Background

Management has asked for reports on activities to suit their requirements.

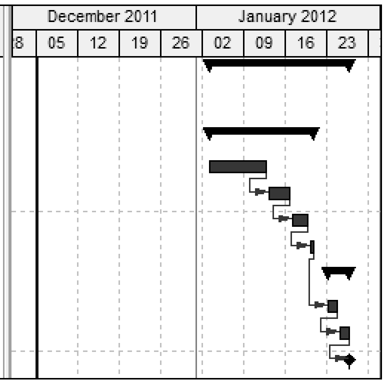
Assignment

Ensure your **OzBuild Bid** project is open.

1. They would like to see all the critical activities.
   - Ensure a column showing the **Total Float** is displayed, and
   - Apply the **Critical** activities filter.

   You will see only activities that are on the critical path and their associated summary activities.

Activity ID	Activity Name	Original Duration	Total Float	Start	Finish
Bid for Facility Extension					
Technical Specification					
Delivery Plan					
OZ1060	Obtain Quotes from Suppliers	8d	0d	03-Jan-12 08	12-Jan-12 16
OZ1070	Calculate the Bid Estimate	3d	0d	13-Jan-12 08	16-Jan-12 16
OZ1080	Create the Project Schedule	3d	0d	17-Jan-12 08	19-Jan-12 16
OZ1090	Review the Delivery Plan	1d	0d	20-Jan-12 08	20-Jan-12 16
Bid Document					
OZ1110	Review Bid Document	2d	0d	23-Jan-12 08	24-Jan-12 16
OZ1120	Finalise and Submit Bid Document	2d	0d	25-Jan-12 08	26-Jan-12 16
OZ1130	Bid Document Submitted	0d	0d		26-Jan-12 16*



2. Open the **Group and Sort** form and check the **Hide if empty** box and notice the **Technical Specification** band is hidden.
3. Management would like to see all the activities with float less than or equal to 8 days:
   - Create a new filter titled: **Float Less Than or Equal to 8 Days**, and
   - Add the condition to display a total float of less than 8 days.

Filter Name: Float Less Than or Equal to 8 Days

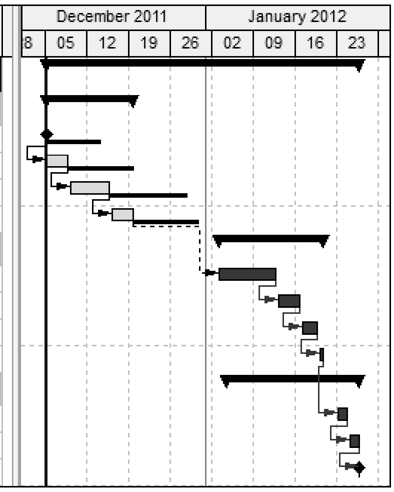
Display: Filter

Display all rows	Parameter	Is	Value	High Value
	(All of the following)			
Where	Total Float	is less than or equals	8d	

   - Apply the filter
   - You should find that activities with 9 days float are hidden:

Continued…..

Activity ID	Activity Name	Original Duration	Total Float	Start	Finish
Bid for Facility Extension					
Technical Specification					
OZ1000	Approval to Bid	0d	7d	05-Dec-11 08	
OZ1010	Determine Installation Requirements	4d	7d	05-Dec-11 08	08-Dec-11 16
OZ1020	Create Technical Specification	5d	7d	09-Dec-11 08	15-Dec-11 16
OZ1030	Identify Supplier Components	2d	7d	16-Dec-11 08	19-Dec-11 16
Delivery Plan					
OZ1060	Obtain Quotes from Suppliers	8d	0d	03-Jan-12 08*	12-Jan-12 16
OZ1070	Calculate the Bid Estimate	3d	0d	13-Jan-12 08	16-Jan-12 16
OZ1080	Create the Project Schedule	3d	0d	17-Jan-12 08	19-Jan-12 16
OZ1090	Review the Delivery Plan	1d	0d	20-Jan-12 08	20-Jan-12 16
Bid Document					
OZ1110	Review Bid Document	2d	0d	23-Jan-12 08	24-Jan-12 16
OZ1120	Finalise and Submit Bid Document	2d	0d	25-Jan-12 08	26-Jan-12 16
OZ1130	Bid Document Submitted	0d	0d		26-Jan-12 16*



4. They would like to see all the activities that are critical and contain the word "Bid."
   - ➢ Copy the **Critical** filter,
   - ➢ Edit the filter title to read: **Critical or Contains "Bid,"**
   - ➢ Edit the top line to read **(Any of the following)**,
   - ➢ Add the condition: **Or** Name (Activity Name) contains **Bid**, and

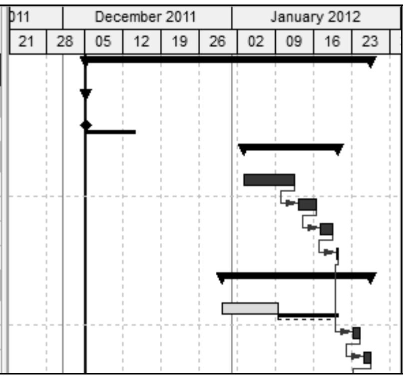
Filter Name: Critical or Activity Name Contains "Bid"

Display: Filter

Display all rows	Parameter	Is	Value	High Value
	(Any of the following)			
Where	Critical	equals	Yes	
Or	Activity Name	contains	Bid	

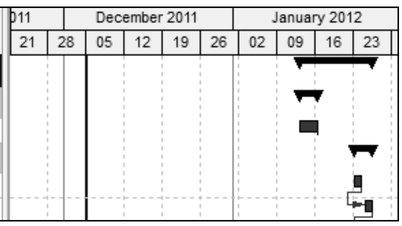
   - ➢ Apply the filter.

Activity ID	Activity Name	Original Duration	Total Float	Start	Finish
Bid for Facility Extension					
Technical Specification					
OZ1000	Approval to Bid	0d	7d	05-Dec-11 08	
Delivery Plan					
OZ1060	Obtain Quotes from Suppliers	8d	0d	03-Jan-12 08*	12-Jan-12 16
OZ1070	Calculate the Bid Estimate	3d	0d	13-Jan-12 08	16-Jan-12 16
OZ1080	Create the Project Schedule	3d	0d	17-Jan-12 08	19-Jan-12 16
OZ1090	Review the Delivery Plan	1d	0d	20-Jan-12 08	20-Jan-12 16
Bid Document					
OZ1100	Create Draft of Bid Document	6d	9d	30-Dec-11 08	09-Jan-12 16
OZ1110	Review Bid Document	2d	0d	23-Jan-12 08	24-Jan-12 16
OZ1120	Finalise and Submit Bid Document	2d	0d	25-Jan-12 08	26-Jan-12 16



5. Now change the **(Any of the following)** option to **(All of the following)** and see the effect.

Activity ID	Activity Name	Original Duration	Total Float	Start	Finish
Bid for Facility Extension					
Delivery Plan					
OZ1070	Calculate the Bid Estimate	3d	0d	13-Jan-12 08	16-Jan-12 16
Bid Document					
OZ1110	Review Bid Document	2d	0d	23-Jan-12 08	24-Jan-12 16
OZ1120	Finalise and Submit Bid Document	2d	0d	25-Jan-12 08	26-Jan-12 16



6. Now apply the **All Activities** filter and there should be less activities as you are now displaying activities that meet both conditions.