Introduction

This How2Guide should be read in conjunction with your organisations Risk Management Policy and Guidance Document. The Risk Mitigation guide includes an explanation of the options for addressing risks and areas to consider when managing risks.

The options for mitigation are generally covered by the following headings:

- **Tolerate the risk** – which means accept the level of threat
- **Transfer the risk** – which means give it to someone else
- **Treat the risk** – which means take some action to reduce either the likelihood or severity of the impact
- **Terminate the risk** – which means avoid it by taking a different course of action.

When managing the risks, the key area to consider is the indicators that will be used to help identify changes that could bring the risk to life; these are called early warning indicators.

When do you use this guide

The Risk Management cycle has 4 steps in it, the first of which is "Identify", which is undertaken at the very start of the programme or project. The Risk Identification guide is helpful in the first step.

The second step is analysis (or assess), which takes place once the risks have been identified and the Risk Analysis guide is designed to support this step.

This guide is designed to help with identifying suitable mitigation actions and how to use early warning indicators to identify each of the signs of change.

The Risk Heat Mapping tool is used to track changes to individual risks and trends across the risks.

Risk Mitigation Responses

Terminate

This option is about making the uncertain situation certain by removing the risk.

This can often be achieved by removing the cause of a threat or by implementing the cause of an opportunity and may be adopted for no extra cost by changing the way the work is planned. More often though, costs will be incurred in order to remove all residual risk for threats and opportunities. Where costs are incurred these must be justified, i.e. the cost of response is warranted to make the situation certain.

Treat

This option chooses definite action now to change the probability and/or the impact of the risk. The term 'mitigate' is relevant when discussing reduction of a threat, i.e. making the threat less likely to occur and/or reducing the impact if it did.

Enhancing an opportunity is the reverse process, i.e. making the opportunity more likely to occur and/or increasing the impact if it did.

Again, because this option commits the organisation to costs for reduction/enhancement now, response costs must be justified in terms of the change to residual risk.

Transfer	Tolerate
Transfer is an option that aims to pass part of the risk to a third party. Insurance is the classic form of transfer, where the insurer picks up the risk cost, but where the insured retains the impact on other objectives, e.g. time delay. Transfer can apply to opportunities, where a third party gains a cost benefit but the primary risk taker gains another benefit, but this is not a commonly used option whereas transfer of threats is commonly used. Once again, the cost of transference must be justified in terms of the change to residual risk – is the premium you pay worth it? It is important to note that some elements of risk cannot be transferred, although an organisation may choose to delegate the management of the risks to a third party.	This option means that the organization 'takes the chance' that the risk will occur, with its full impact if it did. There is no change to residual risk with the accept option, but neither are any costs incurred now to manage the risk, or to prepare to manage the risk in future. An example would be the risk to profitability as a result of currency fluctuations. An organization may decide to take the chance and not engage in any hedging or other provision to protect margins from wide variation in rates. This option would not be appropriate if the risk exposure exceeded the risk tolerance threshold for the organizational activity in question. Note that in a case such as currency fluctuations where the impact could be positive or negative, this is actually two risks, because a risk is the relationship between the uncertain event and the impact of that event. There is a risk leading to loss and the risk leading to gain. Framing the uncertainty as two risks allows for different responses to each part

Early Warning Indicators

Risk management needs to be proactive to anticipate potential problems. Early-warning indicators can be used to provide information on the potential sources of risk, or as a way of tracking sensitive risks, triggering further corrective actions if predefined levels are reached. Whilst these early-warning indicators could measure a number of diverse wide-ranging monitors, they are only of value if they:

- Are measuring valid indicators
- Are reviewed on a regular basis
- Use accurate information
- Reach decision makers and are acted upon.

Early-warning indicators are vital for a project or programme, as they provide measures that give advanced warning of trends or events that could adversely affect the programme's outcomes. Key early-warning indicators relating directly to the programme's objectives might include:

- Requests to change key programme information, such as the vision statement and blueprint, that set the agenda for the programme
- Reduction or delays in the delivery of expected/planned benefits on time and on budget

- Increase in the level of aggregated risk resulting from project and operational risks
- Changes to organisational structures
- Changes to services or products
- Changes to processes
- Changes in levels of stakeholder support

In particular the early warning indicators should help to address the following:

At programme level, project and operational risks can therefore: • Accumulate to a critical mass • Grow (where the sum of the risks is bigger than the individual parts) • Reduce (where the sum of the risks is smaller than the individual parts).	Risks that could have a trigger effect across a number of risks that have: • **Domino or cascade effect** - if the threat materialises from one or other events what other risks could be triggered as well, causing a domino effect to occur that would be a bigger effect than the individual risks in isolation. • **Cocktail effect -** if a number of the threats happen simultaneously but are largely unconnected, what would the total effect be? The mitigation plans may be able to cope with one risk materialising but what are the dependencies between plans, e.g. key resources?

Measuring Effectiveness

Programmes and projects need to monitor the evolution of their overall risk exposure. There should be regular reviews to monitor overall risk management effectiveness.

Areas which can be considered when assessing risk effectiveness would include:

Progress of planned risk management action	Effectiveness of implemented actions
Trend analysis of closed and new risks and issues	Spend against contingencies
Numbers emerging in the different categories	Numbers emerging in the different projects
Anticipated emerging or aggregated risks that will require specific management attention	Movement of risk against key project or programme objectives and benefits

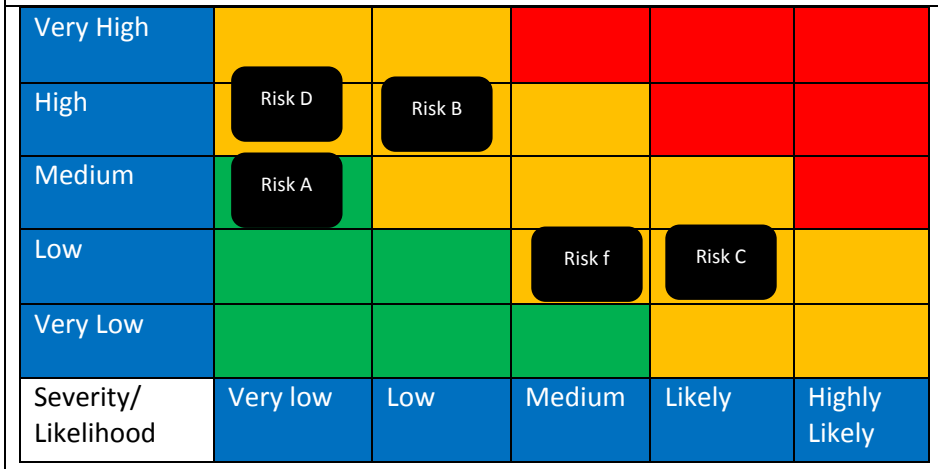
The Technique – Risk Heat Map Tracking

Technique Overview

Risk Heat Mapping is a useful technique for illustrating a summary of the level of risk being faced.

It uses 5 x 5 matrix to illustrate the likelihood and severity ratings. The cells can be used to colour code the risk appetite of project, programme or the organisation.

The use of the grid can provide an easy reference to see how the level of risk is developing and can be used as an effective communications tool, particularly for project or programme boards.



In this initial map it can be seen that there are a number of risks, all of which are within the risk appetite of the project.

Over the course of the month the situation may change and these should be tracked in the risk heat map.

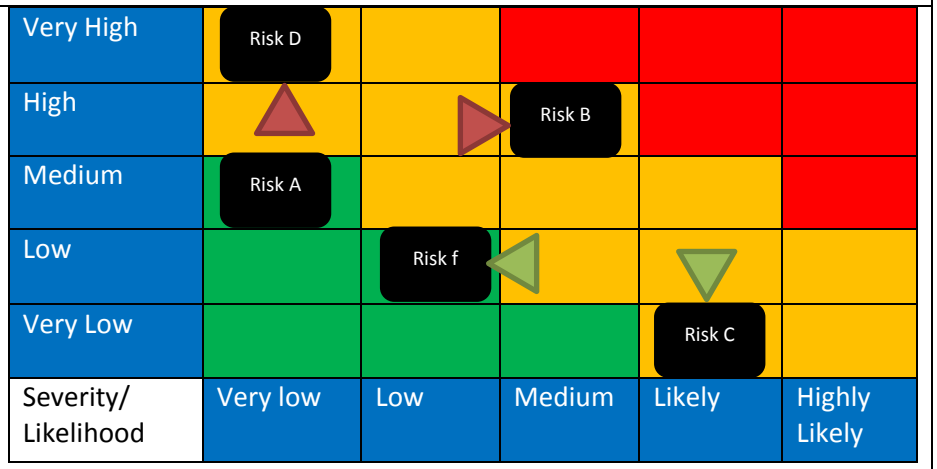
Concept

The risk tracking technique uses the Risk Heat Map concept and develops it to maintain a picture of developing trends across the risks.

This technique provides the project or programme board an 'at a glance' view of their changing exposure to risks.

The graphical illustration that the Risk Heat Map uses to show where the risks are currently positioned is extended to show the changing scene.

The details of the risk will be stored in the Risk Register.



This map one month later is showing that there have been a number of changes. The green arrows are indicating that the position for two of the risks (C and F) has improved. But there are two other risks where the situation has deteriorated, this is indicated by the red arrows for Risks D and B