The modern, fast and easy to use risk analysis tool

Cloud Edition
Customising the Bowtie diagrams

BowTie Pro™
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Arnhall Business Park
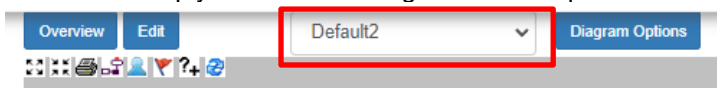Westhill, Aberdeenshire,
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Customising diagrams

BowTie Pro™ allows extensive customisation of the diagrams.   There can be many pre-defined diagram options allowing a user to quickly and easily select the correct display for the audience.

From the BowTie diagram screen simply select the settings that are required from the dropdown list.

The settings can be changed directly from the diagram screen by clicking the "Diagram Options" button. Additional options can be created and managed by navigating to the Admin section and selecting "Diagram Options".

Diagram Options Screen

When the screen is opened there is a section at the top for the name of the settings below the name are the following tabs:
- General
- Hazards
- Threats and Consequences
- Controls

General Tab

Diagram shadows
Diagram shadows are a visual enhancement that allows a sense of perspective to be applied to the diagrams, see right.
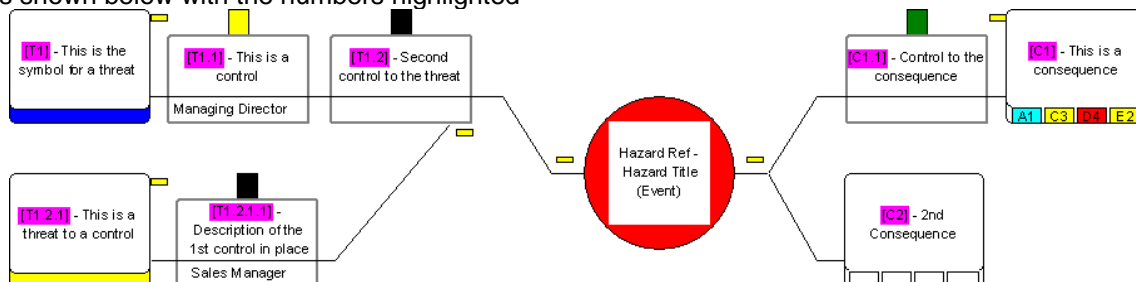
Number Diagram Objects

The option relating to number objects becomes of use when the diagram is printed or issued in a document and provides a unique reference to be made to all objects.

The numbering on the left hand side, Threats, will be T1 – Tn and then each of its Controls are called TX.1 to TX.n.   The Threats to the Controls are also numbered. On the right hand side the objects all begin with a C for Consequence.
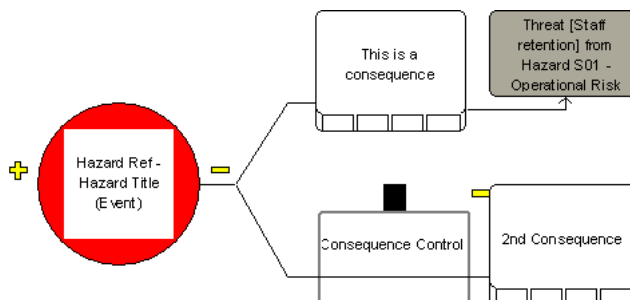
This is shown below with the numbers highlighted


View Cascades

Cascading Hazards allow a Consequence from one bowtie to be linked as the Threat or Hazard to another bowtie

When displayed, the cascades have a grey background. Right-clicking on the cascade will allow the user to navigate to the linked diagram.

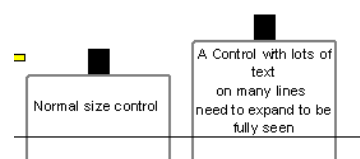## Expand the Threats and Consequence or Controls to fit the text

Sometimes the text of the Threats, Consequences or Control will not fit into the box. If this is the case then there are options in BowTie Pro™ to allow the boxes to grow to try to fit all the text on the diagrams.

This can be done from the menu bar by pressing the ↕↕ button and will allow the Threats, Consequences and Controls to grow to fit the text.

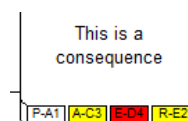In the Diagrams Options Screen there are two checkbox that will:
- Allow the Threats and Consequences to grow.
- Allow the Controls to expand to the desired height as shown

The boxes will stop growing once it is three times its normal size. There is an option to reduce the font to allow the text to fit further.   If the text still does not fit the size of the font should be reduced or the text should be reviewed.

Show Matrix Abbreviation

The Show matrix Abbreviation will display the single character assigned in the matrix setup as a prefix to the Matrix results

Matrix Undefined colour

The matrix undefined colour is used when you wish to identify unassigned items in the diagram so that they standout.   This is performed using the "Matrix Undefined Colour" drop down.
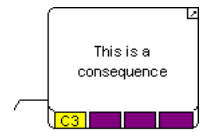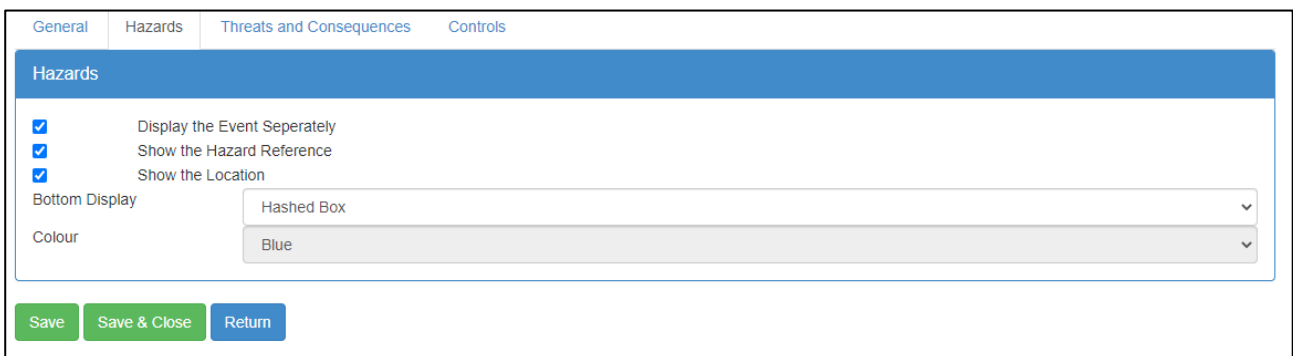
By default the undefined colour is white.

Diagram Font

The font used in the diagrams can be customised.

▪ Any font installed on the PC can be selected
▪ Size of the font needs to be considered as the smaller the font the more that can be displayed in the boxes
▪ The alignment of the text within the boxes in the diagram ie Left, Centre or Right and Top, Middle or Bottom
▪ The Font of the text that is displayed in the boxes on the diagram

The Min Font Shrink box sets the size that the text will shrink to on diagrams. To turn on auto shrink check the box "Shrink text to fit" on the general tab.

Hazards Tab
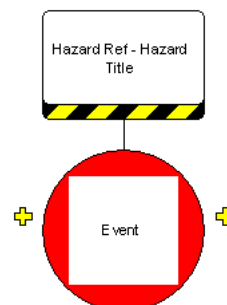

Display the Event Separately

The Hazard/Event is located in the centre of the bowtie and can be shown as a red ball with all its data contained within it, or split out with the Hazard above the Event.   This is done using the "**Display the Event separately**" option.

The advantage of having the Hazard split out is that more text can be seen easily on the diagram

Un-Ticked
Event and Hazard displayed together

Ticked
The Event displayed below the Hazard

Show the Hazard Reference / Show the Location on the Hazard

Both the Hazard Reference and the Location can be turned on and off to reduce the text displayed in the hazard box.

Hazard bottom display

If the Hazard and Event are shown separately the bar beneath the Hazard boxes can be customised.

- Yellow and black hashed bar (as shown above),
- Risk results (if risks are turned on for the Hazard in the Setup box of the risk matrix)
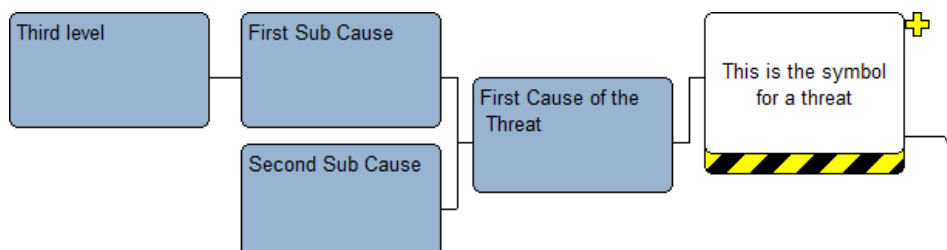- A colour of choice
- Next Review Date

Threats and Consequences Tab

Threats
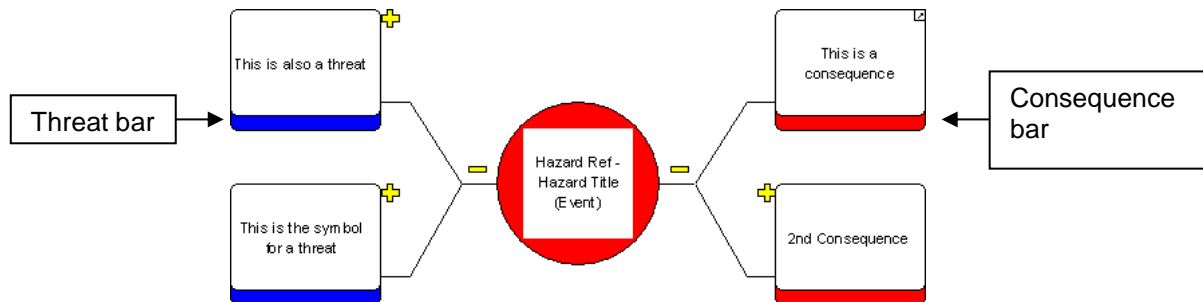
Display the Threat Causes

The Threat causes can be displayed to the left of the Threat to provide an indication of why the Threat was released. When shown on the diagrams the Threat Causes can be edited through the diagram's popup menus. The Threat Cause can be 3 levels deep.

Threat bottom display

The bar beneath the Threats boxes can be customised.

- Yellow and black hashed bar,
- The risk results (if risks are turned on for the Threat in the Setup box of the risk matrix)
- A colour of choice (as shown here in blue).
- The Threat Frequency
- Threat Type Description
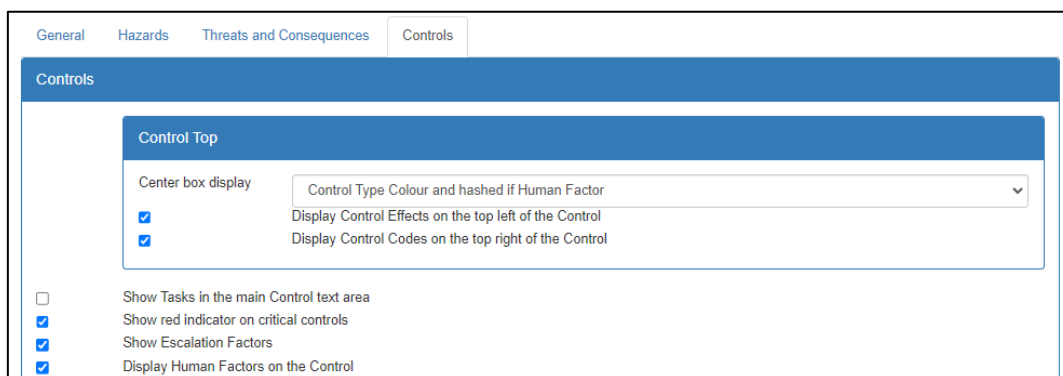- Next Review Date

Consequences

The bar beneath the Consequences boxes can have either:

- The risk matrix Results
- A colour of choice (as shown above in red).
- The LOPA Results
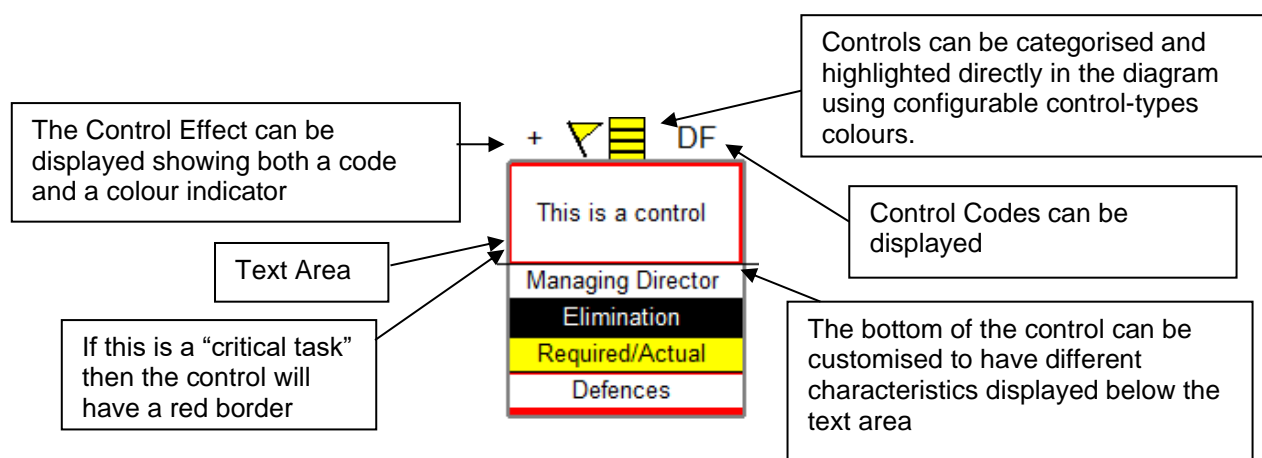- Overall LOPA Results
- Next Review Date

If the Risk Matrix on the Consequence is setup to have a before and after result the after results will be displayed below the before results

Controls Tab

The Controls tell the story of how the Threats and Consequences are managed.

The Control Effect can be displayed showing both a code and a colour indicator

Controls can be categorised and highlighted directly in the diagram using configurable control-types colours.

Text Area

Control Codes can be displayed

If this is a "critical task" then the control will have a red border

The bottom of the control can be customised to have different characteristics displayed below the text area
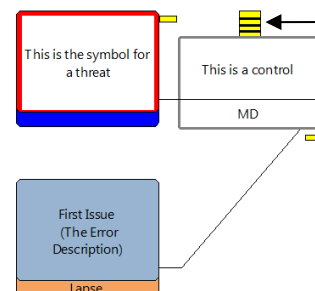
- The Centre top box can be coloured with three options:
  - ✓ Black box
  - ✓ Control Type Colour
  - ✓ Control Type Colour and hashed if human factor (as shown above)
- To show the Control code at the top right of the Control click "**Display Control Codes on the Control**"
- To show the Control Effects at the top left of the Control click "**Display Control Effects on the Control**"

View the Tasks on the Controls
The task can be shown in the text area of the Control box by checking this box. The task will be appended to the Control and shown in brackets.
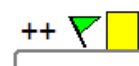
Display the Human Factor Controls on the Control Type
There is a check box on the Controls to indicate if the Control is under the influence of Human Factors. If the Human Factors are displayed at the top of the control box is displayed as a hashed bar on the control type. The Human Factor details are shown in a similar way to the Escalation Factors if the "**Display Human Factors on the Control**" checkbox is selected and can be edited or deleted directly from the diagram screen
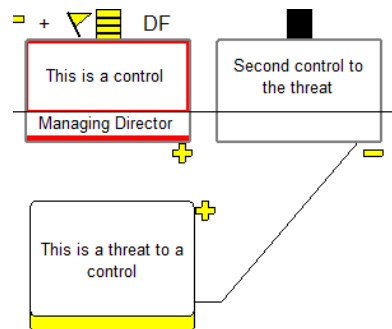

Show the Control Effects
When "Show the Control Effects" is used to give an indication of perceived strength at the top left hand corner.

Show the Escalation Factors
The Escalation Factors will display the details of the items entered at the bottom of the control and these items can be selectively expanded and contracted by clicking the ✚ ➖ buttons.

The Escalation Factors have a yellow bar at the bottom with their text above.

The bottom of the Control
The bottom of the Control has the ability to show an unlimited number of characteristics.   To select that this row should be shown click on the "Visible" checkbox to the right of the characteristic name.

At the bottom of the Controls tab is a checkbox called "Show Blank Rows". If this is enabled and the control does not have the visible characteristic entered then a blank area will be shown.

To set the order press the "Set Order" button and then drag and drop the characteristics as appropriate with the top one at the top of the list.   On the "Control Bottom Order" screen visible characteristics will be light grey and hidden characteristics a darker grey.

Some of the characteristics include:
- ✓ Posts
- ✓ Start Dates
- ✓ Target Dates / Complete
- ✓ Costs
- ✓ Documents
- ✓ Risk Matrix results for the Control
- ✓ Criticality and Level
- ✓ Function
- ✓ Control Type Description
- ✓ Control Code Description
- ✓ Control Effect Description
- ✓ Control Efficiency
- ✓ System
- ✓ Status
- ✓ Accountable
- ✓ Task Details

Summary

BowTie Pro™ diagrams can be extensively customised and we plan to continue making our solution as flexible as possible.