

**Reference Guide**

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# **OpenEnterprise Pattern Configuration Reference Guide (V2.83)**

Remote Automation Solutions

Website: [www.EmersonProcess.com/Remote](http://www.EmersonProcess.com/Remote)



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## 1 Pattern Configuration

The Pattern Configuration tool enables a user to add, modify and delete scheduling patterns. Scheduling patterns are templates that enable OpenEnterprise to change the value of an analog or digital value over a period of time. There are three types of patterns available.

### 1.1 Trigger Patterns

Trigger Patterns are used to set boolean values to True at user defined intervals. For instance, the Calculate attribute of a calculation in the calculation table can be set to True, which causes OpenEnterprise to run the calculation at the times specified by the trigger events within the pattern.

### 1.2 Control Curve Patterns

Control Curve Patterns are used to set analog values over a period of time. For instance, the events of a control curve can be associated with an analog signal to change its value over the time period of the pattern.

### 1.3 On-Off Patterns

On/Off Patterns are used to set boolean values on and off over a period of time. For instance, a digital signal (e.g. representing a valve) can be controlled by associating it with the events of an On-Off pattern to set it On or Off at the times specified in the pattern.

### 1.4 OpenEnterprise Scheduling

To understand how Patterns are used for OpenEnterprise scheduling, it is helpful to understand the relationship between Diaries, Patterns, Calendars and Scheduled Events.

#### 1.4.1 A Diary

A Diary is a time frame that may act as a 'container' for a Pattern. It has a beginning and an end time assigned to it. The scheduling action (or 'trigger') applies to its start time. It may be configured to repeat continuously, for a specified number of times, or run just once.

#### 1.4.2 A Pattern

A Pattern is a user-defined series of time intervals that trigger events within an associated Diary. Those events, unlike a Diary's trigger may happen at irregular intervals along the span of the Diary, and the events can be associated with an analog or a digital value. A Pattern has to be coupled with a Diary in order to run.

#### 1.4.3 Calendars

Calendars enable a user to assign a different Pattern to a Diary on a specific day. For instance, a schedule which turns a valve on and off may require a different pattern of behaviour over the Weekend period compared with the Weekday pattern. The user would then specify that the Diary which turns the valve on and off is to use a different Pattern every weekend, as determined by the Weekend Calendar (i.e): -

| Calendar to Use   | Day | Diary      | Pattern to Run |
|-------------------|-----|------------|----------------|
| Standard Calendar | Mon | ValveDiary | Pattern1       |

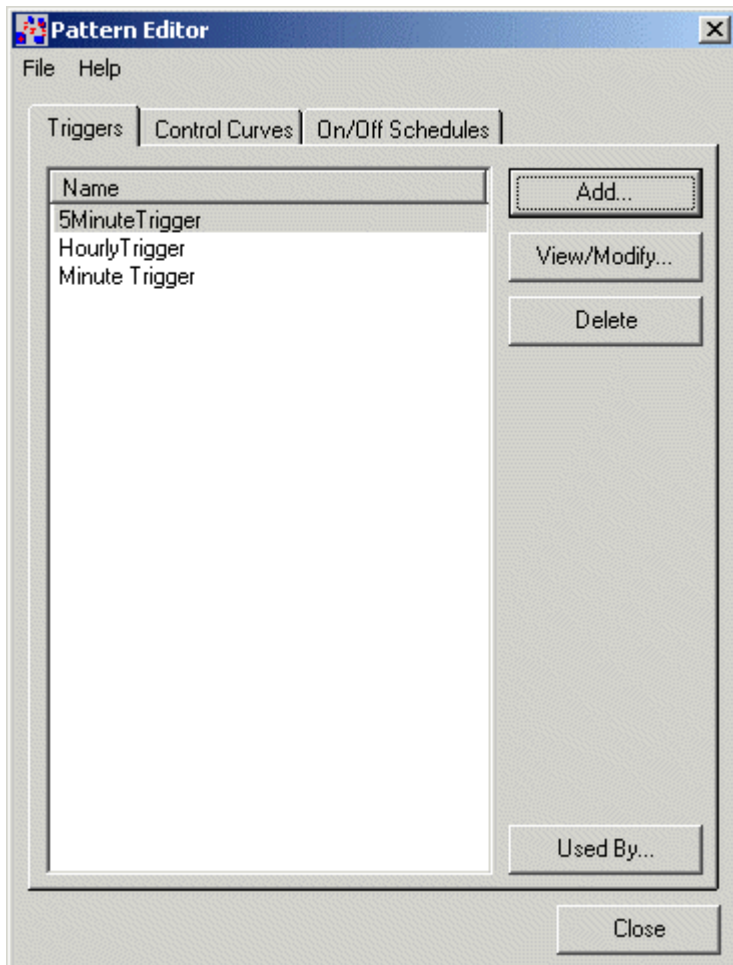
|                   |      |            |          |
|-------------------|------|------------|----------|
| Standard Calendar | Tue  | ValveDiary | Pattern1 |
| Standard Calendar | Wed  | ValveDiary | Pattern1 |
| Standard Calendar | Thur | ValveDiary | Pattern1 |
| Standard Calendar | Fri  | ValveDiary | Pattern1 |
| Weekend Calendar  | Sat  | ValveDiary | Pattern2 |
| Weekend Calendar  | Sun  | ValveDiary | Pattern2 |

### 1.4.4 Scheduled Events

It is important to understand that unless a Diary is associated with a Scheduled event (which is an object in the ToBeScheduled table), nothing will happen, even though the Scheduler will continue to 'start' the Diary at it's appointed time. There is currently no OpenEnterprise tool to add Scheduled events, and so these must be added using SQL via the SQL Client. See the Scheduler help file for more information.

## 1.5 Main Dialog - Triggers Tab

Trigger Pattern tab is displayed by default. A Trigger Pattern enables the user to define specific times when an action should be performed on a targeted value. This is typically used to set a Boolean attribute to True, in order to perform an action. For example, if the 'Calculate' attribute of a calculation is set to True, the calculation is run. Using OpenEnterprise scheduling, the calculation can be set to run at the at times specified in a Trigger pattern.



### **1.5.1 File Menu**

#### **1.5.1.1 Exit**

The File menu has only an Exit option. Selecting this will exit Pattern Configuration tool. This menu option may also be invoked by holding down the **[Alt]** key on the keyboard, followed by pressing the 'F' key and then the 'X' key.

### **1.5.2 Help Menu**

#### **1.5.2.1 Help**

Selection will display this help file.

#### **1.5.2.2 About**

Selection will display the 'About' dialog. This provides details of the current OpenEnterprise version, build and contact details. The option may also be invoked by holding down the **[Alt]** key on the keyboard followed by the 'H' key and then the 'A' key.

### **1.5.3 Control Curve**

Selecting this tab will display the 'Control Curves Tab'. This enables the user to add, modify or delete Control Curve patterns.

### **1.5.4 On-Off Schedules**

Selecting this tab will display the 'On/Off Schedules Tab'. This enables the user to add, modify or delete On/Off Schedule patterns.

### **1.5.5 Pattern List**

This list displays configured patterns. When a single pattern is selected, the **[View/Modify]** and **[Delete]** buttons become enabled. If more than one pattern is selected (by holding down the **[Shift]** or **[Ctrl]** whilst selecting multiple patterns) then the **[View/Modify]** button becomes disabled, but the **[Delete]** button remains enabled, allowing the user to delete more than one pattern at a time.

### **1.5.6 Add Pattern Button**

Selection opens the appropriate Add Pattern dialog, which enables the user to add a pattern to the Database.

### **1.5.7 View-Modify Pattern Button**

This button becomes enabled when a single pattern is selected from the list. Selecting it will open up the appropriate Pattern editing dialog. When a pattern is first created it is empty. The pattern has to be modified to create events in it.

### **1.5.8 Delete Button**

Selection enables the user to delete objects selected from the list of patterns. The Delete Pattern Dialog is displayed before the deletion, giving the user an opportunity to cancel it.

### **1.5.9 Used By**

Displays the Scheduled Actions dialog. This details all scheduled actions (entries from the ToBeScheduled table) which are using the selected Pattern.

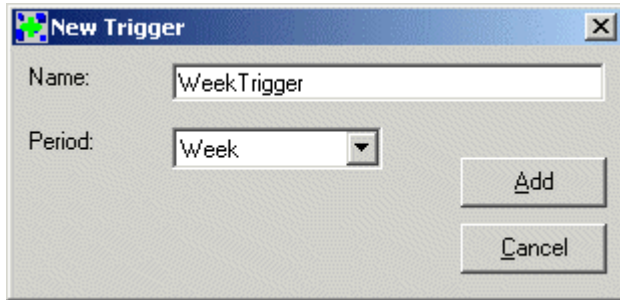


### 1.5.10 Close Button

The dialog is closed. Changes will have already been saved by the Add or Modify dialogs.

### 1.5.11 Adding a Trigger

The 'New Trigger' dialog enables the user to create a new Trigger pattern.



#### 1.5.11.1 Pattern Name

Type a unique name for the new pattern into this field. Non-unique names or an empty field will not be accepted when the user selects the **[Add]** button to add the pattern.

#### 1.5.11.2 Period

This displays the available duration times for patterns. They are:

- Minute
- 5 Minute
- Hour
- Day
- Week
- Month
- Year

#### 1.5.11.3 Add Button

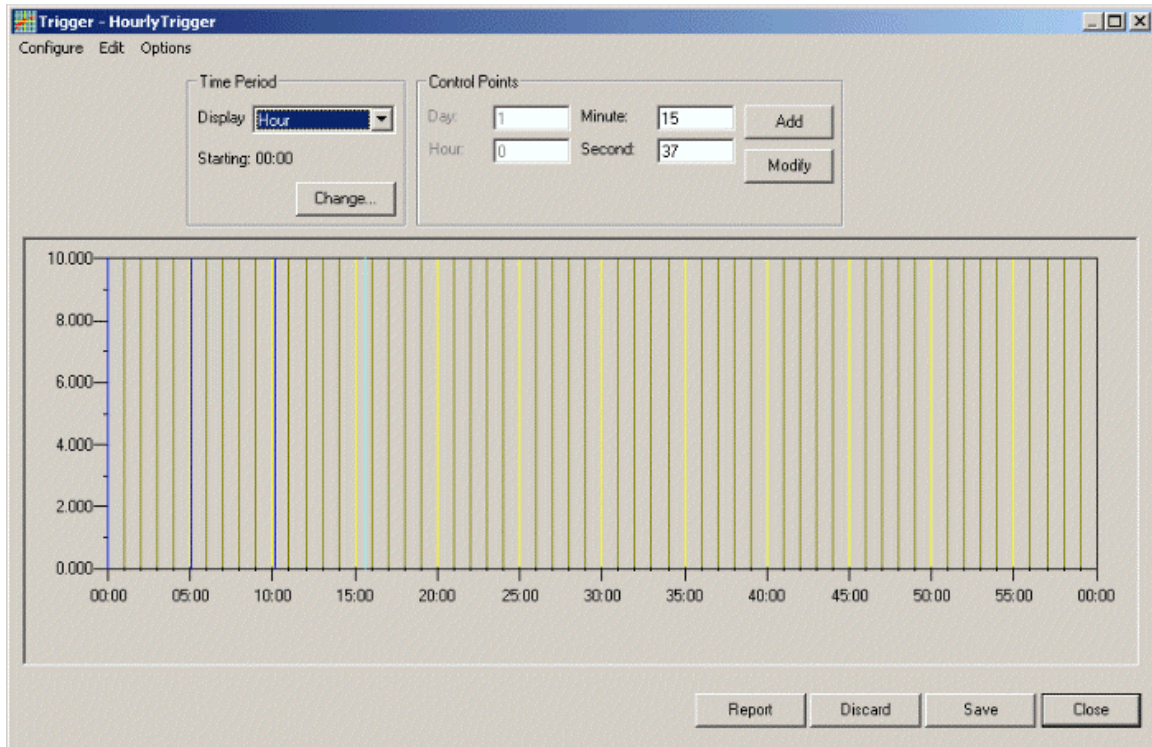
When this button is selected the new pattern is added to the Database. The dialog will close and the new pattern will then be shown in the pattern list.

#### 1.5.11.4 Cancel Button

If this button is selected the current dialog will close. The Pattern Configuration tool will not perform any database transactions.

### 1.5.12 Configuring a Trigger

The Trigger Configuration dialog enables you to add, modify or delete trigger events on the pattern.



**1.5.12.1 Configure Menu**

This menu has three options:-

**1.5.12.1.1 Save**

This option saves the currently configured pattern to the database.

**1.5.12.1.2 Discard**

Selecting this option discards any changes made in the pattern since the last Save.

**1.5.12.1.3 Close**

This option closes the Pattern Configuration tool without saving any changes made.

**1.5.12.2 Edit Menu**

The Edit menu has one option:-

**1.5.12.2.1 Auto Event Add**

Events may be added automatically across the pattern at predefined intervals by selecting this option.

This option will be disabled when configuring On/Off schedules. Selection will open the Auto Event Add dialog.

**1.5.12.3 Options Menu**

There are three options on this menu:-

**1.5.12.3.1 Horizontal Grid**

This option, if available and unchecked, will turn off the horizontal grid lines. It is only available for Control Curve patterns.

**1.5.12.3.2 Vertical Grid**

When unchecked, the vertical grid lines will be turned off.

**1.5.12.3.3 Draw Rectangular**

When available, if checked, the plot line between points is drawn as a step graph, rather than directly from one point to another. This option is only available for Control Curve patterns.

**1.5.12.4 Adding Events by Clicking**

Clicking the right mouse button on the Graph Area will automatically add a pattern event at that point. A newly added event will appear as light blue, since it is the automatically selected event.

If another event is added or selected, then the recently added event becomes dark blue to indicate that it is no longer the selected event.

**1.5.12.5 Trigger Events**

A Trigger event will appear as a thin vertical line. The events, once created, can be selected and moved anywhere along the X-axis.

**1.5.12.6 Adding Events by typing the time**

Pattern events may also be added by entering a valid value into the Time and Duration fields in the Control Points group of controls and then selecting the **[Add]** button. Availability of Time and Duration fields depends on the type of pattern being created or modified, and the time period of the pattern. Values outside the range of the pattern will not be accepted.

Events may be modified by selecting the event and then entering new values into the time fields within the 'Control Points' group on the dialog.

**1.5.12.7 Add Event Button**

When a new time is entered into the time fields in the Control Points section, and this button is selected, a new event will be drawn at the time indicated by the time fields. If an event already exists at the time indicated, a message will inform the user that the event cannot be added.

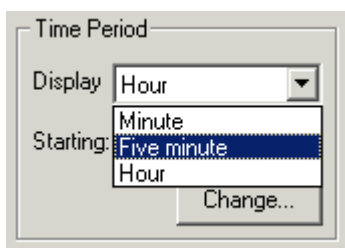
**1.5.12.8 Modify Event Button**

An event may be modified by selecting it and then entering new values into the time fields within the 'Control Points' group on the dialog. When this button is then selected, the event will be moved to the time indicated in the Control Points fields, unless it clashes with an existing event.

**1.5.12.9 Display Zoom**

It is possible to zoom in and out on the Graph Area. This may be very helpful, especially with Patterns that stretch over a longer period of time.

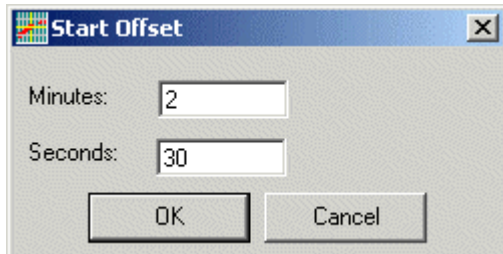
Select the 'Display' drop-down list from within the 'Time Period' group of controls. There will be a number of options available depending on the length of the Pattern:-



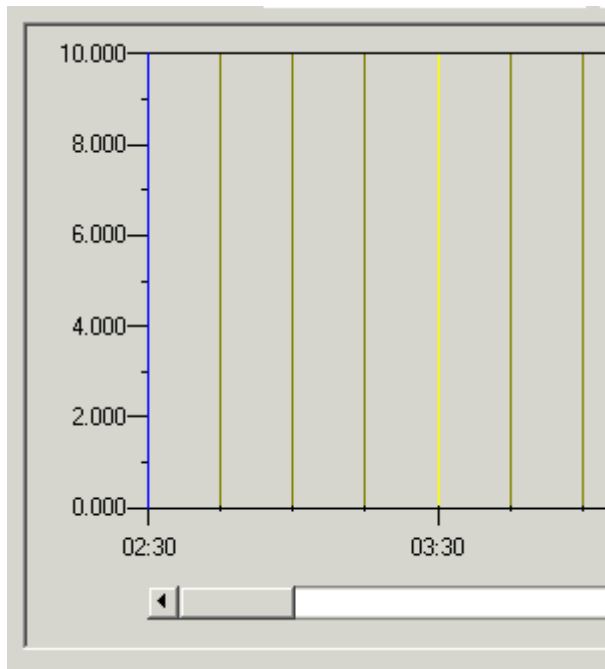
Once a Display Period option has been selected, the display in the Graph Area adjusts to the selection. Scroll bars will appear if the selected Display time is smaller than the length of the Pattern.

### 1.5.12.10 Change Start Button

Selecting this button will open the 'Start Offset' dialog (shown below). Fill in an offset time which the Pattern should display as its start time.



The Pattern will then display as if its start time was at the specified offset time: -



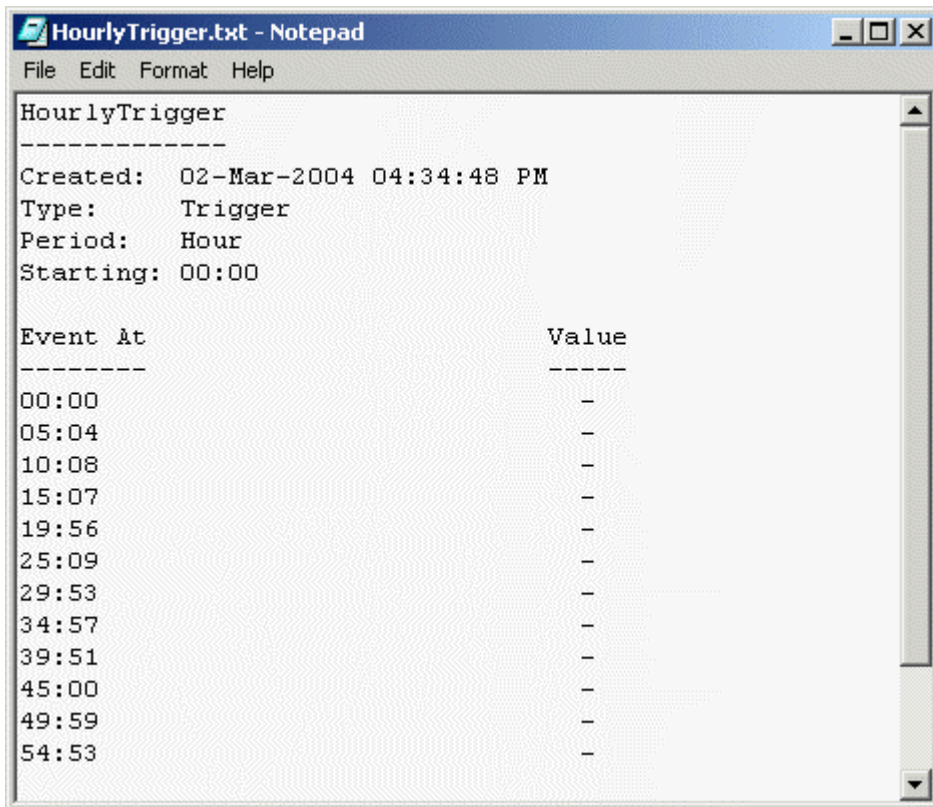
Note: - The Offset time is not saved as part of the Pattern, so the Pattern will always run with no offset.

### 1.5.12.11 Report Button

Select this button to create a text file that summarizes the pattern. A 'Save As' file dialog box will appear.

Select a directory and accept or change the default name of the file if desired. The file name will default to the name of the pattern, followed by the .txt extension to mark it as a text file. Save the file.

Another message box will appear confirming that the file was saved and asking if the user wants to view the file. If **[Yes]** is selected, the Report is opened up in Notepad: -



It displays the name of the Pattern, its Creation date, its Creation time, its Type and Period. A list of Events, giving the time and any value which may have been set. Note that as the example shown above is a Trigger pattern, it does not have values associated with it. Control Curve and On-Off patterns display a value associated with each event.

**1.5.12.12 Discard Button**

When any changes are made to the pattern, the Discard and Save buttons become available. Selecting this button will discard any changes made since the last save. A message will appear asking you to confirm that you want to discard the changes.

**1.5.12.13 Save Button**

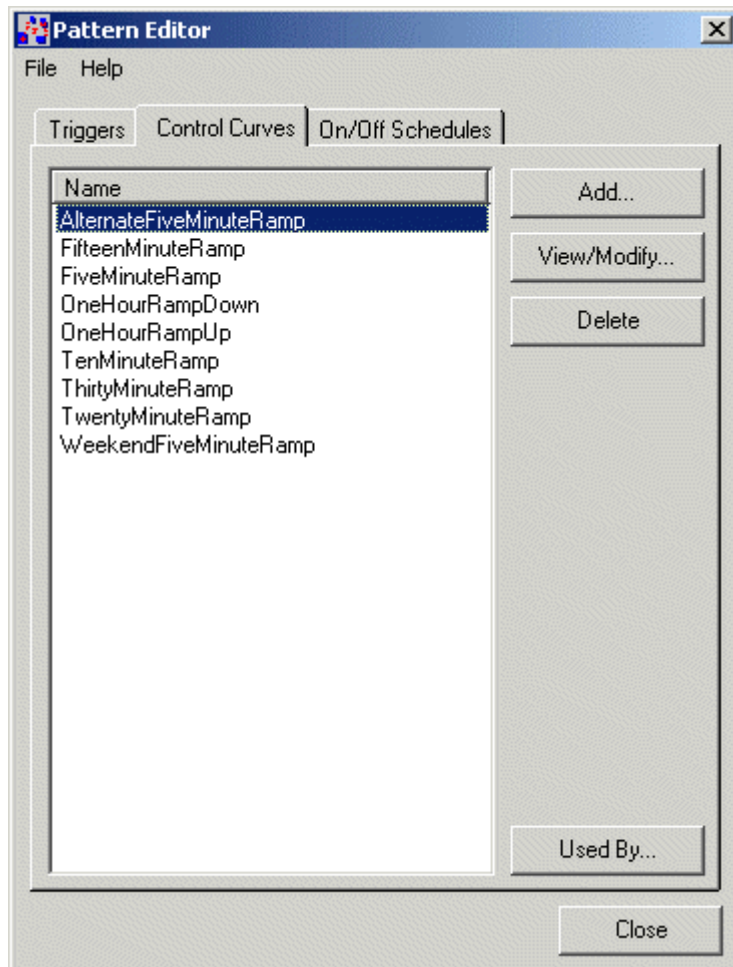
When any changes are made to the pattern, the Discard and Save buttons become available. Selecting this button will immediately save any changes made since the last save to the database.

**1.5.12.14 Close Configure Dialog**

A message will ask if you want to save any changes made before closing the dialog down.

**1.6 Main Dialog - Control Curves Tab**

The Control Curves tab enables the user to configure Control Curve patterns. A Control Curve pattern enables a user to specify not only the times of events within the time scale of the pattern, but to also ascribe a value to each event. This kind of pattern is typically applied to analog Output or local analog signals.



### 1.6.1 File Menu

#### 1.6.1.1 Exit

The File menu has only an Exit option. Selecting this will exit Pattern Configuration tool. This menu option may also be invoked by holding down the **[Alt]** key on the keyboard, followed by pressing the **'F'** key and then the **'X'** key.

### 1.6.2 Help Menu

#### 1.6.2.1 Help

Selection will display this help file.

#### 1.6.2.2 About

Selection will display the 'About' dialog. This provides details of the current OpenEnterprise version, build and contact details. The option may also be invoked by holding down the **[Alt]** key on the keyboard followed by the **'H'** key and then the **'A'** key.

### 1.6.3 On-Off Schedules

Selecting this tab will display the 'On/Off Schedules Tab'. This enables the user to add, modify or delete On/Off Schedule patterns.

### 1.6.4 Triggers

Selecting this tab will display the 'Triggers Tab'. This enables the user to add, modify or delete Control Curve patterns.

### 1.6.5 Pattern List

This list displays configured patterns. When a single pattern is selected, the **[View/Modify]** and **[Delete]** buttons become enabled. If more than one pattern is selected (by holding down the **[Shift]** or **[Ctrl]** whilst selecting multiple patterns) then the **[View/Modify]** button becomes disabled, but the **[Delete]** button remains enabled, allowing the user to delete more than one pattern at a time.

### 1.6.6 Add Pattern Button

Selection opens the appropriate Add Pattern dialog, which enables the user to add a pattern to the Database.

### 1.6.7 View-Modify Pattern Button

This button becomes enabled when a single pattern is selected from the list. Selecting it will open up the appropriate Pattern editing dialog. When a pattern is first created it is empty. The pattern has to be modified to create events in it.

### 1.6.8 Delete Button

Selection enables the user to delete objects selected from the list of patterns. The Delete Pattern Dialog is displayed before the deletion, giving the user an opportunity to cancel it.

### 1.6.9 Used By

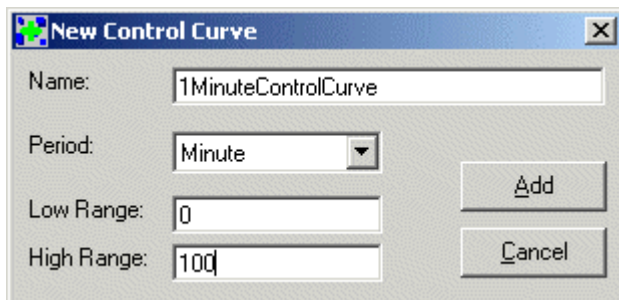
Displays the Scheduled Actions dialog. This details all scheduled actions (entries from the ToBeScheduled table) which are using the selected Pattern.

### 1.6.10 Close Button

The dialog is closed. Changes will have already been saved by the Add or Modify dialogs.

### 1.6.11 Adding a Control Curve

The 'New Control Curve' dialog enables the user to create a new Control Curve pattern.



#### 1.6.11.1 Pattern Name

Type a unique name for the new pattern into this field. Non-unique names or an empty field will not be accepted when the user selects the **[Add]** button to add the pattern.

**1.6.11.2 Period**

This displays the available duration times for patterns. They are:

- Minute
- 5 Minute
- Hour
- Day
- Week
- Month
- Year

**1.6.11.3 Low Range**

Type the lowest value required for the Y-axis on the pattern you are adding.

**1.6.11.4 High Range**

Type the highest value required for the Y-axis on the pattern you are adding.

**1.6.11.5 Add Button**

When this button is selected the new pattern is added to the Database. The dialog will close and the new pattern will then be shown in the pattern list.

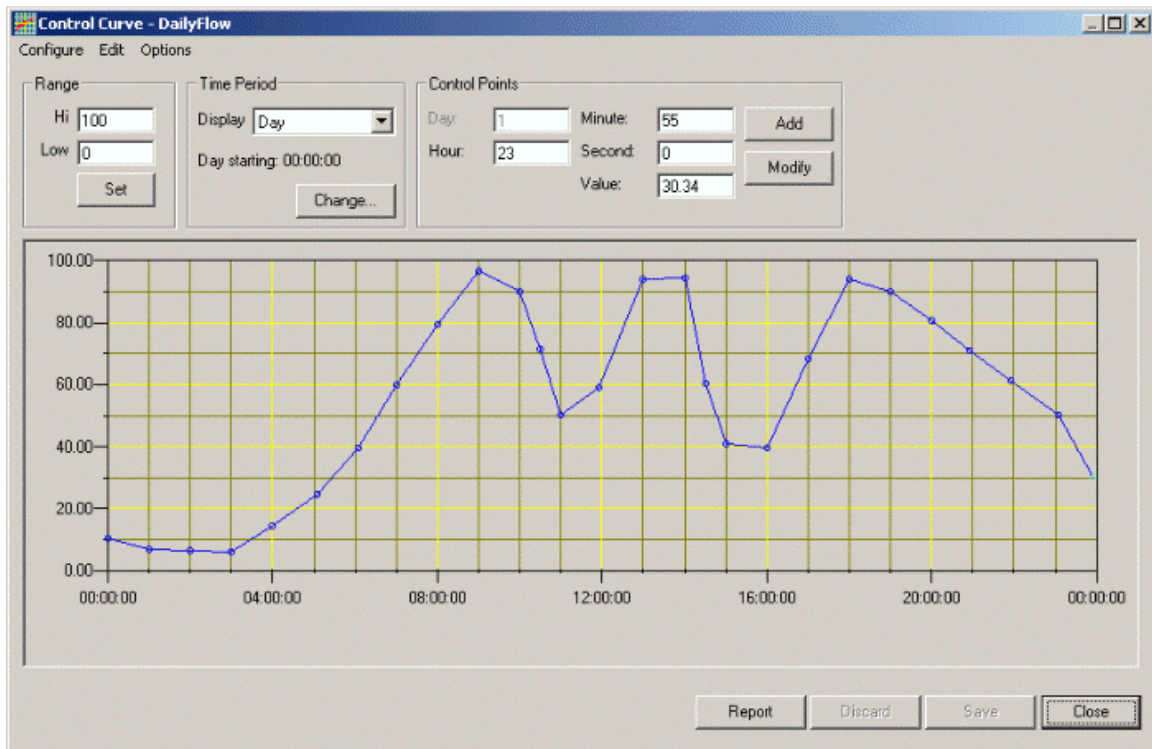
**1.6.11.6 Cancel Button**

If this button is selected the current dialog will close. The Pattern Configuration tool will not perform any database transactions.

**1.6.12 Configuring a Control Curve**

The Control Curve Configuration dialog enables you to add, modify or delete control curve events on the pattern.





### 1.6.12.1 Configure Menu

This menu has three options:-

#### 1.6.12.1.1 Save

This option saves the currently configured pattern to the database.

#### 1.6.12.1.2 Discard

Selecting this option discards any changes made in the pattern since the last Save.

#### 1.6.12.1.3 Close

This option closes the Pattern Configuration tool without saving any changes made.

### 1.6.12.2 Edit Menu

The Edit menu has one option:-

#### 1.6.12.2.1 Auto Event Add

Events may be added automatically across the pattern at predefined intervals by selecting this option. This option will be disabled when configuring On/Off schedules. Selection will open the Auto Event Add dialog.

### 1.6.12.3 Options Menu

There are three options on this menu:-

#### 1.6.12.3.1 Horizontal Grid

This option, if available and unchecked, will turn off the horizontal grid lines. It is only available for Control Curve patterns.

**1.6.12.3.2 Vertical Grid**

When unchecked, the vertical grid lines will be turned off.

**1.6.12.3.3 Draw Rectangular**

When available, if checked, the plot line between points is drawn as a step graph, rather than directly from one point to another. This option is only available for Control Curve patterns.

**1.6.12.4 Adding Events by Clicking**

Clicking the right mouse button on the Graph Area will automatically add a pattern event at that point. A newly added event will appear as light blue, since it is the automatically selected event.

If another event is added or selected, then the recently added event becomes dark blue to indicate that it is no longer the selected event.

**1.6.12.5 Control Curve Events**

A Control Curve event will be seen as a point on the graph area. As new points are added to a Control Curve, a joining line is automatically drawn between the points, from left to right. The points, once created, can be selected and moved anywhere within the graph area.

**1.6.12.6 Adding Events by typing the time**

Pattern events may also be added by entering a valid value into the Time and Duration fields in the Control Points group of controls and then selecting the **[Add]** button. Availability of Time and Duration fields depends on the type of pattern being created or modified, and the time period of the pattern. Values outside the range of the pattern will not be accepted.

Events may be modified by selecting the event and then entering new values into the time fields within the 'Control Points' group on the dialog.

**1.6.12.7 Add Event Button**

When a new time is entered into the time fields in the Control Points section, and this button is selected, a new event will be drawn at the time indicated by the time fields. If an event already exists at the time indicated, a message will inform the user that the event cannot be added.

**1.6.12.8 Modify Event Button**

An event may be modified by selecting it and then entering new values into the time fields within the 'Control Points' group on the dialog. When this button is then selected, the event will be moved to the time indicated in the Control Points fields, unless it clashes with an existing event.

**1.6.12.9 Display Range**

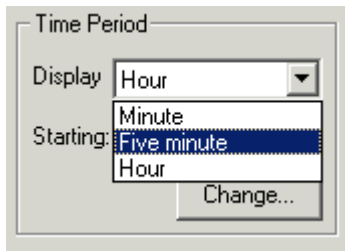
The user may, for viewing purposes shorten or extend the range of the Y-axis by entering new values into the 'Hi' and 'Low' fields within the 'Range' group and selecting the 'Set' button:

Such changes are not saved and consequently the initial range for the pattern will be restored when it is re-opened.

**1.6.12.10 Display Zoom**

It is possible to zoom in and out on the Graph Area. This may be very helpful, especially with Patterns that stretch over a longer period of time.

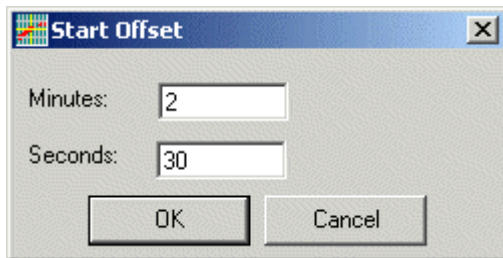
Select the 'Display' drop-down list from within the 'Time Period' group of controls. There will be a number of options available depending on the length of the Pattern:-



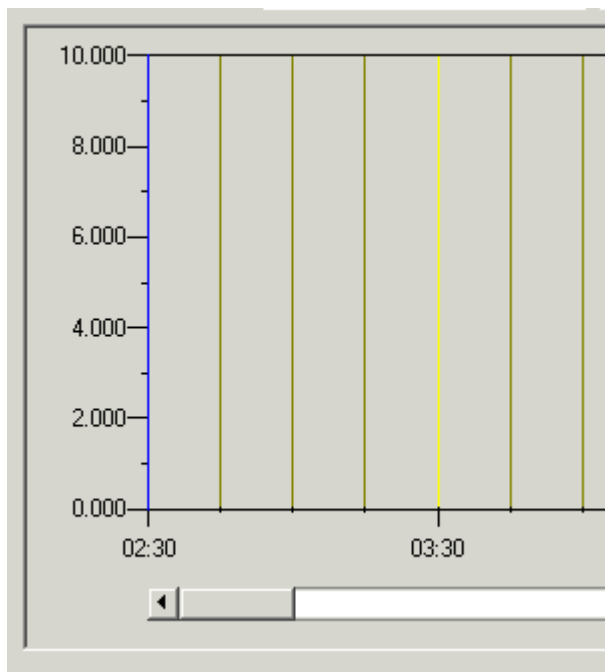
Once a Display Period option has been selected, the display in the Graph Area adjusts to the selection. Scroll bars will appear if the selected Display time is smaller than the length of the Pattern.

### 1.6.12.11 Change Start Button

Selecting this button will open the 'Start Offset' dialog (shown below). Fill in an offset time which the Pattern should display as its start time.



The Pattern will then display as if its start time was at the specified offset time: -



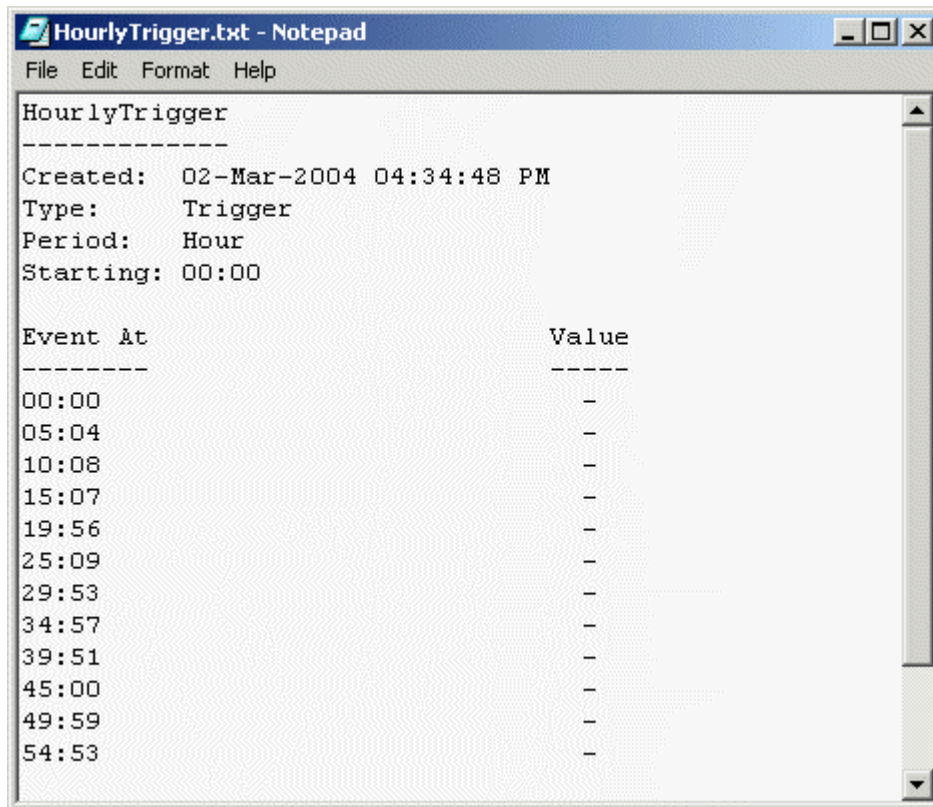
Note: - The Offset time is not saved as part of the Pattern, so the Pattern will always run with no offset.

### 1.6.12.12 Report Button

Select this button to create a text file that summarizes the pattern. A 'Save As' file dialog box will appear.

Select a directory and accept or change the default name of the file if desired. The file name will default to the name of the pattern, followed by the .txt extension to mark it as a text file. Save the file.

Another message box will appear confirming that the file was saved and asking if the user wants to view the file. If **[Yes]** is selected, the Report is opened up in Notepad: -



It displays the name of the Pattern, its Creation date, its Creation time, its Type and Period. A list of Events, giving the time and any value which may have been set. Note that as the example shown above is a Trigger pattern, it does not have values associated with it. Control Curve and On-Off patterns display a value associated with each event.

### 1.6.12.13 Discard Button

When any changes are made to the pattern, the Discard and Save buttons become available.

Selecting this button will discard any changes made since the last save. A message will appear asking you to confirm that you want to discard the changes.

### 1.6.12.14 Save Button

When any changes are made to the pattern, the Discard and Save buttons become available.

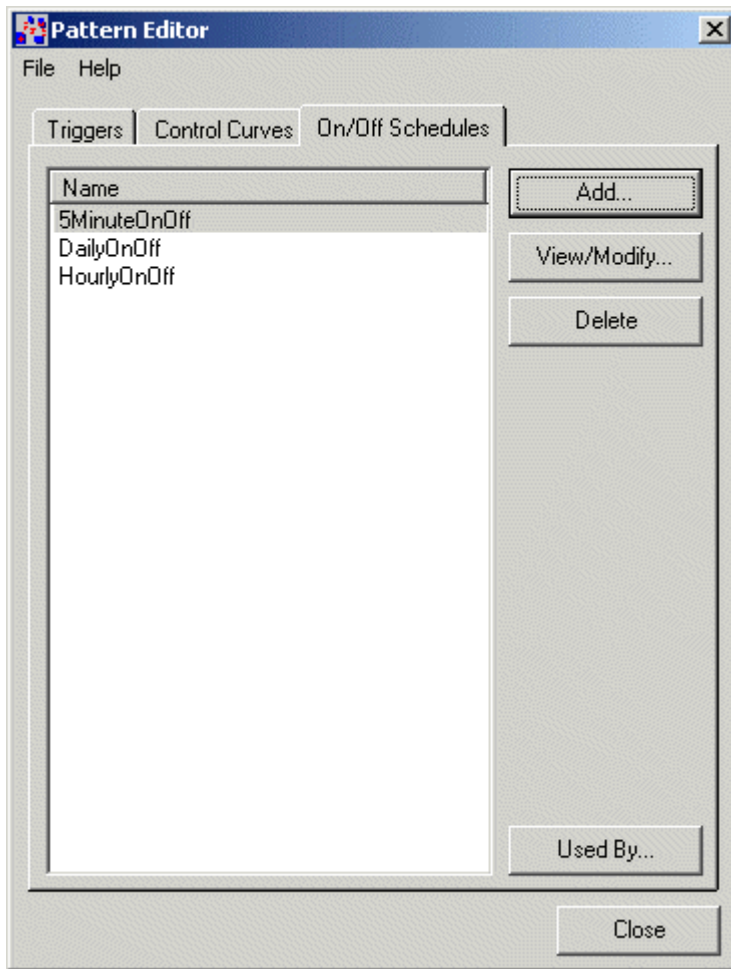
Selecting this button will immediately save any changes made since the last save to the database.

### 1.6.12.15 Close Configure Dialog

A message will ask if you want to save any changes made before closing the dialog down.

## 1.7 Main Dialog - On/Off Schedules

An On/Off Schedule enables the user to specify a number of On/Off event blocks over a specified period of time which have a start time and a finish time. The start times of each event block are used to switch a discrete value On, and the end time of each block switches the value Off. This is typically applied to a digital Output signal that controls a switch, such as a Pump's on/off switch.



### 1.7.1 File Menu

#### 1.7.1.1 Exit

The File menu has only an Exit option. Selecting this will exit Pattern Configuration tool. This menu option may also be invoked by holding down the **[Alt]** key on the keyboard, followed by pressing the **'F'** key and then the **'X'** key.

### 1.7.2 Help Menu

#### 1.7.2.1 Help

Selection will display this help file.

#### 1.7.2.2 About

Selection will display the 'About' dialog. This provides details of the current OpenEnterprise version, build and contact details. The option may also be invoked by holding down the **[Alt]** key on the keyboard followed by the **'H'** key and then the **'A'** key.

### 1.7.3 Triggers

Selecting this tab will display the 'Triggers Tab'. This enables the user to add, modify or delete Control Curve patterns.

### 1.7.4 Control Curve

Selecting this tab will display the 'Control Curves Tab'. This enables the user to add, modify or delete Control Curve patterns.

### 1.7.5 Pattern List

This list displays configured patterns. When a single pattern is selected, the **[View/Modify]** and **[Delete]** buttons become enabled. If more than one pattern is selected (by holding down the **[Shift]** or **[Ctrl]** whilst selecting multiple patterns) then the **[View/Modify]** button becomes disabled, but the **[Delete]** button remains enabled, allowing the user to delete more than one pattern at a time.

### 1.7.6 Add Pattern Button

Selection opens the appropriate Add Pattern dialog, which enables the user to add a pattern to the Database.

### 1.7.7 View-Modify Pattern Button

This button becomes enabled when a single pattern is selected from the list. Selecting it will open up the appropriate Pattern editing dialog. When a pattern is first created it is empty. The pattern has to be modified to create events in it.

### 1.7.8 Delete Button

Selection enables the user to delete objects selected from the list of patterns. The Delete Pattern Dialog is displayed before the deletion, giving the user an opportunity to cancel it.

### 1.7.9 Used By

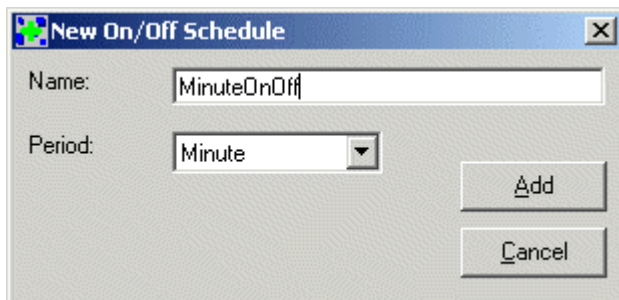
Displays the Scheduled Actions dialog. This details all scheduled actions (entries from the ToBeScheduled table) which are using the selected Pattern.

### 1.7.10 Close Button

The dialog is closed. Changes will have already been saved by the Add or Modify dialogs.

### 1.7.11 Adding an On-Off Schedule

The 'New On/Off Schedule' dialog enables the user to create a new On/Off pattern.



#### 1.7.11.1 Pattern Name

Type a unique name for the new pattern into this field. Non-unique names or an empty field will not be accepted when the user selects the **[Add]** button to add the pattern.

### 1.7.11.2 Period

This displays the available duration times for patterns. They are:

- Minute
- 5 Minute
- Hour
- Day
- Week
- Month
- Year

### 1.7.11.3 Add Button

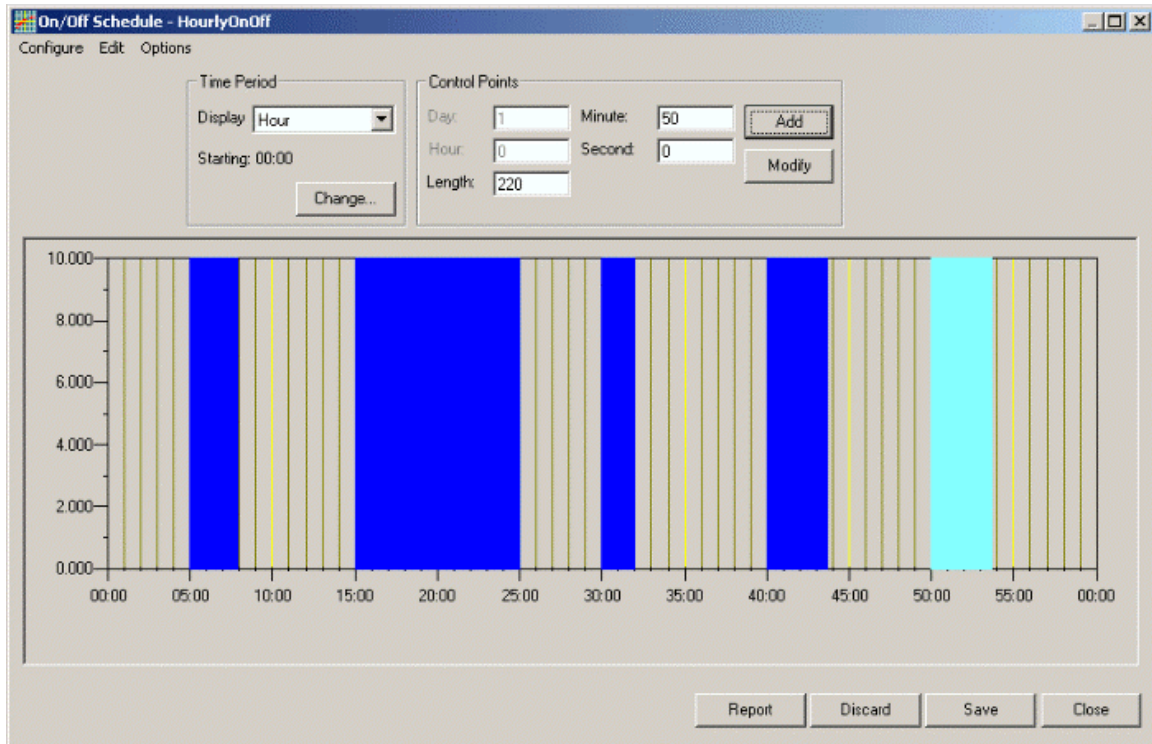
When this button is selected the new pattern is added to the Database. The dialog will close and the new pattern will then be shown in the pattern list.

### 1.7.11.4 Cancel Button

If this button is selected the current dialog will close. The Pattern Configuration tool will not perform any database transactions.

## 1.7.12 Configuring an On-Off Schedule

The On-Off Schedule Configuration dialog enables you to add, modify or delete On-Off schedule events on the pattern.



**1.7.12.1 Configure Menu**

This menu has three options:-

**1.7.12.1.1 Save**

This option saves the currently configured pattern to the database.

**1.7.12.1.2 Discard**

Selecting this option discards any changes made in the pattern since the last Save.

**1.7.12.1.3 Close**

This option closes the Pattern Configuration tool without saving any changes made.

**1.7.12.2 Edit Menu**

The Edit menu has one option:-

**1.7.12.2.1 Auto Event Add**

Events may be added automatically across the pattern at predefined intervals by selecting this option.

This option will be disabled when configuring On/Off schedules. Selection will open the Auto Event Add dialog.

**1.7.12.3 Options Menu**

There are three options on this menu:-

**1.7.12.3.1 Horizontal Grid**

This option, if available and unchecked, will turn off the horizontal grid lines. It is only available for Control Curve patterns.

**1.7.12.3.2 Vertical Grid**

When unchecked, the vertical grid lines will be turned off.

**1.7.12.3.3 Draw Rectangular**

When available, if checked, the plot line between points is drawn as a step graph, rather than directly from one point to another. This option is only available for Control Curve patterns.

**1.7.12.4 Adding Events by Clicking**

Clicking the right mouse button on the Graph Area will automatically add a pattern event at that point. A newly added event will appear as light blue, since it is the automatically selected event.

If another event is added or selected, then the recently added event becomes dark blue to indicate that it is no longer the selected event.

**1.7.12.5 On-Off Schedule Events**

An On-Off event will be seen as a thick vertical line. The right edge of an On-Off event can be dragged from right to left to widen it. The left edge of the event signifies the scheduled object's value is switched ON, the right edge of the event signifies the value is switched OFF. Events can be selected and moved along the X-axis.

Adding Points by Clicking



### 1.7.12.6 Adding Events by typing the time

Pattern events may also be added by entering a valid value into the Time and Duration fields in the Control Points group of controls and then selecting the **[Add]** button. Availability of Time and Duration fields depends on the type of pattern being created or modified, and the time period of the pattern. Values outside the range of the pattern will not be accepted.

Events may be modified by selecting the event and then entering new values into the time fields within the 'Control Points' group on the dialog.

### 1.7.12.7 Add Event Button

When a new time is entered into the time fields in the Control Points section, and this button is selected, a new event will be drawn at the time indicated by the time fields. If an event already exists at the time indicated, a message will inform the user that the event cannot be added.

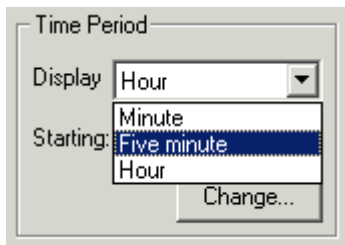
### 1.7.12.8 Modify Event Button

An event may be modified by selecting it and then entering new values into the time fields within the 'Control Points' group on the dialog. When this button is then selected, the event will be moved to the time indicated in the Control Points fields, unless it clashes with an existing event.

### 1.7.12.9 Display Zoom

It is possible to zoom in and out on the Graph Area. This may be very helpful, especially with Patterns that stretch over a longer period of time.

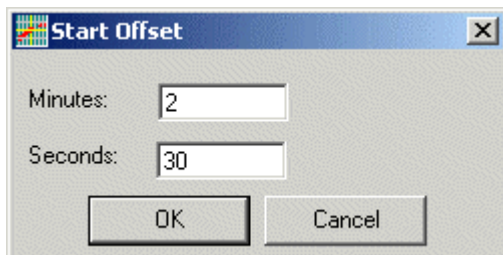
Select the 'Display' drop-down list from within the 'Time Period' group of controls. There will be a number of options available depending on the length of the Pattern:-



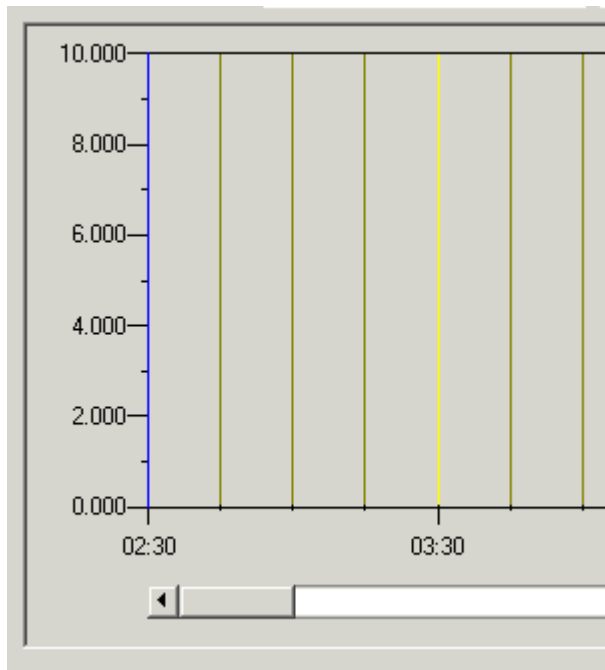
Once a Display Period option has been selected, the display in the Graph Area adjusts to the selection. Scroll bars will appear if the selected Display time is smaller than the length of the Pattern.

### 1.7.12.10 Change Start Button

Selecting this button will open the 'Start Offset' dialog (shown below). Fill in an offset time which the Pattern should display as its start time.



The Pattern will then display as if its start time was at the specified offset time: -



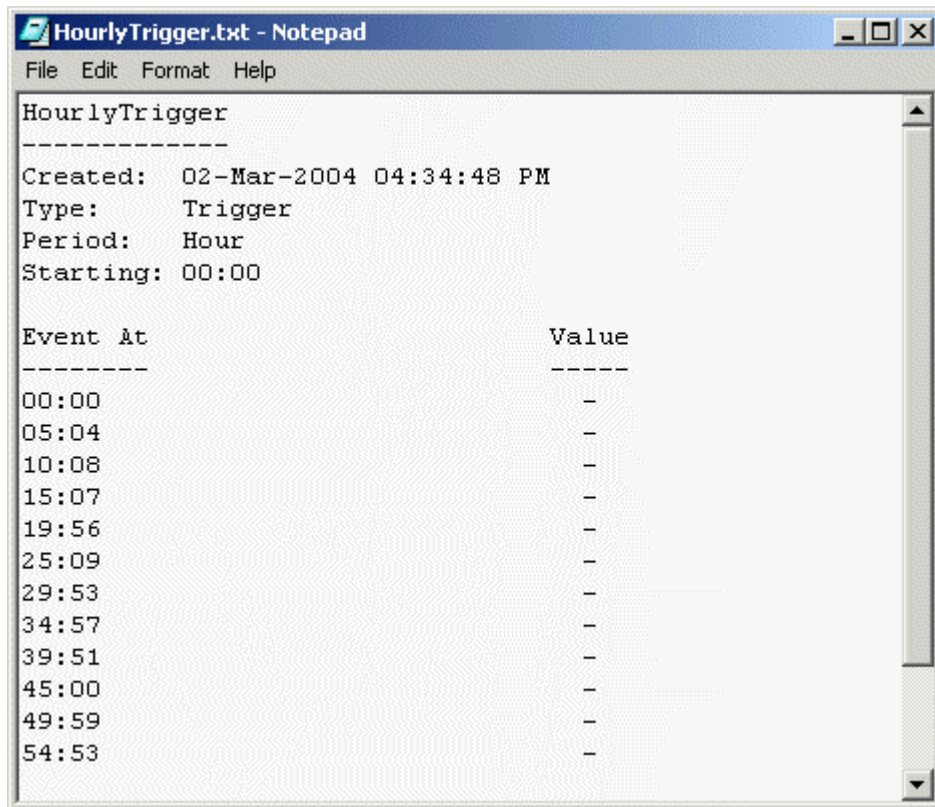
Note: - The Offset time is not saved as part of the Pattern, so the Pattern will always run with no offset.

#### 1.7.12.11 Report Button

Select this button to create a text file that summarizes the pattern. A 'Save As' file dialog box will appear.

Select a directory and accept or change the default name of the file if desired. The file name will default to the name of the pattern, followed by the .txt extension to mark it as a text file. Save the file.

Another message box will appear confirming that the file was saved and asking if the user wants to view the file. If **[Yes]** is selected, the Report is opened up in Notepad: -



It displays the name of the Pattern, its Creation date, its Creation time, its Type and Period. A list of Events, giving the time and any value which may have been set. Note that as the example shown above is a Trigger pattern, it does not have values associated with it. Control Curve and On-Off patterns display a value associated with each event.

**1.7.12.12 Discard Button**

When any changes are made to the pattern, the Discard and Save buttons become available. Selecting this button will discard any changes made since the last save. A message will appear asking you to confirm that you want to discard the changes.

**1.7.12.13 Save Button**

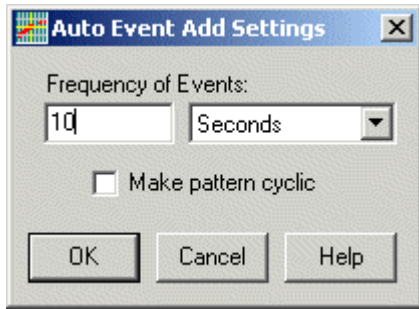
When any changes are made to the pattern, the Discard and Save buttons become available. Selecting this button will immediately save any changes made since the last save to the database.

**1.7.12.14 Close Configure Dialog**

A message will ask if you want to save any changes made before closing the dialog down.

**1.8 Auto Event Add Dialog**

This dialog enables the user to configure the frequency at which the Pattern Configuration tool should enter events within the current pattern.



### 1.8.1 Frequency of Events Value

Type the frequency interval between the automatically added events.

### 1.8.2 Frequency of Events Units

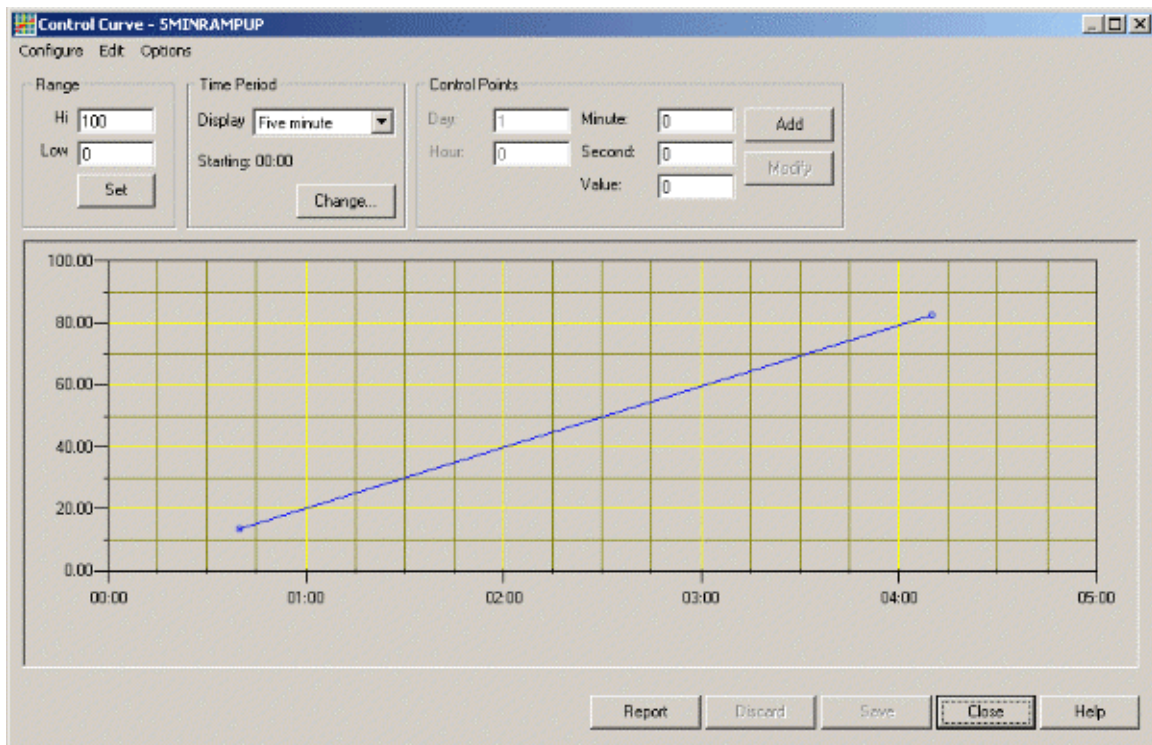
Select the event units which are available from this drop down list.

### 1.8.3 Make Pattern Cyclic

This check box enables the user to choose whether the pattern will be cyclic or non-cyclic. The difference between these options is demonstrated below.

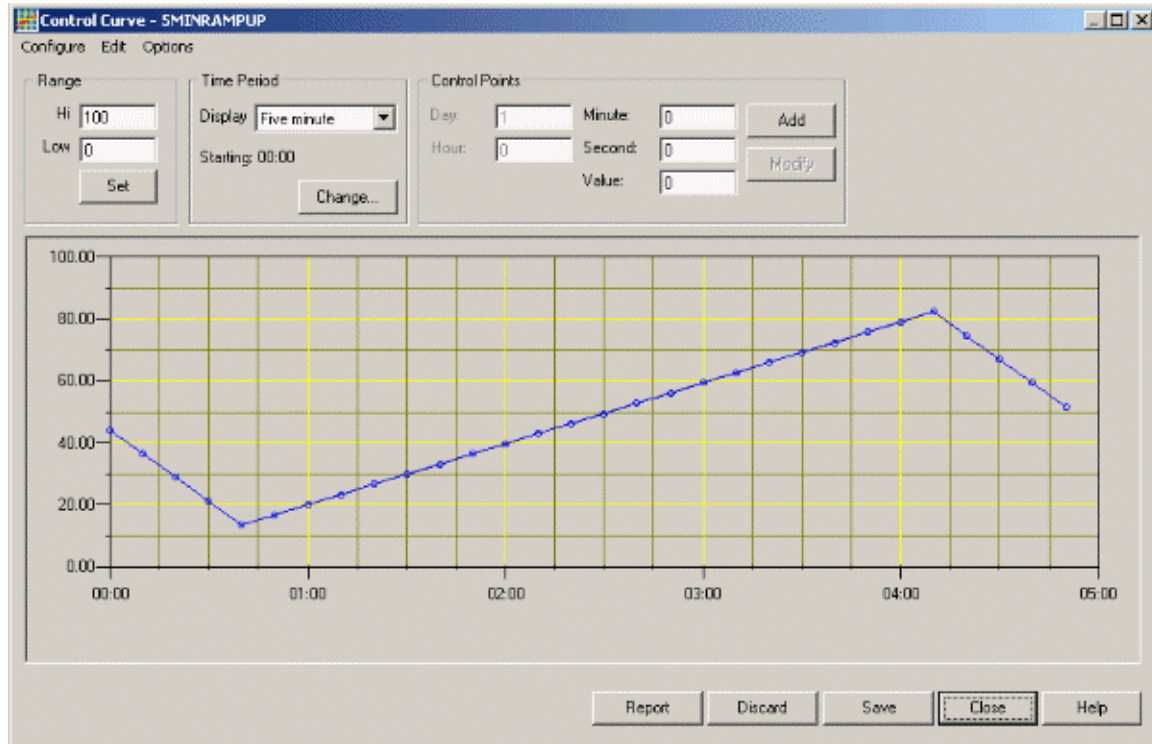
#### 1.8.3.1 Pattern Before Auto Adding Events

In order to see the difference between how the Auto Add Event feature draws a cyclic and a non-cyclic pattern, we will start from a common pattern and then add events to form a cyclic and a then a non-cyclic pattern. The image below shows the starting point for each pattern before the events are auto added.



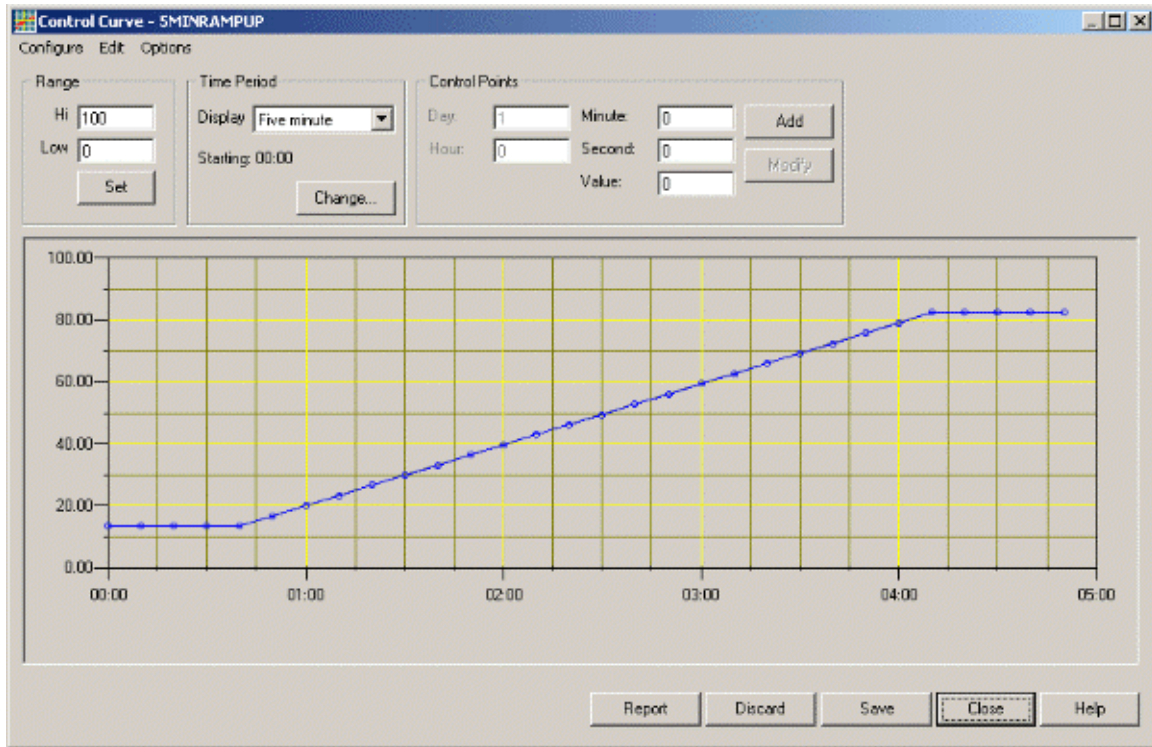
### 1.8.3.2 Pattern After Adding Events - Cyclic

This is how the pattern would look after adding auto events with the 'Make Pattern Cyclic' box checked.



### 1.8.3.3 Pattern After Adding Events - Non-Cyclic

This is how the pattern would look if the events were added and the 'Make Pattern Cyclic' box is left unchecked.



### 1.8.4 OK Button

If selected, the dialog will close, and the Pattern Configuration tool will draw in the events at the interval entered by the user. If the interval was too small, which would cause too many events to be generated, the user will be returned to the Auto Event Add Settings dialog, and will be asked to enter a larger interval period.

### 1.8.5 Cancel Button

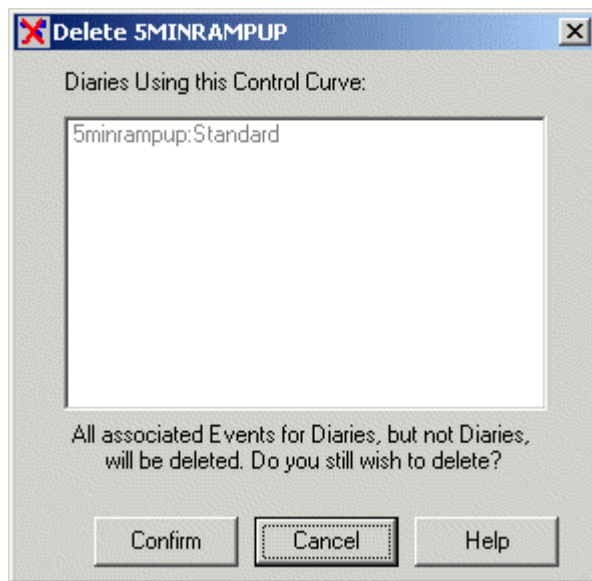
If this button is selected the current dialog will close. The Pattern Configuration tool will not perform any database transactions.

### 1.8.6 Help Button

If selected, this help file will be displayed with the correct topic displayed.

## 1.9 Delete Pattern Dialog

This dialog enables the user to confirm the deletion of the Pattern before it occurs.



### 1.9.1 Diaries Using Pattern List

This is a list of Diaries which are using the selected Pattern.

### 1.9.2 Confirm Button

When selected, the Pattern Configuration tool will delete the selected Pattern.

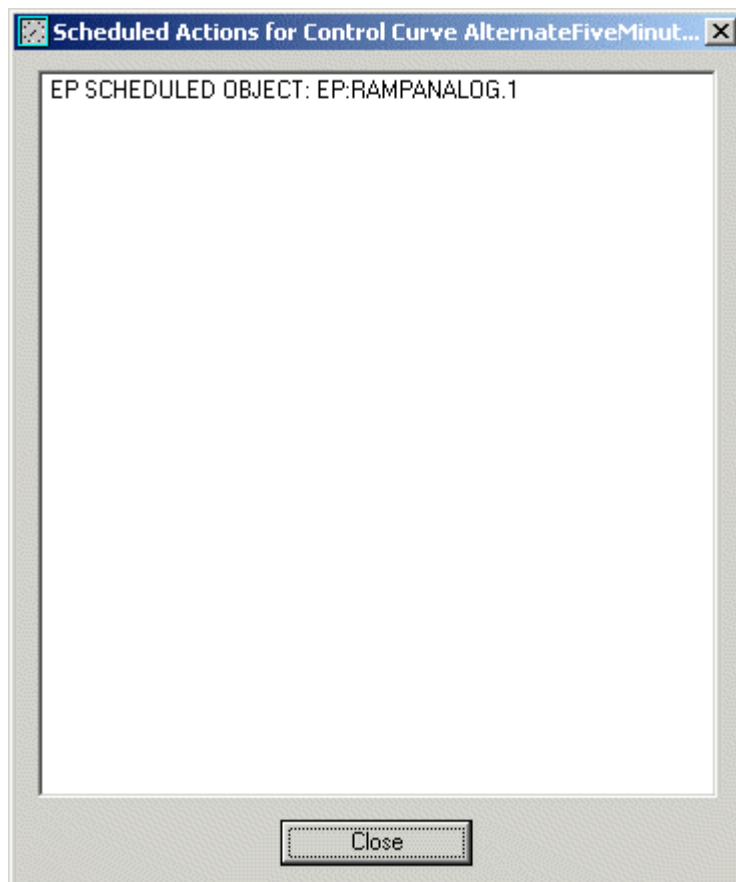
### 1.9.3 Cancel Button

If this button is selected the current dialog will close. The Pattern Configuration tool will not perform any database transactions.

### 1.9.4 Help Button

If selected, this help file will be displayed with the correct topic displayed.

This dialog shows all Scheduled Actions (entries in the ToBeScheduled table) which are using the selected Pattern. If a Pattern is not being used by a Scheduled Action, it will not do anything. To be effective, a Pattern must be associated with a Diary, and the Diary must be named in the 'usesthisinfo' attribute of an entry in the ToBeScheduled table. See the Scheduler help file for more information on how to create Scheduled Actions.





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## Reference Guide

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