

The Orange Book

Management of Risk - Principles and Concepts

October 2004



HM TREASURY



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Concepts

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FOREWORD

In recent years all sectors of the economy have focused on management of risk as the key to making organisations successful in delivering their objectives whilst protecting the interests of their stakeholders. Risk is uncertainty of outcome, and good risk management allows an organisation to:

- have increased confidence in achieving its desired outcomes;
- effectively constrain threats to acceptable levels; and
- take informed decisions about exploiting opportunities.

Good risk management also allows stakeholders to have increased confidence in the organisation's corporate governance and ability to deliver.

In central government a number of reports, particularly the National Audit Office's 2000 report "Supporting innovation – managing risk in government departments" and the Strategy Unit 2002 report "Risk – improving government's capacity to handle risk and uncertainty", have driven forward the risk management agenda and the development of Statements on Internal Control.

In 2001 Treasury produced "Management of Risk – A Strategic Overview" which rapidly became known as the Orange Book. That publication provided a basic introduction to the concepts of risk management that proved very popular as a resource for developing and implementing risk management processes in government organisations. This publication is the successor to the 2001 "Orange Book". It continues to provide broad based general guidance on the principles of risk management, but has been enhanced to reflect the lessons we have all been learning about risk management through the experience of the last few years. It should be read and used in conjunction with other relevant advice such as the "Green Book" which contains specific advice on "Appraisal and Evaluation in Central Government", the Office of Government Commerce's "Management of Risk" which provides more detailed guidance on the practical application of the principles and concepts contained in this publication, and guidance provided by the Treasury's Risk Support Team as part of "The Risk Programme". Wherever possible links and references have been provided to additional resources which explore the Orange Book concepts in more detail.

Perhaps the most significant shift since the publication of the 2001 "Orange Book" is that all government organisations now have basic risk management processes in place. This means that the main risk management challenge does not now lie in the initial identification and analysis of risk and the development of the risk management process, but rather in the ongoing review and improvement of risk management. This guidance aims to reflect that – for instance, it now includes guidance on issues such as "horizon scanning" for changes affecting the organisation's risk profile. It also focuses on both internal processes for risk management and consideration of the organisation's risk management in relation to the wider environment in which it functions.

This guidance is intended to be useful to:

- those who are new to risk management and those who are tasked with providing training on risk management in their organisations, both of whom will find it useful as a key introductory document;
- those who are concerned with the review of risk management arrangements (such as Audit Committees) as a resource providing a comprehensive statement of principles against which actual risk management processes can be evaluated;
- senior staff whose leadership is vital if an appropriate culture is to be generated in which risk management can be effective;
- operational level staff who manage day to day risks in the delivery of the organisation's objectives and who will find it a practical support in the actual management of risk; and
- those who are experienced in risk management, for whom this guidance explores more difficult concepts such as risk appetite.

It will be equally of use whether the reader's focus of interest is with managing risk at strategic, programme or operational levels.



Mary Keegan

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HM Treasury

October 2004

OVERVIEW

1.1 It is a matter of definition that organisations exist for a purpose – perhaps to deliver a service, or to achieve particular outcomes. In the private sector the primary purpose of an organisation is generally concerned with the enhancement of shareholder value; in the central government sector the purpose is generally concerned with the delivery of service or with the delivery of a beneficial outcome in the public interest. Whatever the purpose of the organisation may be, the delivery of its objectives is surrounded by uncertainty which both poses threats to success and offers opportunity for increasing success.

1.2 Risk is defined as this uncertainty of outcome, whether positive opportunity or negative threat, of actions and events. The risk has to be assessed in respect of the combination of the likelihood of something happening, and the impact which arises if it does actually happen. Risk management includes identifying and assessing risks (the “inherent risks”) and then responding to them.

1.3 The resources available for managing risk are finite and so the aim is to achieve an optimum response to risk, prioritised in accordance with an evaluation of the risks. Risk is unavoidable, and every organisation needs to take action to manage risk in a way which it can justify to a level which is tolerable. The amount of risk which is judged to be tolerable and justifiable is the “risk appetite”.

1.4 Response, which is initiated within the organisation, to risk is called “internal control” and may involve one or more of the following:

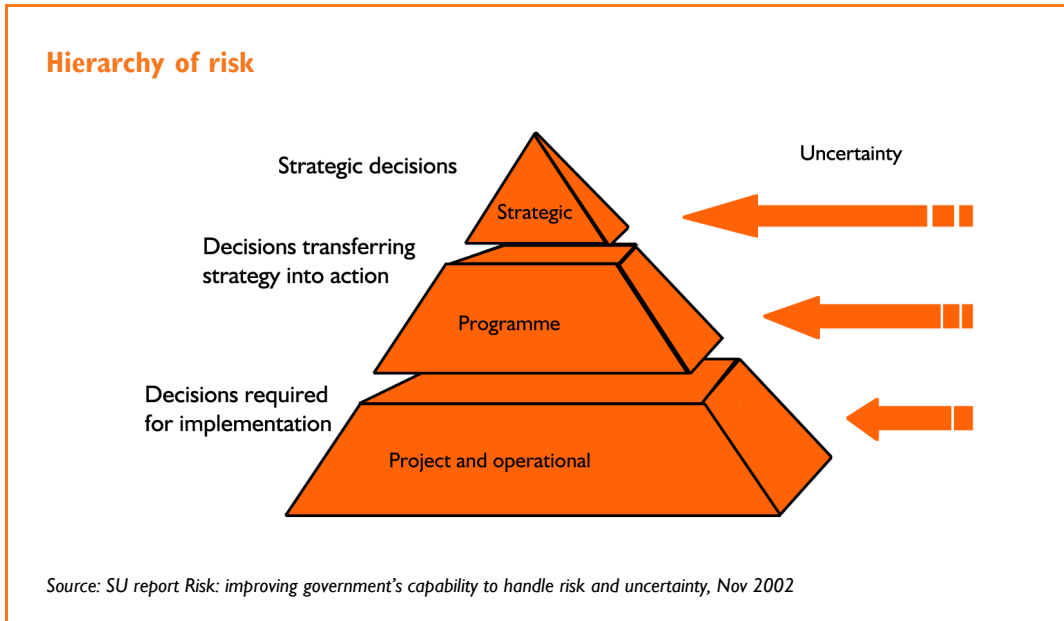
- tolerating the risk;
- treating the risk in an appropriate way to constrain the risk to an acceptable level or actively taking advantage, regarding the uncertainty as an opportunity to gain a benefit;
- transferring the risk;
- terminating the activity giving rise to the risk.

In any of these cases the issue of opportunity arising from the uncertainty should be considered.

The level of risk remaining after internal control has been exercised (the “residual risk”) is the *exposure* in respect of that risk, and should be acceptable and justifiable – it should be within the risk appetite.

1.5 None of this takes place in a vacuum. Every organisation functions within an environment which both influences the risks faced and provides a context within which risk has to be managed. Further, every organisation has partners on which it depends in the delivery of its objectives whether they be simply suppliers of goods which the organisation requires or direct partners in the delivery of objectives. Effective risk management needs to give full consideration to the context in which the organisation functions and to the risk priorities of partner organisations.

1.6 The management of risk at strategic, programme and operational levels needs to be integrated so that the levels of activity support each other. In this way the risk management strategy of the organisation will be led from the top and embedded in the normal working routines and activities of the organisation. All staff should be aware of the relevance of risk to the achievement of their objectives and training to support staff in risk management should be available.



1.7 Managers at each level therefore need to be equipped with appropriate skills which will allow them to manage risk effectively and the organisation as a whole needs a means of being assured that risk management is being implemented in an appropriate way at each level. Every organisation should have a risk management strategy, designed to achieve the principles set out in this publication. The application of that strategy should be embedded into the organisation's business systems, including strategy and policy setting processes, to ensure that risk management is an intrinsic part of the way business is conducted.

1.8 This guide aims to provide an introduction to the range of considerations which apply in risk management, all of which can be applied at various levels ranging from the development of a strategic, organisation-wide risk policy through to management of a particular project or operation. It does so using a risk management model which is set out in the next section – each element of the model is explored in further detail. The guide focuses firstly on the “lifecycle” core of the model, then gives consideration to the wider based issues which form the overall risk management environment. It is important to note that this guide is *not* a detailed instruction manual for how to manage risk – its aim is simply to draw attention to the range of issues which are involved and to offer some general direction to help the reader think about how these issues may be addressed in the specific circumstances of their own organisation.

1.9 There is not a specific “standard” set for risk management in government organisations. This guide establishes *principles* of risk management, and the “Risk Management Assessment Framework”¹ provides a means of assessing the *maturity* of risk management. Organisations may choose to adopt particular standards (for example, the “Risk Management Standard” produced jointly by IRM, ALARM and AIRMIC² in the UK, or the Australian standard³, CoSo⁴, or the Canadian government sector standard⁵). More important than compliance with any particular Standard is ability to demonstrate that risk is managed in the particular organisation, in its particular circumstances, in a way which effectively supports the delivery of its objectives.

¹ http://www.hm-treasury.gov.uk/media/7B1D9/risk_management_assessment_070104.pdf

² <http://www.airmic.com>

³ <http://www.riskmanagement.com.au/>

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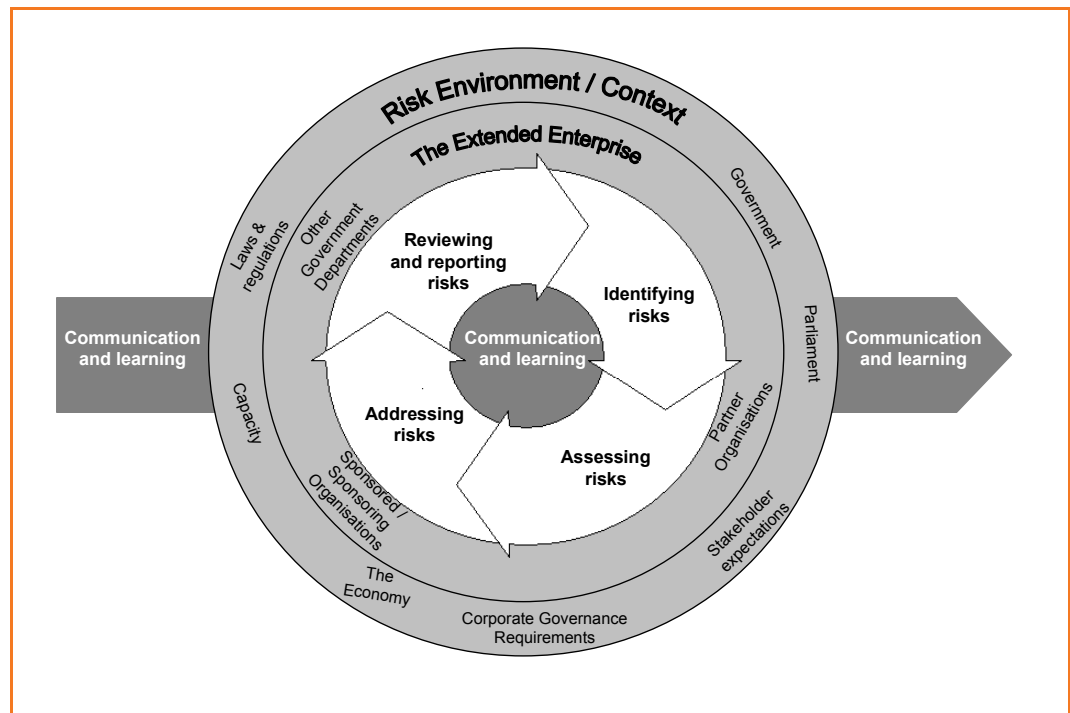
[http://www.erm.coso.org/Coso/coserm.nsf/vwWebResources/PDF_Manuscript/\\$file/COSO_Manuscript.pdf](http://www.erm.coso.org/Coso/coserm.nsf/vwWebResources/PDF_Manuscript/$file/COSO_Manuscript.pdf)

⁵ http://www.tbs-sct.gc.ca/pubs_poll/dcgpubs/Risk_Management/siglist_e.asp

2

THE RISK MANAGEMENT MODEL

Risk Management Model – developed from the model in the Strategy Unit’s November 2002 report : “Risk – improving government’s capability to handle risk and uncertainty”



Notes on the model

The management of risk is not a linear process; rather it is the balancing of a number of interwoven elements which interact with each other and which have to be in balance with each other if risk management is to be effective. Furthermore, specific risks cannot be addressed in isolation from each other; the management of one risk may have an impact on another, or management actions which are effective in controlling more than one risk simultaneously may be achievable.

The whole model has to function in an environment in which risk appetite has been defined. The concept of risk appetite (how much risk is tolerable and justifiable) can be regarded as an “overlay” across the whole of this model.

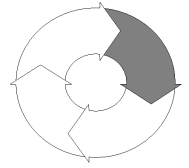
The model presented here, by necessity, dissects the core risk management process into elements for illustrative purposes but in reality they blend together. In addition, the particular stage in the process which one may be at for any particular risk will not necessarily be the same for all risks.

The model illustrates how the core risk management process is not isolated, but takes place in a context; and, how certain key inputs have to be given to the overall process in order to generate the outputs which will be desired from risk management.

3

IDENTIFYING RISKS

3.1 In order to manage risk, an organisation needs to know what risks it faces, and to evaluate them. Identifying risks is the first step in building the organisation's risk profile. There is no single right way to document an organisation's risk profile, but documentation is critical to effective management of risk.



3.2 The identification of risk can be separated into two distinct phases. There is:

- initial risk identification (for an organisation which has not previously identified its risks in a structured way, or for a new organisation, or perhaps for a new project or activity within an organisation), and there is;
- continuous risk identification which is necessary to identify new risks which did not previously arise, changes in existing risks, or risks which did exist ceasing to be relevant to the organisation (this should be a routine element of the conduct of business).

3.3 In either case risks should be related to objectives. Risks can only be assessed and prioritised in relation to objectives (and this can be done at any level of objective from personal objectives to organisational objectives). Care should be taken to identify generic risks which will impact on business objectives but might not always be immediately apparent in thinking about the particular business objective. When a risk is identified it may be relevant to more than one of the organisation's objectives, its potential impact may vary in relation to different objectives, and the best way of addressing the risk may be different in relation to different objectives (although it is also possible that a single treatment may adequately address the risk in relation to more than one objective). In stating risks, care should be taken to avoid stating impacts which may arise as being the risks themselves, and to avoid stating risks which do not impact on objectives; equally care should be taken to avoid defining risks with statements which are simply the converse of the objectives. A statement of a risk should encompass the cause of the impact, and the impact to the objective ("cause and consequence) which might arise.

Objective – to travel by train from A to B for a meeting at a certain time	
Failure to get from A to B on time for the meeting	X this is simply the converse of the objective
Being late and missing the meeting	X This is a statement of the impact of the risk, not the risk itself
There is no buffet on the train so I get hungry	X this does not impact on achievement of the objective
Missing the train causes me to be late and miss the meeting	✓ This is a risk which can be controlled by making sure I allow plenty of time to get to the station
Severe weather prevents the train from running and me from getting to the meeting	✓ This is a risk which I cannot control, but against which I can make a contingency plan

3.4 The individual risks which an organisation identifies will not be independent of each other; rather they will typically form natural groupings. For instance, there may be a number of risks which can be grouped together as “resources” and further risks which can be grouped together as “environmental”. Some risks will be relevant to several of the organisation’s objectives. These groupings of risks will incorporate related risks at strategic, programme and operational levels (see 1.6). It is important not to confuse a grouping of risks with the risks themselves. Risks should be identified at a level where a specific impact can be identified and a specific action or actions to address the risk can be identified. All risks, once identified, should be assigned to an owner who has responsibility for ensuring that the risk is managed and monitored over time. A risk owner, in line with their accountability for managing the risk, should have sufficient authority to ensure that the risk is effectively managed; the risk owner may not be the person who actually takes the action to address the risk.

3.5 It is necessary to adopt an appropriate approach or tool for the identification of risk. Two of the most commonly used approaches are:

- Commissioning a risk review: A designated team is established (either in-house or contracted in) to consider all the operations and activities of the organisation in relation to its objectives and to identify the associated risks. The team should work by conducting a series of interviews with key staff at all levels of the organisation to build a risk profile for the whole range of activities (but it is important that the use of this approach should not undermine line management’s understanding of their responsibility for managing the risks which are relevant to their objectives);
- Risk self-assessment: An approach by which each level and part of the organisation is invited to review its activities and to contribute its diagnosis of the risks it faces. This may be done through a documentation approach (with a framework for diagnosis set out through questionnaires), but is often more effectively conducted through a facilitated workshop approach (with facilitators with appropriate skills helping groups of staff to work out the risks affecting their objectives). A particular strength of this approach is that better ownership of risk tends to be established when the owners themselves identify the risks.

3.6 These approaches are not mutually exclusive, and a combination of approaches to the risk identification process is desirable – this sometimes exposes significant differences in risk perception within the organisation. These differences in perception need to be addressed to achieve effective integration of risk management at the various levels of the organisation.

3.7 Increasingly both in the public and private sectors the importance of looking over the horizon and managing upcoming risk is now recognised. There can be considerable variation between organisations in their approach to horizon scanning because of differing organisational needs. A summary of horizon scanning issues, provided by the Civil Contingencies Secretariat of the Cabinet Office is at Annex C.

3.8 The table following is drawn from a 2004 review (by Treasury) of main departments’ risks and offers a summary of the most common categories or groupings of risk with examples of the nature of the source and effect issues; it is intended to help organisations check that they have considered the range of potential risks which may arise; the table does not claim to be comprehensive - some organisations may be able to identify other categories of risk applicable to their work.

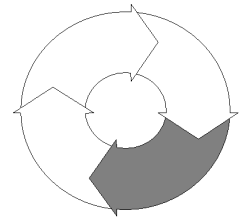
CATEGORY OF RISK	Illustration /issues to consider
1. External (arising from the external environment, not wholly within the organisation’s control, but where action can be taken to mitigate the risk)	
<i>[This analysis is based on the “PESTLE” model – see the Strategy Survival Guide at www.strategy.gov.uk]</i>	
1.1 Political	Change of government, cross cutting policy decisions (e.g. – the Euro); machinery of government changes
1.2 Economic	Ability to attract and retain staff in the labour market; exchange rates affect costs of international transactions; effect of global economy on UK economy
1.3 Socio cultural	Demographic change affects demand for services; stakeholder expectations change
1.4 Technological	Obsolescence of current systems; cost of procuring best technology available, opportunity arising from technological development
1.5 Legal/regulatory	EU requirements / laws which impose requirements (such as Health and Safety or employment legislation)
1.6 Environmental	Buildings need to comply with changing standards; disposal of rubbish and surplus equipment needs to comply with changing standards
2. Operational (relating to existing operations – both current delivery and building and maintaining capacity and capability)	
2.1 Delivery	
2.1.1 Service/product failure	Fail to deliver the service to the user within agreed / set terms
2.1.2 Project delivery	Fail to deliver on time / budget / specification
2.2 Capacity and capability	
2.2.1 Resources	Financial (insufficient funding, poor budget management, fraud) HR (staff capacity / skills / recruitment and retention) Information (adequacy for decision making; protection of privacy) Physical assets (loss / damage / theft)
2.2.2 Relationships	Delivery partners (threats to commitment to relationship / clarity of roles) Customers / Service users (satisfaction with delivery) Accountability (particularly to Parliament)
2.2.3 Operations	Overall capacity and capability to deliver
2.2.4 Reputation	Confidence and trust which stakeholders have in the organisation
2.3 Risk management performance and capability	
2.3.1 Governance	Regularity and propriety / compliance with relevant requirements / ethical considerations
2.3.2 Scanning	Failure to identify threats and opportunities
2.3.3 Resilience	Capacity of systems / accommodation / IT to withstand adverse impacts and crises (including war and terrorist attack). Disaster recovery / contingency planning
2.3.4 Security	Of physical assets and of information
3. Change (risks created by decisions to pursue new endeavours beyond current capability)	
3.1 PSA targets	New PSA targets challenge the organisation’s capacity to deliver / ability to equip the organisation to deliver
3.2 Change programmes	Programmes for organisational or cultural change threaten current capacity to deliver as well as providing opportunity to enhance capacity
3.3 New projects	Making optimal investment decisions / prioritising between projects which are competing for resources
3.4 New policies	Policy decisions create expectations where the organisation has uncertainty about delivery

4

ASSESSING RISKS

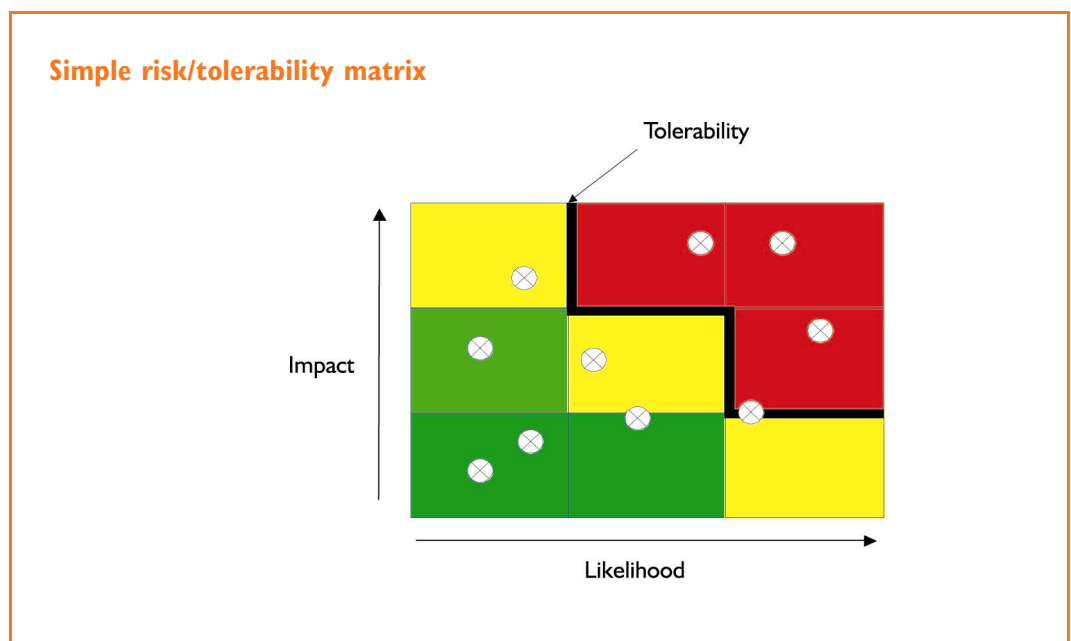
4.1 There are three important principles for assessing risk:

- ensure that there is a clearly structured process in which both likelihood and impact are considered for each risk;
- record the assessment of risk in a way which facilitates monitoring and the identification of risk priorities;
- be clear about the difference between, inherent and residual risk (see 1.2 and 1.4).



4.2 Some types of risk lend themselves to a numerical diagnosis - particularly financial risk. For other risks - for example reputational risk - a much more subjective view is all that is possible. In this sense risk assessment is more of an art than a science. It will be necessary, however, to develop some framework for assessing risks. The assessment should draw as much as possible on unbiased independent evidence, consider the perspectives of the whole range of stakeholders affected by the risk, and avoid confusing objective assessment of the risk with judgement about the acceptability of the risk.

4.3 This assessment needs to be done by evaluating both the likelihood of the risk being realised, and of the impact if the risk is realised. A categorisation of high / medium / low in respect of each may be sufficient, and should be the minimum level of categorisation – this results in a “3x3” risk matrix. A more detailed analytical scale may be appropriate, especially if clear quantitative evaluation can be applied to the particular risk - “5x5” matrices are often used, with impact on a scale of “insignificant / minor / moderate/ major/ catastrophic” and likelihood on a scale of “rare / unlikely / possible / likely / almost certain”. There is no absolute standard for the scale of risk matrices - the organisation should reach a judgement about the level of analysis that it finds most practicable for its circumstances. Colour (“Traffic Lights”) can be used to further clarify the significance of risks.



4.4 When the assessment is then compared to the risk appetite (see 4.5 below), the extent of action required becomes clear. It is not the absolute value of an assessed risk which is important; rather it is whether or not the risk is regarded as *tolerable*, or how far the exposure is away from tolerability, which is important.

4.5 At the organisational level risk appetite can become complicated (see section 5 for more detail), but at the level of a specific risk it is more likely that a level of exposure which is acceptable can be defined in terms of both a tolerable impact if a risk is realised, and tolerable frequency of that impact. It is against this that the residual risk has to be compared to decide whether or not further action is required. Tolerability may be informed by the value of assets lost or wasted in the event of an adverse impact, stakeholder perception of an impact, the balance of the cost of control and the extent of exposure, and the balance of potential benefit to be gained or losses to be withstood.

4.6 Thinking about risk frequently focuses on residual risk (ie- the risk after control has been applied which, assuming control is effective, will be the actual exposure of the organisation - see 1.4). Residual risk, of course, will often have to be re-assessed – for example, if control is adjusted. Assessment of the *anticipated* residual risk is necessary for the evaluation of proposed control actions.

4.7 Care should also be taken to capture information about the *inherent* risk. If this is not done the organisation will not know what its exposure will be if control should fail. Knowledge about the inherent risk also allows better consideration of whether there is over-control in place – if the inherent risk is within the risk appetite, resources may not need to be expended on controlling that risk. This need to have knowledge about both inherent and residual risk means that the assessment of risk is a stage in the risk management process which cannot be separated from addressing risk; the extent to which the risk needs to be addressed is informed by the inherent risk whereas the adequacy of the means chosen to address the risk can only be considered when the residual risk has been assessed.

4.8 Risk assessment should be documented in a way which records the stages of the process (an example is an Annex A). Documenting risk assessment creates a *risk profile* for the organisation which:

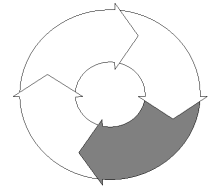
- facilitates identification of risk priorities (in particular to identify the most significant risk issues with which senior management should concern themselves);
- captures the reasons for decisions made about what is and is not tolerable exposure;
- facilitates recording of the way in which it is decided to address risk;
- allows all those concerned with risk management to see the overall risk profile and how their areas of particular responsibility fit into it;
- facilitates review and monitoring of risks.

4.9 Once risks have been assessed, the risk priorities for the organisation will emerge. The less acceptable the exposure in respect of a risk, the higher the priority which should be given to addressing it. The highest priority risks (the key risks) should be given regular attention at the highest level of the organisation, and should consequently be considered regularly by the Board. The specific risk priorities will change over time as specific risks are addressed and prioritisation consequently changes.

5

RISK APPETITE

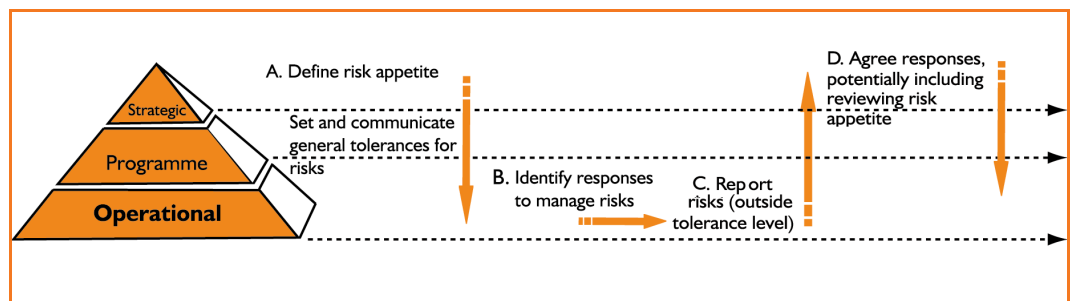
5.1 The concept of a “risk appetite” is key to achieving effective risk management and it is essential to consider it before moving on to consideration of how risks can be addressed. The concept may be looked at in different ways depending on whether the risk (the uncertainty) being considered is a threat or an opportunity:



- When considering threats the concept of risk appetite embraces the level of exposure which is considered tolerable and justifiable should it be realised. In this sense it is about comparing the cost (financial or otherwise) of constraining the risk with the cost of the exposure should the exposure become a reality and finding an acceptable balance;
- When considering opportunities the concept embraces consideration of how much one is prepared to actively put at risk in order to obtain the benefits of the opportunity. In this sense it is about comparing the value (financial or otherwise) of potential benefits with the losses which might be incurred (some losses may be incurred with or without realising the benefits).

It should be noted that some risk is unavoidable and it is not within the ability of the organisation to completely manage it to a tolerable level – for example many organisations have to accept that there is a risk arising from terrorist activity which they cannot control. In these cases the organisation needs to make *contingency plans*.

5.2 In either case the risk appetite will best be expressed as a series of boundaries, appropriately authorised by management, which give each level of the organisation clear guidance on the limits of risk which they can take, whether their consideration is of a threat and the cost of control, or of an opportunity and the costs of trying to exploit it. This means that risk appetite will be expressed in the same terms as those used in assessing risk. An organisation’s risk appetite is not necessarily static; in particular the Board will have freedom to vary the amount of risk which it is prepared to take depending on the circumstances at the time. The model below sets out these concepts in more detail:

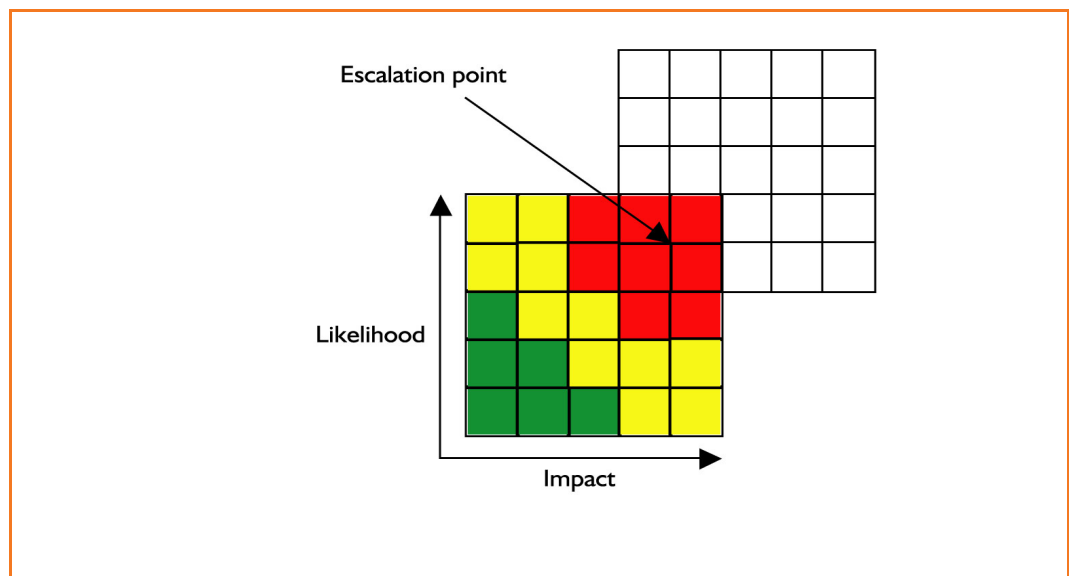


5.3 The concept of risk appetite can be further analysed thus:

- **Corporate Risk Appetite:** Corporate risk appetite is the overall amount of risk judged appropriate for an organisation to tolerate, agreed at board level (letter A in the model at 5.2). This may not be just one statement: OGC, for example, look at 5 key risk areas (policy/guidance risk; people and internal systems risk; propriety, regularity, finance and accountability risk; reputation risk; external risk) and make a statement on risk appetite for each. The Board and senior managers should judge the tolerable range of exposure for the organisation and identify general boundaries for unacceptable risk (or at least for risks that should always be referred to/escalated up to the Board for discussion and decision when they arise). In doing this the Board may want to take Ministerial views on risk-taking into account;
- **Delegated Risk Appetite:** The agreed corporate risk appetite can then be used as a starting point for cascading levels of tolerance down the organisation, agreeing risk appetite in different levels of the organisation (letter B in the model above at 5.2). The effect of this is that what is considered a high level of risk at one level will be a lower level of risk to a higher level of management. This facilitates both a risk escalation process for the taking of risk decisions when delegated boundaries are met (see 5.4 below), and empowers people to innovate within their delegations;
- **Project Risk Appetite:** Projects that fall outside of day-to-day business of an organisation might need their own statement of risk appetite. Different types of projects might also require different levels of risk appetite, for example an organisation may be prepared to accept a higher level of risk for a project that would bring substantial reward.
 - different types of project could be:
 - Speculative (akin to venture capitalism in the corporate sector): with high risks but potentially high rewards, e.g. Invest to Save Budget projects; Pilot projects. It may be that the bulk of these projects are unsuccessful but important lessons are learnt;
 - Standard development projects: for example IT, procurement, construction, etc. (increasingly covered by OGC's Centres of Excellence programme at the time of issue of this document);
 - Mission critical' projects: where organisations need to be sure of success.

The level of risk appetite will obviously vary, with a speculative project prepared to take on higher levels of risk than a "Mission Critical" project.

5.4 Effective management and application of delegated risk appetite requires escalation processes. It is possible to set ‘trigger points’ where risks can be escalated to the next level of management as they approach or exceed their agreed risk appetite levels (letter C in the model at 5.2). The next level up in the hierarchy would then take appropriate action, which may mean managing the risk directly, or could mean adjusting the level of risk that they are happy for the level below to manage (letter D in the model at 5.2). It is also often the case that a higher level of management, with a wider portfolio of risk to manage, has more scope to accept higher risks in particular areas as they can offset them against other lower risks in their portfolio.



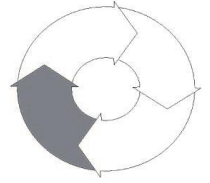
5.5 Further applications of the concept of risk appetite include:

- **Resource allocation:** Once the risk appetite level is set, it is possible to review if resources are targeted appropriately. If a risk does not correspond to the agreed risk appetite, resources could be focused on bringing it to within the tolerance level. Risks which are already within the agreed tolerance level could be reviewed to see if resources could be moved to more risky areas without negative effects. Customs, Inland Revenue, the Police and Fire Service all use risk-based resource allocations to prioritise allocation of resources;
- **Project initiation:** When taking the decision whether to initiate a new project, and when undertaking subsequent OGC Gateway reviews, risk appetite can be used as a guide on whether to proceed with the project and also to help identify and manage risks which may impede the success of the project.

6

ADDRESSING RISKS

6.1 The purpose of addressing risks is to turn uncertainty to the organisation's benefit by constraining threats and taking advantage of opportunities. Any action that is taken by the organisation to address a risk forms part of what is known as "internal control". There are five key aspects of addressing risk:



TOLERATE

The exposure may be tolerable without any further action being taken. Even if it is not tolerable, ability to do anything about some risks may be limited, or the cost of taking any action may be disproportionate to the potential benefit gained. In these cases the response may be to tolerate the existing level of risk. This option, of course, may be supplemented by contingency planning for handling the impacts that will arise if the risk is realised.

TREAT

By far the greater number of risks will be addressed in this way. The purpose of treatment is that whilst continuing within the organisation with the activity giving rise to the risk, action (control) is taken constrain the risk to an acceptable level. Such controls can be further sub-divided according to their particular purpose (see 6.2 below)

TRANSFER

For some risks the best response may be to transfer them. This might be done by conventional insurance, or it might be done by paying a third party to take the risk in another way. This option is particularly good for mitigating financial risks or risks to assets. The transfer of risks may be considered to either reduce the exposure of the organisation or because another organisation (which may be another government organisation) is more capable of effectively managing the risk. It is important to note that some risks are not (fully) transferable – in particular it is generally not possible to transfer reputational risk even if the delivery of a service is contracted out. The relationship with the third party to which the risk is transferred needs to be carefully managed to ensure successful transfer of risk (see section 10).

TERMINATE

Some risks will only be treatable, or containable to acceptable levels, by terminating the activity. It should be noted that the option of termination of activities may be severely limited in government when compared to the private sector; a number of activities are conducted in the government sector because the associated risks are so great that there is no other way in which the output or outcome, which is required for the public benefit, can be achieved. This option can be particularly important in project management if it becomes clear that the projected cost / benefit relationship is in jeopardy.

TAKE THE OPPORTUNITY

This option is not an alternative to those above; rather it is an option which should be considered whenever tolerating, transferring or treating a risk. There are two aspects to this. The first is whether or not at the same time as mitigating threats, an opportunity arises to exploit positive impact. For example, if a large sum of capital funding is to be put at risk in a major project, are the relevant controls judged to be good enough to justify increasing the sum of money at stake to gain even greater advantages? The second is whether or not circumstances arise which, whilst not generating threats, offer positive opportunities. For example, a drop in the cost of goods or services frees up resources which can be re-deployed.

6.2 The option of “treat” in addressing risk can be further analysed into four different types of controls:

PREVENTIVE CONTROLS

These controls are designed to limit the possibility of an undesirable outcome being realised. The more important it is that an undesirable outcome should not arise, the more important it becomes to implement appropriate preventive controls. The majority of controls implemented in organisations tend to belong to this category. Examples of preventive controls include separation of duty, whereby no one person has authority to act without the consent of another (such as the person who authorises payment of an invoice being separate from the person who ordered goods prevents one person securing goods at public expense for their own benefit), or limitation of action to authorised persons (such as only those suitably trained and authorised being permitted to handle media enquiries prevents inappropriate comment being made to the press).

CORRECTIVE CONTROLS

These controls are designed to correct undesirable outcomes which have been realised. They provide a route of recourse to achieve some recovery against loss or damage. An example of this would be design of contract terms to allow recovery of overpayment. Insurance can also be regarded as a form of corrective control as it facilitates financial recovery against the realisation of a risk. Contingency planning is an important element of corrective control as it is the means by which organisations plan for business continuity / recovery after events which they could not control.

DIRECTIVE CONTROLS

These controls are designed to ensure that a particular outcome is achieved. They are particularly important when it is critical that an undesirable event is avoided - typically associated with Health and Safety or with security. Examples of this type of control would be to include a requirement that protective clothing be worn during the performance of dangerous duties, or that staff be trained with required skills before being allowed to work unsupervised.

DETECTIVE CONTROLS

These controls are designed to identify occasions of undesirable outcomes having been realised. Their effect is, by definition, “after the event” so they are only appropriate when it is possible to accept the loss or damage incurred. Examples of detective controls include stock or asset checks (which detect whether stocks or assets have been removed without authorisation), reconciliation (which can detect unauthorised transactions), “Post Implementation Reviews” which detect lessons to be learnt from projects for application in future work, and monitoring activities which detect changes that should be responded to.

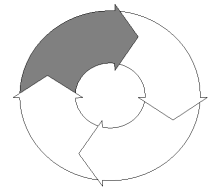
6.3 In designing control, it is important that the control put in place is proportional to the risk. Apart from the most extreme undesirable outcome (such as loss of human life) it is normally sufficient to design control to give a *reasonable assurance* of confining likely loss within the risk appetite of the organisation. Every control action has an associated cost and it is important that the control action offers value for money in relation to the risk that it is controlling. Generally speaking the purpose of control is to constrain risk rather than to eliminate it.

7

REVIEWING AND REPORTING RISKS

7.1 The management of risk has to be reviewed and reported on for two reasons:

- To monitor whether or not the risk profile is changing;
- To gain assurance that risk management is effective, and to identify when further action is necessary.



7.2 Processes should be put in place to review whether risks still exist, whether new risks have arisen, whether the likelihood and impact of risks has changed, report significant changes which adjust risk priorities, and deliver assurance on the effectiveness of control. In addition, the *overall risk management process* should be subjected to regular review to deliver assurance that it remains appropriate and effective. Review of risks and review of the risk management process are distinct from each other and neither is a substitute for the other. The review processes should:

- ensure that all aspects of the risk management process are reviewed at least once a year;
- ensure that risks themselves are subjected to review with appropriate frequency (with appropriate provision for management's own review of risks and for independent review/audit);
- make provision for alerting the appropriate level of management to new risks or to changes in already identified risks so that the change can be appropriately addressed.

7.3 A number of tools and techniques are available to help with achieving the review process

- Risk Self Assessment (RSA) is a technique which has already been referred to in the identification of risk (see 3.5). The RSA process also contributes to the review process. The results of RSA are reported into the process for maintaining the organisation-wide risk profile. (This process is also sometimes referred to as CRSA – “Control and Risk Self Assessment”);
- “Stewardship Reporting” requires that designated managers at various levels of the organisation report upwards (usually at least annually at the financial year end, and often on a quarterly or half yearly interim basis) on the work they have done to keep risk and control procedures up to date and appropriate to circumstances within their particular area of responsibility. This process is compatible with RSA; managers may use RSA as a tool to inform the preparation of their Stewardship Report;
- The “Risk Management Assessment Framework”, produced by the Treasury, provides a tool for evaluating the maturity of an organisation's risk management. This tool is especially useful in preparing for the annual “Statement on Internal Control” which is a public statement about the review of the system of internal control¹.

¹ See Government Accounting, Chapter 21 for more detail – www.government-accounting.gov.uk

In addition to these formal tools, individuals, work groups and teams should constantly be considering the risk issues which they face in the work they are doing.

7.4 Every central government organisation is required to make provision for Internal Audit. Internal Audit's work provides an important independent and objective assurance about the adequacy of risk management, control and governance². Internal audit may also be used by management as an expert internal consultant to assist with the development of a strategic risk management process for the organisation. It will have a wide ranging view of the whole range of activities which the organisation undertakes, and will already have undertaken some form of assessment to inform its planning of systems and processes to be audited. However it is important to note Internal Audit is neither a substitute for management ownership of risk nor a substitute for an embedded review system carried out by the various staff who have executive responsibility for the achievement of organisational objectives (see the "Government Internal Audit Standards", HM Treasury, October 2001 and associated good practice guidance for more detail on internal audit issues).

7.5 Many organisations have specialist review and assurance teams which have been established for a particular purpose (for example, Accounts Inspection Teams, or Compliance Review Teams). Their work contributes to the assurances available about the risk and control systems in use in the organisation. "Stewardship" assurance mechanisms, whereby line managers give account of their stewardship of their areas of responsibility, are also important, especially in organisations with highly devolved control structures.

7.6 Except in rare circumstances, every government organisation will have an Audit Committee (established as a Committee of the Board, ideally with non-executive membership and Chaired by a non-executive) which will be charged with supporting the Accounting Officer in their responsibilities for issues of risk, control and governance and associated assurance (see the "Audit Committee Handbook, HM Treasury, October 2003 for more detail). The Audit Committee should be asked by the Accounting Officer /Board to:

- gain assurance that risk, and change in risk, is being monitored;
- receive the various assurances which are available about risk management and consequently delivering an overall opinion about risk management;
- comment on appropriateness of the risk management and assurance processes which are in place.

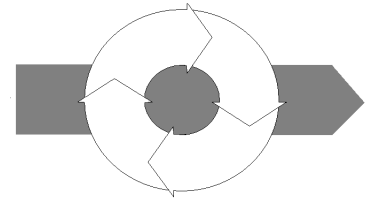
However it should be noted that the Audit Committee should not itself own or manage risks and is, as with internal audit, not a substitute for the proper role of management in managing risk.

² "Definition of internal Audit", Government Internal Audit Standards, HM Treasury, October 2001

7.7 Some organisations may establish a Risk Committee. The Board need to decide what role it wants to assign to the Risk Committee. If the Risk Committee is established as a committee of the Board and is (largely) non executive (i.e. – a “Risk Assurance Committee”) it may undertake those functions outlined at 7.6 above which would otherwise be assigned to an Audit Committee; if, however, the Risk Committee is a forum for executive managers who have significant responsibility for the ownership and management of risk to meet together in order to share experience and co-ordinate their risk management actions (i.e. – a “Risk Management Committee” which discharges executive responsibility for ensuring that risk is effectively managed) the Audit Committee should retain the independent assurance role which is specified for it. The latter option does not preclude non-executive input to the considerations of the Risk Committee.

7.8 Annex B sets out the principles and key process elements for both deriving and delivering overall assurance on risk management and provides an overview for the assurance process.

8.1 Communication and learning is not a distinct stage in the management of risk; rather it is something which runs through the whole risk management process. There are a number of aspects of communication and learning which should be highlighted.



8.2 The identification of new risks or changes in risk is itself dependant on communication. “Horizon scanning” (see 3.7 and Annex C) in particular depends on maintaining a good network of communications with relevant contacts and sources of information to facilitate identification of changes which will affect the organisation’s risk profile. This can range from information on national security which could affect a government organisations strategic planning, through commercial intelligence about the viability of partner organisations or key contractors, to information about plans which one government organisation has which may affect demands made on another government organisation.

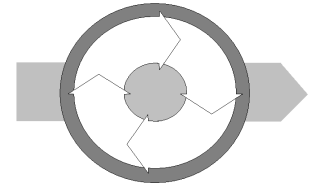
8.3 Communication within the organisation about risk issues is important:

- It is important to ensure that everybody understands, in a way appropriate to their role, what the organisation’s risk strategy is, what the risk priorities are, and how their particular responsibilities in the organisation fit into that framework. If this is not achieved, appropriate and consistent embedding of risk management will not be achieved and risk priorities may not be consistently addressed;
- There is a need to ensure that transferable lessons are learned and communicated to those who can benefit from them. For example, if one part of the organisation encounters a new risk and devises an effective control to deal with it, that lesson should be communicated to all others who may also encounter that risk;
- There is a need to ensure that each level of management, including the Board, actively seeks and receives appropriate and regular assurance about the management of risk within their span of control. They need to be provided with sufficient information to allow them to plan action in respect of risks where the residual risk is not acceptable, as well as assurance about risks which are deemed to be acceptably under control. As well as routine communication of such assurance there should be a mechanism for escalating important risk issues which suddenly develop or emerge.

8.4 Communication with partner organisations about risk issues is also important (see also Section 9 – The Extended Enterprise), especially if the organisation is dependent on the other organisation not just for a particular contract but for direct delivery of a service on behalf of the organisation. Misunderstanding of respective risk priorities can cause serious problems – in particular leading to inappropriate levels of control being applied to specific risks, and failure to gain assurance about whether or not a partner organisation has implemented adequate risk management for itself can lead to dependence on a third party which may fail to deliver in an acceptable way.

8.5 It is important to communicate with stakeholders about the way in which the organisation is managing risk to give them assurance that the organisation will deliver in the way which they expect, and to manage stakeholder expectation of what the organisation can actually deliver. This is especially important in relation to risks which affect the public and where the public depend on government to respond to the risk for them.

9.1 No organisation is entirely self-contained – it will have a number of inter-dependencies with other organisations. These inter-dependencies are sometimes called the “extended enterprise” and will impact on the organisation’s risk management, giving rise to certain additional risks which need to be managed. These considerations should include the impact of the organisation’s actions on other organisations. This section highlights some potential extended enterprise relationships and the risk management implications which might arise.



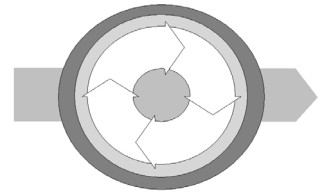
9.2 Many organisations will have inter-dependencies with other Government organisations with which they do not have a direct control relationship – the delivery of their objectives will depend upon / impact upon the delivery of the other organisation’s objectives. In these circumstances what one organisation does will have a direct impact on the risks which another organisation faces, and effective liaison between the two organisations is essential to facilitate an agreed risk management approach which will allow both to achieve their objectives.

9.3 Many government organisations will have a relationship with bodies which they either “parent” or which have a “parent” role over them. In particular many policy departments are dependent on Executive Agencies or Non-Departmental Public Bodies (NDPBs) for delivery of their policy, and many Executive Agencies and NDPBs are constrained in policy by their parent department. In these circumstances the risk priorities of a parent department will impact on the priorities of the organisations which they sponsor, and the sponsored organisations’ experience of managing risk in delivery of the policy needs to be considered by the parent organisation in the further development of policy. Regular and open discussion of risk issues between parent organisations and sponsored organisations is critical to the overall effective delivery of public service.

9.4 Probably all government organisations will have dependencies on contractors or other third parties, although the extent of these dependencies will vary. These relationships may range from straightforward supply of goods which the organisation requires in order to function, through to delivery of major services to, or on behalf of, the organisation. In some cases a contract with a third party will have been created to deliberately transfer risk which the third party is in a better position to manage (see 7.1). This could include Public Private Partnerships or contracted out services such as delivery of the IT infrastructure for the organisation. A particular potential problem here is when the organisation has a high dependency on a contractor, but the organisation is only a minor client for the contractor (for example, a small NDPB purchasing bespoke software from a major IT consulting firm). It is important that organisations consider each of their significant relationships with contractors and third parties and ensure that appropriate communication and understanding about respective risk priorities is achieved.

9.5 Whatever the detailed nature of the risk relationships that the organisation has with others across the extended enterprise, each relationship will also give rise to a need for assurance to be provided that risk is being managed in that relationship both appropriately and as planned. Provision for obtaining such assurance is an integral part of the relationship.

10.1 Beyond the boundary of the “extended enterprise”, other factors contribute to the environment in which risk has to be managed. These factors (generally those in the “external” risk grouping in the table in Section 3) may either generate risks which cannot be directly controlled, or they may constrain the way in which the organisation is permitted to take or address risk. Often the only response which an organisation can make in relation to the risk environment is to prepare contingency plans. For example, most government organisations with central London headquarters cannot directly control the risks arising from international terrorism, but they can make contingency plans for how to ensure business continuity in the event of a major terrorist attack (see www.ukresilience.info/lead.htm for more information). It is important that an organisation should consider its wider risk environment and identify the way in which it impacts on its risk management strategy.



10.2 In particular, laws and regulations, can have an effect on the risk environment. It is important for an organisation to identify the ways in which laws and regulations make demands on it, either by requiring the organisation to do certain things or by constraining the actions which the organisation is permitted to take. For example, the way in which an organisation handles the risk of staff performing inadequately is constrained by employment legislation.

10.3 The economy, both domestically and internationally, is another important element of the risk environment. Whilst for most organisations the general economy is a given, it does affect the markets in which they have to function in obtaining or providing goods and services; in particular the economy can have an effect on the ability of an organisation to attract and retain staff with the skills which the organisation needs.

10.4 A particular aspect of the risk environment which is important for government organisations is Government itself. In principle, government organisations exist to deliver the policies which the Government and its Ministers have decided upon. There is a particular strand of risk management which is important in providing Ministers with risk based policy advice. Nevertheless, officials in government organisations may be constrained in the risks which they do or do not take by policy decisions.

10.5 Every organisation is also constrained by stakeholder expectation. Risk management actions, which appear good value and effective in the abstract, may not be acceptable to stakeholders. For government organisations this is especially important in respect of relationships with the public (see 7.5); actions that would be effective at dealing with a specific risk may have other effects that the public are unwilling to accept.

A

EXAMPLE OF DOCUMENTING RISK ASSESSMENT

OBJECTIVE – To travel from A to B in time for an important meeting								
RISK	Inherent assessment		CONTROLS IN PLACE	Residual assessment		ACTION PLANNED	TARGET DATE	OWNER
	Impact	Likelihood		Impact	Likelihood			
Missing a train makes me late for the important meeting	High	High	Catch train one earlier than I actually need	High	Low	No further action planned		M.Y. Self
Severe weather prevents the train from running	High	Low	Cannot control	High	Low	Telephone conferencing facility to be installed as a contingency	August	A.N. Other
Engineering works make the train late	High	Medium	Check for engineering works and arrange flexibility with people I am meeting	Medium	Low	No further action planned		M.Y. Self

B

OVERALL ASSURANCE ON RISK MANAGEMENT

PRINCIPLES OF ASSURANCE

1. Planning to gain assurance:

- 1.1 Assurance strategy – overall assurance will only be gained if a strategic plan for obtaining it is developed;
- 1.2 Assurance process – the processes for obtaining assurance should be embedded into existing processes.

2. Making explicit the scope of the assurance boundaries:

In order to arrive at an overall opinion the scope of the processes required for obtaining assurance need to encompass the whole of the organisation's risk management lifecycle. This does not mean that every risk and every control has to be reviewed in order to obtain assurance. However, the review, which takes place, will need to provide:

- 2.1 Assurance on the Risk Management Strategy - Ascertain the extent to which all line managers review the risks / controls within the ambit of their responsibility;
- 2.2 Assurance on management of risks/controls - encompass all the key risks and encompass enough of the other risks to support confidence in the overall opinion reached;
- 2.3 Assurance on the adequacy of the review/assurance process - quality assured to engender confidence in the review process.

3. Evidence:

The evidence supporting assurance should be sufficient in scope (2.2 above) and weight (4.2 below) to support the conclusion and be:

- relevant;
- reliable;
- understandable;
- free from material misstatement;
- neutral/free from bias;
- such that another person would reasonably come to the same conclusion.

4. Evaluation:

4.1 The objective is to:

- evaluate the adequacy of the risk management policy and strategy to achieve its objectives;
- evaluate the adequacy of the risk management processes designed to constrain residual risk to the risk appetite;
- identify limitations in the evidence provided or in the depth or scope of the reviews undertaken;
- identify gaps in control and/or over control, and provide the opportunity for continuous improvement; and
- support preparation of the SIC.

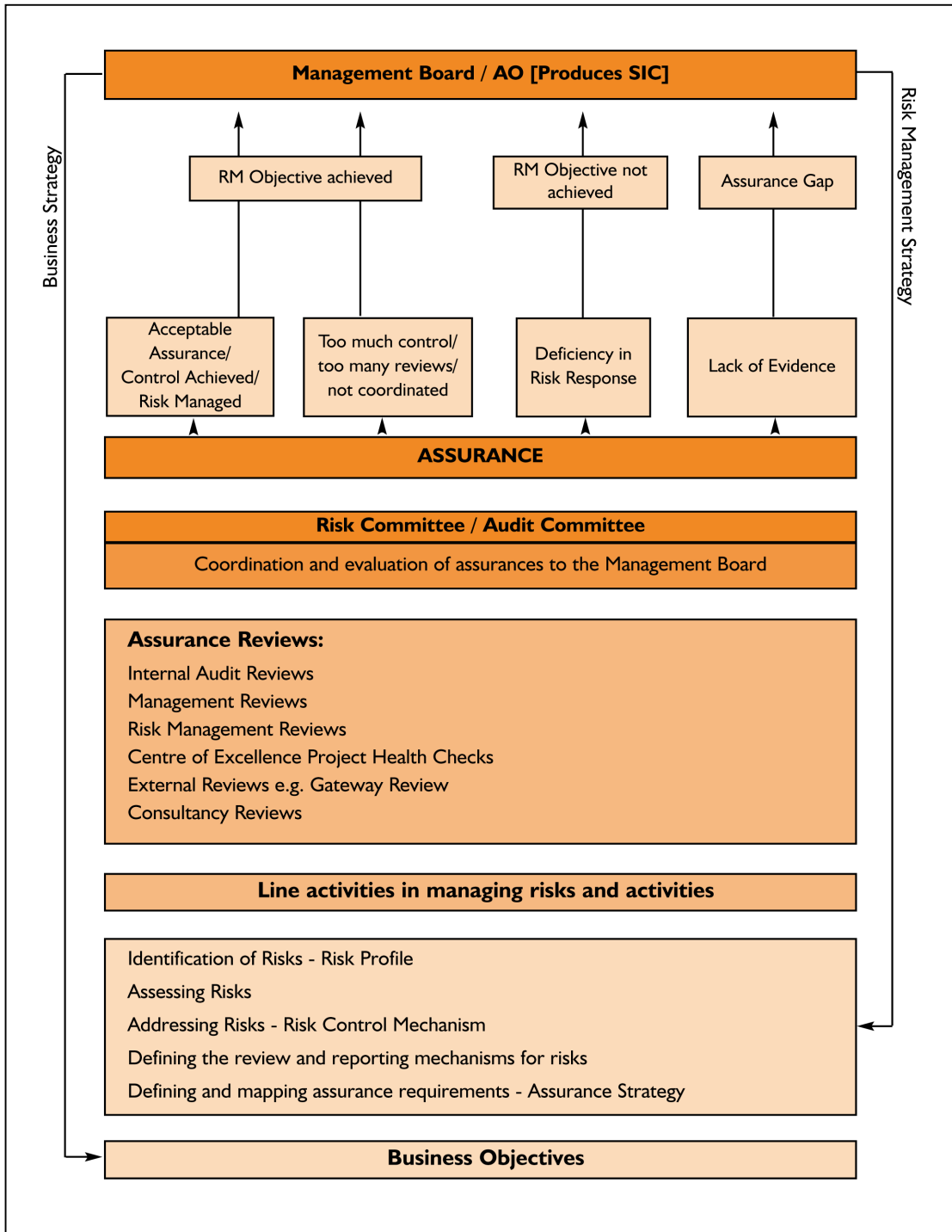
4.2 In evaluating evidence to arrive at an overall judgment or opinion all of the evidence criteria at 3 need to be considered. However it is important to recognise that:

- Not all evidence is of the same weight in deriving assurance. Evidence should be weighted:
 - According to its independence – the more independent the evidence, the more reliance can be placed on it. However circumstances may exist that could affect the reliability of the information obtained, e.g. for independent external evidence to be reliable the source of the evidence must be also knowledgeable;
 - According to its relevance – in determining the overall assurance there is a need to ensure that the evidence relates to those elements of the risk management lifecycle considered to be significant - evidence relevant to the more significant risks is consequently of greater relevance to the overall assurance;
 - Evidence may be flawed in terms of both quantity and quality where the evidence criteria are not met, leading to limitations in the assurance that can be provided. For example, merely obtaining more evidence will not compensate where the quality of evidence is low or where the source of evidence is not reliable.

5. Reviewing and Reporting:

5.1 Assurances are reported from many different sources within an organisation: from external sources, from suppliers and contractor, from third parties, from management and practitioner review internal to the organisation and from internal independent or neutral sources etc. The Assurance Strategy needs to define stages where assurances will be evaluated and opinions reported through the various layers of management to the Board.

5.2 Assurance opinions need to be reported clearly, and worded so as to clearly communicate the scope and criteria used in arriving at those conclusions.



SUMMARY OF HORIZON SCANNING ISSUES

Provided by the Civil Contingencies Secretariat of Cabinet Office

- **Periodicity / Regularity:** horizon scanning may be continuous (in an organisation like the Civil Contingencies Secretariat (CCS) which continuously searches for potential future disruptive challenges) or periodic (e.g. weekly or annually);
- **Timescale:** Policy makers could well be interested in developments over the next twenty-five years whilst horizon scanning that supports operational decision making may be restricted to a six month timeframe;
- **Scope:** Some organisations may be fairly insular in their risk identification processes if they perceive that the major element of risk arises from within the organisation; others may need to consider a much wider scope if they consider that they may face risks from a wider environment. Depending on the nature of the organisation's business this element of risk identification may range from almost exclusively internal activity to activity that depends on international networks of technical information;
- **Opportunity/threat:** Some horizon scanning is concerned mainly with spotting potential problems, but it can equally be used to scan for opportunities ("positive risks"), and many problems may be translatable into opportunities if spotted early enough;
- **Rigour / technicality:** Horizon scanning varies in the extent to which it is structured and supported by technology. Some organisations use sophisticated assessment schemes and information search technologies; other organisations will rely almost entirely on informal networks of contacts and good judgment.

[see www.ukresilience.info/home.htm for more information]

D

GLOSSARY OF KEY TERMS

Assurance	an evaluated opinion, based on evidence gained from review, on the organisation's governance, risk management and internal control framework.
Audit Committee	a Committee appointed to support the Accounting Officer (in NDPBs a Committee of the board to support the Board) in monitoring the corporate governance and control systems in the organisation.
Exposure	the consequences, as a combination of impact and likelihood, which may be experienced by the organisation if a specific risk is realised.
Horizon Scanning	systematic activity designed to identify, as early as possible, indicators of changes in risk.
Inherent Risk	the exposure arising from a specific risk before any action has been taken to manage it.
Residual Risk	the exposure arising from a specific risk after action has been taken to manage it and making the assumption that the action is effective.
Risk	uncertainty of outcome, whether positive opportunity or negative threat, of actions and events. It is the combination of likelihood and impact, including perceived importance.
Risk Appetite	the amount of risk that an organisation is prepared to accept, tolerate, or be exposed to at any point in time.
Risk Assessment	the evaluation of risk with regard to the impact if the risk is realised and the likelihood of the risk being realised.
Risk Assurance Committee	a Committee established to undertake the role which the Audit Committee should otherwise undertake in respect of assurance on risk management.
Risk Management	all the processes involved in identifying, assessing and judging risks, assigning ownership, taking actions to mitigate or anticipate them, and monitoring and reviewing progress.
Risk Management Committee	a Committee established with executive authority to take action to manage the risks which face the organisation.

Risk Strategy	the overall organisational approach to risk management as defined by the Accounting Officer and/or Board. This should be documented and easily available throughout the organisation.
Risk Profile	the documented and prioritised overall assessment of the range of specific risks faced by the organisation.
Internal Control	any action, originating within the organisation, taken to manage risk. These actions may be taken to manage either the impact if the risk is realised, or the frequency of the realisation of the risk.

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