

# Chapter 4 Local responder risk assessment duty

Revision to *Emergency Preparedness*

## Chapter 4 (Local responder risk assessment duty) of *Emergency Preparedness, Revised Version*

- **Summary**

Risk assessment is the first step in the emergency planning and business continuity (BC) planning processes. It ensures that Category 1 responders make plans that are sound and proportionate to risks ([paragraphs 4.1-4.5](#)).

- The Act places a duty on all Category 1 responders to carry out risk assessment. Multi-agency co-operation in maintaining a Community Risk Register is also a statutory duty ([paragraphs 4.9-4.10](#)).
- There is a six-step process for risk assessment that reflects widely accepted good practice. It involves a cycle of identifying potential hazards within the local context, assessing the risks, and considering how those risks should be managed. Responders can use these steps to assist their own planning ([paragraphs 4.29-4.56 and Box 4.6](#)).
- Local risk assessments should inform multi-LRF and national assessments, and vice versa. Category 1 responders will be able to draw on generic risk assessments and other sources of information ([Box 4.5](#)) that are provided by central government, while local risk assessments will be shared with Government via the Department for Communities and Local Government (Resilience and Emergencies Division DCLG RED). These may then be used to inform multi-LRF and national risk assessments ([Boxes 4.2 and 4.3](#)).

- Category 1 responders have a statutory duty to publish their risk assessments, to the extent necessary to reduce the impact of an emergency on the community ([paragraphs 4.14 and 4.56](#)).

#### Box 4.1: Further advice and information

Further advice and information about risk assessment that is not supported directly by the Act, but which responders may find useful in fulfilling their duties under the Act are found in text boxes like this one.

## WHAT THE ACT AND THE REGULATIONS REQUIRE

### Scope of the duty

- 4.1. The Act places a risk assessment duty on all Category 1 responders. The purpose of the duty is to:
- o ensure that Category 1 responders have an accurate and shared understanding of the risks that they face so that planning has a sound foundation and is proportionate to the risks;
  - o provide a rational basis for the prioritisation of objectives and work programmes and the allocation of resources;
  - o enable Category 1 responders to assess the adequacy of their plans and capabilities, highlight existing measures that are appropriate, and allow gaps to be identified;

- o facilitate joined-up local planning, based on consistent planning assumptions;
- o enable Category 1 responders to provide an accessible overview of the emergency planning and business continuity planning context for the public and officials and
- o inform and reflect national risk assessments that support emergency planning and capability development at those levels.

### **Assess the risk of an emergency**

4.2. There is a duty on Category 1 responders to assess the risk of an emergency within, or affecting, a geographical area for which each Category 1 responder is responsible.<sup>1</sup> The source of risk includes both hazards and threats. Hazards are defined as non-malicious events including natural events, industrial accidents and industrial action. Threats are defined as malicious attacks. Emergency, as defined in the Act, is an event or situation which threatens serious damage to human welfare in a place in the United Kingdom, an event or situation which threatens serious damage to the environment of a place in the United Kingdom, or war, or terrorism, which threatens serious damage to the security of the United Kingdom.<sup>2</sup> It must also meet either of the following criteria:

- o The threat or hazard is of a sufficient scale and nature that it is likely to seriously obstruct a Category 1 responder in the performance of its functions.
- o The threat or hazard requires the Category 1 responder to exercise its functions and undertake a special mobilisation.<sup>3</sup>

<sup>1</sup> s.2 (1)(a)-(b), regulation 13

<sup>2</sup> s.1

<sup>3</sup> s. 2(2)

- 4.3. Challenges which do not constitute an emergency as defined under the Act lie outside the scope of the risk assessment duty. As part of business continuity management (BCM), Category 1 responders will need to risk-assess their emergency planning arrangements and their ability to deliver their critical functions during those emergencies for which the risks are assessed to be significant. Henceforth, in this chapter, 'hazards' and 'threats' are events which may result in an emergency, as defined above.

### **Modification of plans**

- 4.4. Category 1 responders are required to consider whether plans should be modified in light of the risk assessment.<sup>4</sup>

### **Plan for response to an emergency**

- 4.5. Category 1 responders need only perform a risk assessment in relation to emergencies which would or might affect the geographical area for which they are responsible.<sup>5</sup> This includes risk sources both within and outside an LRF border including critical national infrastructure (CNI).

### **Minister of the Crown**

- 4.6. The Regulations enable a Minister of the Crown to issue Category 1 responders with guidance on the risk of a particular emergency. This guidance will usually take the form of likelihood and impact assessments. The Minister may provide that Category 1 responders must adopt that assessment as their own. In general, this is the approach that will be used for the assessment of risks associated with threats; central government will provide statements of the likelihood and impacts of broad threat

<sup>4</sup> s. 2(1)(e)

<sup>5</sup> regulation 13

categories within the Local Risk Assessment Guidance (LRAG)<sup>6</sup> and the National Risk Register (NRR)<sup>7</sup>. Planning figures for the generic consequences of these threats categories are provided in the National Resilience Planning Assumptions (NRPAs).<sup>8</sup> In these cases, a responder must not assess the likelihood of that emergency occurring itself; it must rely on the Ministerial assessment.

- 4.7. Alternatively, the Minister may provide that Category 1 responders must “have regard” to the Ministerial assessment. In such cases, responders must conduct a subsequent risk assessment of their own. They must take the Ministerial assessment into account, but if there are particular reasons to depart from that assessment (e.g. because there are peculiar local features which have not been taken into account in the Ministerial assessment), a responder may do so. This is how generic local likelihood assessments of hazards - in the form of the LRAG - will be provided to Category 1 responders in the Local Resilience Forums (LRFs) by the government departments and agencies that are best placed to make those assessments (e.g. the Environment Agency for coastal flooding, and the Health and Safety Executive for industrial accidents).

### Frequency

- 4.8. The Act also states that the risk assessment should be updated “from time to time”.<sup>9</sup> This must be interpreted in light of the purpose of the risk assessment duty and the duty on responders to perform their duties under the Act in a “reasonable fashion”. Thus, Category 1 responders should assess risk as often as is necessary, taking into account the annually updated Local Risk Assessment Guidance (LRAG), to ensure that they are in a reasonable position to maintain and

<sup>6</sup> The LRAG is issued by the Cabinet Office and is designed to inform LRF risk assessments. It contains information on the likelihood and impact of generic threats and hazards and is updated annually. See [Box 4.4](#).

<sup>7</sup> The NRR is the public version of the NRA. It contains a high level overview of the risks to the UK as well as giving advice on how businesses, communities and individuals can better prepare for emergencies. It is issued approximately every two years. It can be found at <http://www.cabinetoffice.gov.uk/resource-library/national-risk-register>. See [Box 4.4](#).

<sup>8</sup> National Resilience Planning Assumptions provide information and planning figures for the generic consequences of risks. It is based upon the NRA and is published annually to reflect changes in the risk assessment.

<sup>9</sup> s. 2(1)(a)-(b)

update their emergency plans and to perform the civil protection duties under the Act, including the duty to maintain Business Continuity plans. However, the risk assessment should respond quickly to changes in the risk environment so that plans can be updated<sup>10</sup> accordingly. This means that the process should be iterative and contain risk monitoring and updating mechanisms (see [paragraph 4.55](#)).

### Co-operation

4.9. As part of the LRF process, Category 1 responders must co-operate with each other in maintaining the Community Risk Register (CRR).<sup>11</sup> The CRR provides an agreed position on the risks affecting a local area and on the planning and resourcing priorities required to prepare for those risks. Its purpose is to enable each Category 1 responder to:

- o be fully informed of the risks of emergency in its area;
- o benefit from the range of views on risk of its partners on the LRF;
- o identify collectively the main local emergency plans and capabilities which appear to be needed across all the Category 1 responders;
- o decide which of the plans and capabilities should properly fall to it;<sup>12</sup> and
- o know which of its partners in the LRF acknowledges responsibility for developing plans and capabilities against the various risks.

4.10. According to the Regulations, the CRR should be shared with LRFs with whom a boundary is shared.<sup>13</sup> A copy of the CRR should also be provided to the Department for Communities and Local Government Resilience and Emergencies Division for distribution to others as necessary. This may include Cabinet Office and other government departments, as well as other LRFs who do not necessarily share

<sup>10</sup> s. 2(1)(e)

<sup>11</sup> regulation 15

<sup>12</sup> s. 2(1)(b)

<sup>13</sup> regulation 16

geographical boundaries with the CRR area. Indeed, Category 1 responders should consider whether there are any specific risks which should be communicated to any LRFs in any other local areas.<sup>14</sup>

- 4.11. While the Act imposes a duty on each Category 1 responder to assess risk, it is recognised that requiring each Category 1 responder to perform this duty in isolation would lead to a wasteful duplication of resources. It is more efficient for individual Category 1 responders to fulfil their risk assessment duties by participating in a collaborative exercise that results in a single, collective risk assessment. This ensures that each local risk is assessed once only and allows the workload to be shared between Category 1 responders. It also helps to streamline the relationship between Category 1 responders and the government departments and agencies that are able to support the risk assessments.
- 4.12. In light of this, the Regulations enable the risk assessment duty to be exercised in different<sup>15</sup> ways. The Act provides that Category 1 responders may fulfil the duty to assess risk jointly. For example, a number of Category 1 responders in the form of a subgroup of the LRF might collectively assess the risk of a particular emergency occurring. Alternatively, the Act enables one Category 1 responder to be identified with lead responsibility.<sup>16</sup> This is the mechanism that may be used by LRF members to share the risk assessment activity between them, with each member taking lead responsibility for a number of the risks. However, as outlined below, it will be for each Category 1 responder to assess whether a given risk poses a challenge for that particular responder.

<sup>14</sup> regulation 18

<sup>15</sup> regulation 8

<sup>16</sup> regulations 9-11



- 4.13. In addition, a Category 1 responder may engage a third party (e.g. an external consultant) to provide it with advice that relates to the risk of a particular emergency occurring. The Category 1 responder may then rely on this advice in making its own risk assessment. However, Category 1 responders should remember the benefits of conducting this process themselves: increased stakeholder engagement, a deeper understanding of the risk assessment, and enhanced credibility when communicating and explaining the assessment.

### **Publication of risk assessments**

- 4.14. The Act requires each Category 1 responder to arrange to publish all or part of its risk assessments.<sup>17</sup> It can do this (by agreement with its LRF partners) by publishing all or part of the CRR. It may also fulfil the duty by publishing all or part of a plan, where the part published includes a summary of the risk assessment on which the plan is based. When deciding what may be published, the security classification of information and any restrictions on the disclosure of sensitive information should be taken into consideration (see [paragraph 4.57](#))

### **How the Act and the Regulations Apply in Scotland, Wales and Northern Ireland**

- 4.15. The extent of the risk assessment duty under the Act and the application of this guidance differ between the devolved administrations.

### **Scotland**

- 4.16. Category 1 responders in Scotland have a duty to undertake risk assessment. The Resilience Division and sector policy areas of the Scottish Government work closely with Strategic Co-ordinating Groups (LRF equivalents) and national agencies to

<sup>17</sup> s. 2(1)(f)

- 4.16. deliver resilience activities in Scotland. The guidance *Preparing Scotland* has been centrally produced by the Scottish Government in partnership with Category 1 responders to support them to undertake these statutory duties.
- 4.17. Information on hazard and threat assessments for the UK is provided to the Scottish Government in the form of the LRAG, the National Risk Register and National Resilience Planning Assumptions. These are circulated to Strategic Co-ordinating Groups via the Scottish Government's Resilience Division. This material will be issued direct by a Minister to Category 1 responders which fall outside devolved competence.

### **Wales**

- 4.18. The Act, Regulations and guidance extend to Wales. To assist Category 1 responders to fulfil their risk assessment duty, the Welsh Government will be provided with information on hazard and threat assessments in the form of the LRAG, the National Risk Register and National Resilience Planning Assumptions, to cascade to Category 1 responders in Wales. The Welsh Government may issue its own risk assessments to responders in Wales, with the consent of the Minister of the Crown. In certain circumstances, a Minister of the Crown may also provide guidance direct to Category 1 responders in Wales. From time to time, the CRR should also be shared with LRFs with whom a boundary is shared, and a copy provided to the Welsh Government.<sup>18</sup>

### **Northern Ireland**

- 4.19. In Northern Ireland, only a limited number of organisations have duties under Part 1 of the Act. (For further details see Chapter 12.)

<sup>18</sup> regulation 16

- 4.20. To assist those Category 1 responders who do have a duty to undertake risk assessment, information on hazard and threat assessments will be provided to them direct. They will also be provided to the Civil Contingencies Policy Branch (CCPB) and the Department of Justice for information purposes.
- 4.21. Because these organisations do not represent the full spectrum of responders, not all the duties placed on organisations elsewhere will be appropriate in Northern Ireland. In particular, the provisions in the Regulations relating to the LRF and its activities, including the production of a CRR, do not apply to responders in Northern Ireland.
- 4.22. However, the Category 1 responders are expected to carry out individual risk assessments in relation to their own functions, and in doing so, they should co-operate, as appropriate, with each other. The Category 2 responders should also co-operate with the Category 1 responders as required.<sup>19</sup> In carrying out their risk assessment, Category 1 responders must have regard to any assessment of which they are aware by one of the specified Northern Ireland public service bodies and may adopt or rely on that work.<sup>20</sup>
- 4.23. Organisations in Northern Ireland which deliver relevant devolved functions (with the exception of the Police Service of Northern Ireland) are not subject to the duties in Part 1 of the Act, but carry out their civil contingencies activities in line with the Northern Ireland Civil Contingencies Framework. Powers under the Civil Contingencies Act to give directions and guidance to the PSNI in relation to its devolved functions lie with the Department of Justice, as set out in Chapter 12.

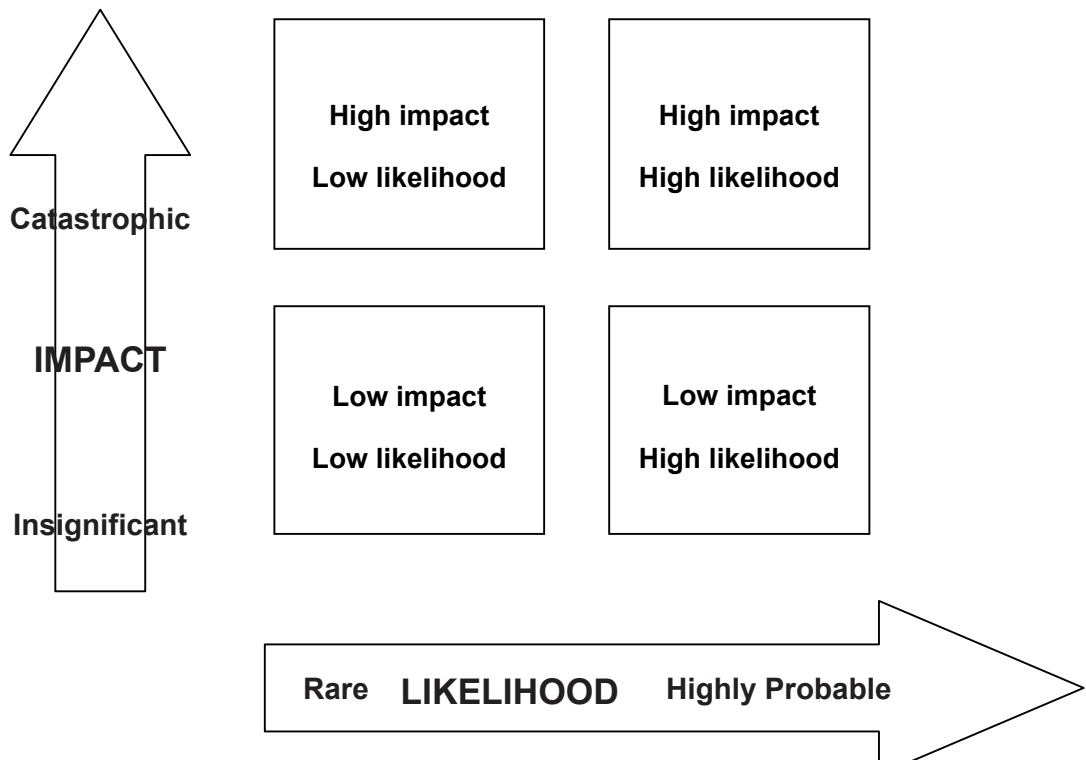
<sup>19</sup> regulation 6

<sup>20</sup> Part 10 of the Regulations

4.24. The Northern Ireland Civil Contingencies Framework requires organisations to carry out individual risk assessments in relation to their functions. The methodology specified in the Framework is similar to that used by Category 1 responders. The Framework encourages organisations to co-operate in producing risk assessments and to share information at local level. Further information can be found on the CCPB website <http://www.ofmdfmni.gov.uk/index/making-government-work/civil-contingencies.html>

**HOW THE REQUIREMENTS OF THE ACT AND THE REGULATIONS MAY BE CARRIED OUT**

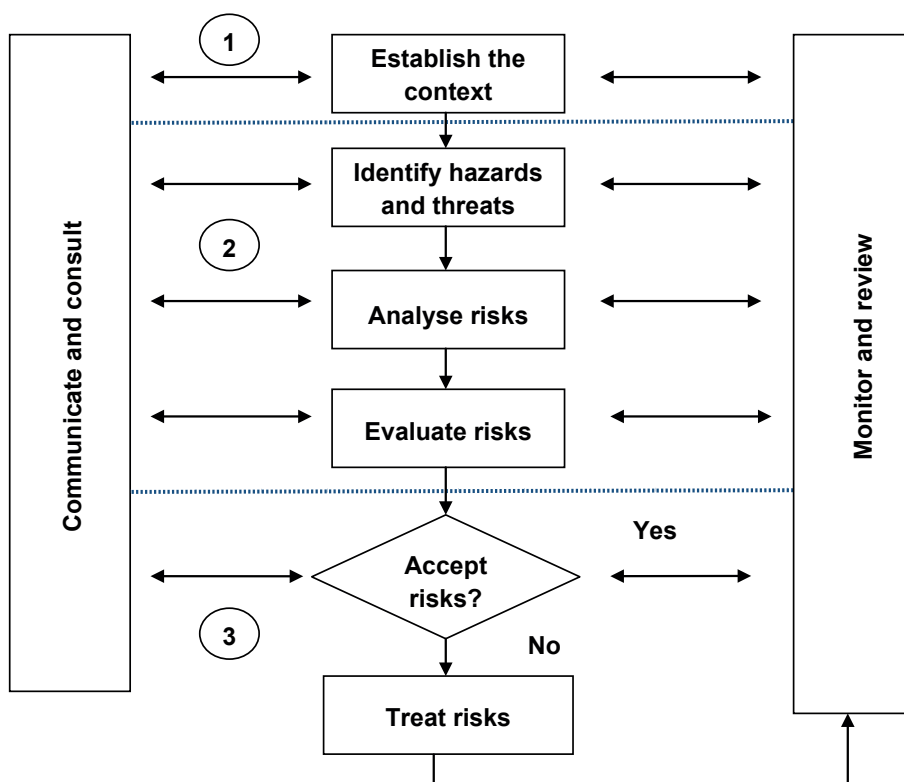
Figure 4.1: Risk as a product of likelihood and impact



**Terminology**

4.26. Key terms applying to the process are defined in the Glossary. Risk terminology is notoriously varied. However, this chapter aims to be consistent with the main standards relating to risk management.

**Figure 4.2: The general risk management process**



4.27. It should be noted that, in the Act, risk itself is defined solely as the probability of an emergency <sup>21</sup> (see [paragraph 4.2](#)). The definition of risk used in this chapter is aligned with a more common definition in use but is, to all intents and purposes, consistent. Here, risk is defined as a product of the likelihood and impact of a given hazard or threat.

<sup>21</sup> s. 2(1)(a)

4.28. Generally, higher risks are associated with hazards or threats that have a higher impact and medium to high likelihood. Conversely, low risks will reflect hazards and threats where the impact is low and the likelihood is low to medium. The more difficult cases are those hazards and threats where the likelihood is low and the impact very high, or vice versa. These risks defy simple categorisation. They require a more sophisticated means of measurement involving judgements about the overall risk associated with certain combinations of likelihood and impact. Typically, these judgements are presented in a risk matrix, as seen in [Annex 4F](#).

### **The risk assessment process**

4.29. Here, risk assessment is one component of the general risk management process as set out in [Figure 4.2](#). The dashed line represents transitions from one phase to another: the first phase is 'contextualisation', the second 'risk evaluation' and the third 'risk treatment'. It should be noted that there is no statutory requirement for Category 1 responders to perform the risk treatment step. However, it is described below for completeness and because, in practice, Category 1 responders are likely to use this step as a bridge to the emergency planning duty.

4.30. The risk assessment phases can be described as follows:

- o **Contextualisation** involves defining the nature and scope of the risk and agreeing how the risk management process will be undertaken
- o **Risk evaluation** covers the identification of those threats and hazards that present significant risks, analysis of their likelihood and impacts, and the combination of these values to produce overall risk scores.

- o **Risk treatment** involves deciding which risks are unacceptably high, developing plans and strategies to mitigate these risks, and then testing the plans and any associated capabilities. The National Resilience Planning Assumptions (NRPAs) set national and regional figures for the common consequences of risk which should be planned for. Together with the Local Planning Assumptions Guidance, the NRPAs can be tailored to inform local plans and strategies. It is important to note that the Act does not require Category 1 responders to take action to reduce the likelihood of threats and hazards. Category 1 responders may decide to do this as part of their treatment of assessed risks but the Act only requires that emergency plans be developed: prevention and pre-emption lie outside its scope.

4.31. All three phases should be cyclical and interactive, involving the full range of stakeholders and allowing for review and updating. Moreover, the entire risk management process must be cyclical if it is to retain currency. Risks vary with changes in the context, changes in the hazards and threats, and changes in available emergency plans and capabilities. Thus, periodic reviews are required to ensure that these changes are captured, and then reflected in the risk assessment and emergency planning processes (see [step 6, Annex 4A](#)).

**Box 4.2: Consistency with UK and multi-LRF risk assessments**

Risk assessment processes are not only found at the local level of government. Similar processes are implemented at UK level, at pan-Wales level in Wales, and some areas may also undertake the process on a multi-LRF basis in England. The linkages between these are very important. Coherent emergency planning across the levels must in turn be based on coherent risk assessment processes. Indeed, given the fact that risks will often be assessed at one level and communicated to

another, it is important that the risk assessment activities are, to a large extent, complementary and synchronised.

There are considerable benefits in having a standardised risk assessment approach. By applying an approach at the local level that is consistent both across Category 1 responders and with different tiers, there will be an unprecedented opportunity to:

- o compare the exposure of Category 1 responders, and local areas, to different types of risk;
- o facilitate multi-LRF aggregation of local risk assessments in support of regional and UK planning; and
- o ensure that plans and capabilities - provided on a UK basis and/or locally - are commensurate with the risks.

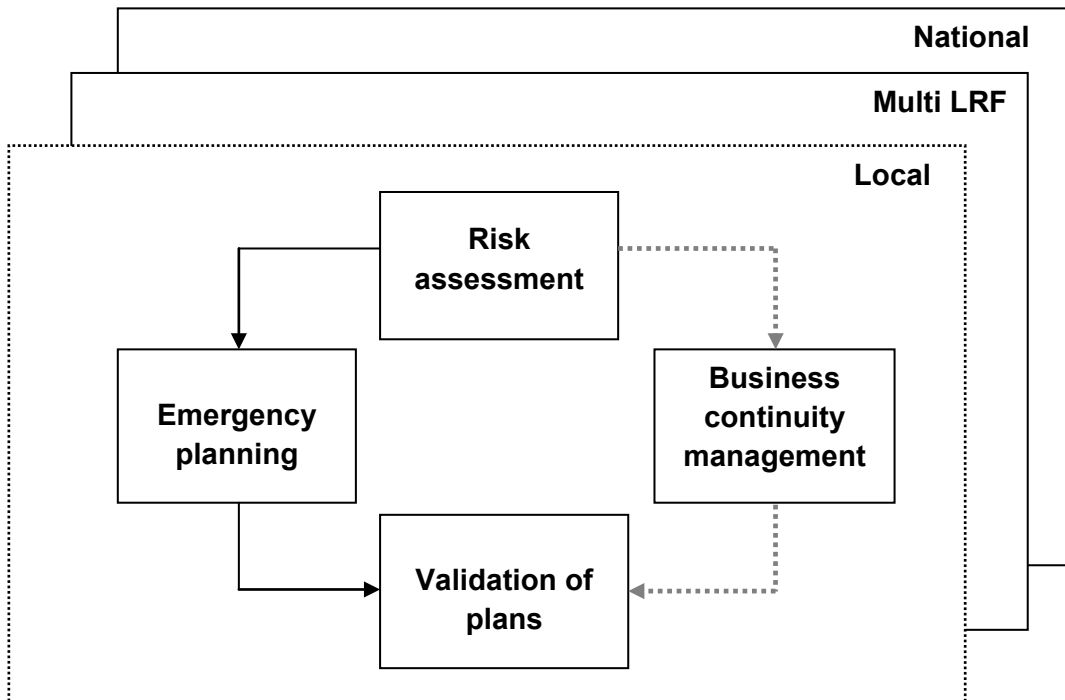
As the aim is to facilitate local risk assessment, the process described in this guidance is not precisely the same as the risk assessment methods used at different levels. However, it has many features in common with them and is generally consistent. As such, this guidance will facilitate the sharing of information about risks between local, multi-LRF and national levels and will support the further development of these linkages in the future.



**Supporting the planning process**

4.32. As [Figure 4.3](#) illustrates, risk assessment should drive a standard emergency planning process, informing emergency plans (and BC plans) which are then tested through audit and validation exercises. Regular updating of the risk assessment<sup>22</sup> in turn leads to the revision of plans and further testing. A fundamental principle of emergency planning and business continuity planning is to address common consequences rather than different causes. As far as possible, flexible, generic plans may be developed to deliver the response capabilities for managing these consequences, whatever causes them. However, to ensure that these generic plans are commensurate with the risks, it is important that planning is underpinned by a risk assessment<sup>22</sup> that evaluates and prioritises those hazards and threats according to their associated risks.

**Figure 4.3: The location of risk assessment in the emergency planning process**



<sup>22</sup>s. 2(1)(e)

### **Organisation and accountability**

- 4.33. It is likely that the LRF would wish to set up a Risk Assessment Working Group (RAWG), composed of a representative group of emergency planning officers from Category 1 responders, to undertake this work under a chair appointed by the LRF. As with the LRF, this working group is simply a forum for co-operation on risk assessment. Accordingly, the CRR is not owned by the LRF but by Category 1 responders in the LRF collectively.

### **Rigour and proportionality**

- 4.34. The risk assessment process should be based on a sound methodology using the best available evidence and judgment. Category 1 responders should be supported in their assessment by Category 2 responders, local bodies, DCLG RED and national organisations sharing information and co-operating as appropriate. However, as far as possible, the amount of effort given to any risk should be proportionate to its potential severity.

### **The six-step process**

(See also [Annex 4A](#))

#### **Step 1: Contextualisation**

- 4.35. In an initial discussion at the RAWG, Category 1 responders should begin by defining the scope of the risk management activity in the context of the Act and supporting guidance. They should review the process that they will adopt and identify the project's stakeholders. Key stakeholder groups must include the Category 1 responders who share the risk assessment duty, and may include Category 2

organisations with a contribution to the risk assessment process, as well as groups in the community with relevant knowledge and a particular interest in the results of the work (see 4.56). It is important that Category 1 responders understand, at the outset, the risk evaluation criteria and principles with which risks will be evaluated and prioritised (see Annexes 4D and 4F). This should prepare them for later stages of the process, in which they will need to decide which risks are acceptable and those which must be tolerated, including those which require planning.

4.36. An important part of step 1 is for Category 1 responders to describe the characteristics of the local area that will influence the likelihood and impact of an emergency in the community. This is to understand the context better, as well as to establish the vulnerability and resilience of the area to emergencies. To do this Category 1 responders should reflect on a number of aspects of their area, including:

- o **Social:** What is the demographic, ethnic and socio-economic composition of the community? Are there any particularly vulnerable groups in the community? How are the various communities geographically distributed within the local area? How prepared and experienced is the community at coping with different types of emergencies?
- o **Environment:** Are there any particular local vulnerabilities (e.g. poor coastal defences against flooding)? Is the area urbanised, rural or mixed? Are there any Sites of Special Scientific Interest?
- o **Infrastructure:** How is the infrastructure configured in the area (transport, utilities, business, etc)? What are the critical supply networks in the area? Are there any sites in the area that are particularly critical for local and national essential services (e.g. telecommunications hubs, health, finance, legal, etc)? What type of

economy does it have? How prepared and experienced are the businesses in the area at coping with different types of emergency?

- o **Hazardous sites:** What potentially hazardous sites exist in the area? Where are they in relation to communities or sensitive environmental sites?

## **Step 2: Hazard review and allocation for assessment**

### **Hazards**

- 4.37. Taking into account centrally provided guidance, in the form of the Lrag (see [Box 4.4](#)), each Category 1 responder should consider the local context as described during step 1 and identify those non-malicious hazards that, in their view, present significant risks (i.e. could give rise to an emergency) in their areas over the next five years. These hazards will be identified on the basis of experience, research or other information (including from the community itself) and they are likely to present consequences to which a special mobilisation by the Category 1 responder is required.
- 4.38. The RAWG should share and discuss these hazards at a meeting of the LRF with a view to agreeing a list of hazards to be assessed. The LRF should endorse the list of hazards, and determine which Category 1 responder will lead the assessment of each hazard on behalf of the group. The LRF will also need to decide how any additional hazards proposed by the RAWG should be assessed, whether by the appointment of a lead, delegation or otherwise.

**Box 4.3: longer term considerations**

Category 1 responders should consider these aspects in the context of the current situation, but with regards to emerging trends and future events. They are also encouraged to take into account the longer-term risk context. Climate change, although not a risk considered in the time frames of the local risk assessment cycle, is a major driver of many of the risks that LRFs do consider. Consideration of this longer term risk will allow responders to identify capability gaps and risk reduction measures that may need to be tackled over a longer term period. For example, will present coastal defences be sufficient over a longer term horizon. A suggested timeframe for longer term risk contextualisation is 20 years. The National Security Risk Assessment, first published in 2010, evaluates risk over the same timescale and can be drawn upon to inform longer term contextualisation. Other factors that may define the time frame of longer term contextualization include the expected service lifetime of buildings, plants and equipment. This consideration of longer term risk drivers, is not a statutory part of the risk assessment process and should be included at the discretion of the LRF.

- 4.39. When overall risk scores are calculated at a later stage, events that are low in likelihood but high in impact will not score highly, implying a need for planning cannot be justified (e.g. asteroids hitting the earth). This is not to say that all low likelihood, high impact events should be excluded, but a careful judgment is needed about the likelihood below which events will be excluded from the assessment. It would be good practice to maintain a register of excluded risks as an appendix to the CRR; this would allow Category 1 responders to demonstrate that certain risks were considered at the outset but were then discounted for specified reasons (e.g. an assumption that the likelihood was so small that the hazard did not warrant further attention).

4.40. The responsibilities of the lead assessors would be to:

- o assess the likelihood and impact of each hazard, based on the knowledge of RAWG members, the generic likelihood assessment (where available) and any other relevant information;
- o liaise with the relevant government departments or agencies, as required;
- o document assessments using the individual risk assessment example ([Annex 4C](#)), which will support the CRR, containing more detailed information on the assessment;
- o present the likelihood assessment to the LRF and make changes as necessary;
- o capture the results of the LRF risk assessment in the CRR; and
- o ensure that the assessment is adequately described in the CRR.

**Box 4.4: Local Risk Assessment Guidance (LRAG)**

Central government departments, or their agencies, are often best placed to provide generic likelihood assessments for local hazards and threats. Members of the RAWG are well positioned to adapt these generic assessments of likelihood and, using their local knowledge of sites and conditions, to combine them with their assessments of the impacts of hazards. Through the involvement of the Department for Communities and Local Government, Resilience and Emergencies Division, the more specific local risk assessments will feed up into the UK picture. Consequently, the top-down and bottom-up risk assessment processes within the UK should become increasingly integrated.

Category 1 responders will receive Local Risk Assessment Guidance containing information on the likelihood and impact of generic threats and hazards. This guidance will be agreed each year in a process co-ordinated by the Cabinet Office Civil Contingencies Secretariat and involving representatives from the departments and agencies responsible for providing the assessments, as well as representatives of the local emergency planners, including first responders. It will be made available by the Cabinet Office in England, and the Welsh Government in Wales. (For further detail on arrangements in the devolved administrations, see [paragraphs 4.15-4.24.](#))

The framework is continually updated; Category 1 and 2 responders and other relevant parties are encouraged to put forward suggestions for improvements to the guidance. These will be fed back to the originating departments who will, where possible, reflect these suggestions in future versions of the guidance.

### **Step 3: Risk analysis**

#### **Threats**

#### **Assessing the likelihood of threats**

- 4.41. Category 1 responders should adopt the central government assessment, set out in the LRAG, of the likelihood of threats as categorised in the National Risk Register (NRR) (See [Box 4.5](#)). Guidance on publication of the threat assessment within the community risk register is detailed in [section 4.57](#)

### Assessing the impact of threats

- 4.42. For some categories of threat, LRFs may also weight the impact of a successful attack against local targets within their area. Information from the LRAG, the National Risk Register, National Resilience Planning Assumptions, Counter Terrorism Security Advisor (CTSAs<sup>23</sup>) (Box 4.5) and local crowded places protection programmes can be used to inform the impact assessment.<sup>24</sup>

### Assessing the likelihood of hazards

- 4.43. The RAWG lead assessors should consider the likelihood of the hazards occurring within the next five years (the same timescale adopted by the UK assessment). The LRAG from central government should provide a basis for this work but the local knowledge available in the RAWG and other local organisations (including Category 2 responders) should allow the RAWG to elaborate the assessment, and even to change it, if necessary.
- 4.44. When assessing the likelihood of a hazard, it is necessary to refer to the description of an outcome of an incident. Without defining the outcome, it is more difficult to assess likelihood. For example, it is difficult to assess the likelihood of flooding in the next five years without defining the size of the flood incident to be assessed (small scale floods are more likely than larger scale floods). The outcome can be defined in various ways. For flooding, it may be appropriate to talk in terms of the area flooded. For many incidents, it may be necessary to use numbers of fatalities. Although both measures - area flooded and fatalities - are consequences of the hazards, they are immediate or primary consequences that can be used as proxy measures to describe the outcome of the hazard.

<sup>23</sup> CTSAs provide counter terrorism security advice to support LRFs and businesses.

<sup>24</sup> <https://vsat.nactso.gov.uk/SiteCollectionDocuments/AreasOfRisk/working-together-crowded-places.pdf>



**Box 4.5: Other sources of information to aid local risk assessment****The National Risk Register (NRR)**

The National Risk Register (NRR) was first published in 2008 as part of the National Security Strategy which promised a publicly available assessment of the likelihood and potential impact of the range of threats and hazards the UK could face. Although intended to encourage public debate on security and help organisations, communities and individuals to prepare better for emergencies, the document is also important to LRFs in informing the local assessment of risks, particularly threat related risks. Indeed, the LRAG makes explicit reference to the NRR as an important tool in the risk assessment process.

**The National Risk Assessment (NRA)**

The National Risk Assessment (NRA) is the classified and detailed cross-government assessment of the risks facing the UK and is the basis of the public National Risk Register (NRR). It uses historical and scientific data and the professional judgments of experts to identify risks, assess the likelihood of the risk occurring and the impact if they do. The NRA is shared with all UK police forces. As well as informing police work, this will also give LRFs, the majority of which are chaired by the police, more direct access to the full assessment.

**The National Resilience Planning Assumptions (NRPAs) and Local Planning Assumption Guidance**

The National Resilience Planning Assumptions (NRPAs) provide information on the generic consequences of risks without disclosing the sensitive information on the causes of these consequences. Although the document

gives only national and sometimes multi-LRF planning figures, it is issued in tandem with the Local Planning Assumption Guidance which explains how the NRPAs should be interpreted and tailored to inform local planning assumptions. The guidance also explains how the Community Risk Register (CRR) rating matrix can be used to identify and define generic planning assumptions, providing a mechanism by which LRFs can use the output from the local risk assessment process better, to inform local planning.

#### **Counter Terrorism Security Advisors (CTSAs)**

CTSAs are embedded in all UK police forces. Their core role is to identify and assess local critical sites within their force area that might be vulnerable to terrorist or extremist attack; then devise and develop appropriate protective security plans to minimise impact on that site and the surrounding community. Additionally, the CTSA will promote awareness of the terrorist threat and develop positive ongoing relationships by appropriate discussion of changes in the prevailing terrorist threat and commensurate responses.

- 4.45. The outcome of a hazard is not the same as its (wider) impact, which is considered later in the process, although there will usually be a close relationship between the two. For example, in the case of flooding, two flood events could have the same outcome (e.g. 100 square miles flooded) but very different impacts, depending on the precise location of the flooding.

- 4.46. Where there is a considerable range in the foreseeable outcomes of a potential hazard, it may be necessary to assess the likelihood (and subsequently impact) of the hazard at multiple outcomes. Consequently, the individual risk assessment example at [Annex 4C](#) allows the lead assessors to record multiple outcomes for each hazard. Although a variety of outcomes may be considered for a particular type of risk, the LRF may decide that only a small number need to be captured in the CRR.
- 4.47. Each assessment should be carried out by a group of professionals with a pragmatic mix of evidence and judgment, which should be documented as far as possible. Where appropriate, the assessments of likelihood will be informed by studies on the vulnerability (i.e. susceptibility to damage or harm) and resilience (ability to withstand damage or harm) of the relevant sites, systems and communities. The assessments of likelihood and of impact should adopt the scales provided at [Annex 4D](#).
- 4.48. It is possible that the generic local assessments of likelihood provided by central government in the LRAG will refer to outcomes of hazards that were not identified by the Category 1 responders. Category 1 responders can adopt different outcomes if they feel that this is necessary, but should document their reasons for doing so. It will not be possible for central government to re-issue the generic assessments with the revised outcomes, but it should be possible to take account of the new outcomes when agreeing the national risk assessment framework in subsequent years.

### **Assessing the impact of hazards**

- 4.49. The next stage is to assess the impacts of the hazards. At [Annex 4B](#), a generic framework is provided for assessing the local impacts of events in a consistent way. Using the impact scales provided, the lead assessors should assess the impact of hazards in their local areas.

- 4.50. Category 1 and 2 responders and other organisations engaged in response should not share risk assessments (either through the LRF or otherwise) if the information in the assessment is sensitive (e.g. commercially sensitive or relating to national security) and the responder has reason to believe that to do so would compromise the information. Chapter 3 provides further guidance.
- 4.51 The lead assessors should capture the agreed likelihood and impact assessments in the individual risk assessment forms for consideration by the RAWG.

#### **Step 4: Risk evaluation**

- 4.52. Once the RAWG has agreed the individual risk assessment forms, the results should be collated and incorporated in the CRR, unless sensitive. The level of risk can then be determined by plotting likelihood and impact scores for each hazard on a risk matrix (see [Annex 4F](#)). The production of a risk matrix is an essential part of the risk assessment process. Not only does it enable the risk analysis to be interpreted against pre-defined criteria, but it greatly facilitates the communication of the risk assessment. [Annex 4F](#) provides descriptions of the four risk ratings ('Very high', 'High', 'Medium' and 'Low') and addresses their relative significance for directing emergency planning.
- 4.53. Note that in this risk matrix, the impact score is given a slightly greater weighting than the likelihood score. For example, an 'Unlikely' (2) but 'Catastrophic' (5) risk scores 'Very high', whereas a 'Probable' (5) but 'Minor impact' (2) risk scores 'Medium'. The formula used to combine likelihood and impact scores varies from one risk assessment approach to another. The guidance presented here is consistent with a number of the major standards, and consistency in the application of this risk matrix is essential if the results of the local risk assessments are to be easily compared.

- 4.54. As regards threat information within the public community risk register, LRFs must refer directly to the NRR and include the related NRR threat statement provided by central government in the threat section of the LLAG. See [Box 4.4](#).

**Box 4.6: National Resilience Extranet (NRE):**

The National Resilience Extranet (NRE) provides the UK resilience community with a common system that enables timely, efficient and secure communication and exchange of information. It allows users to work together in routine planning, sharing best practice plans and documentation where appropriate and, in the event of an emergency, allows the fast dissemination of documents such as minutes, situation reports and press lines to the relevant teams and individuals. Information classified up to and including RESTRICTED can be shared across the range of emergency responders. It is accessible via all GSI services and can also be accessed via the internet with the use of a digital certificate. A number of key documents, including the LLAG, the National Resilience Planning Assumptions and the Local Planning Assumptions Guidance are disseminated via the NRE.

**Step 5: Risk treatment**

(See [Box 4.7](#))

**Step 6: Monitoring and reviewing**

- 4.55. Risks should be reviewed regularly. Although there is no statutory requirement, it is recommended LRFs review risks in line with the annually updated Local Risk Assessment Guidance (LRAG). Risks should be monitored continuously and, where information suggests a potential change in the risks, a risk assessment should be

performed and the CRR updated accordingly. This may require special meetings of the LRF, although risk assessment should be a standing item on the agendas of the LRFs. The CRR will also need to be updated periodically to reflect changes in the response capability (i.e. resilience). Consequently, the CRR should be seen as a living document and the work of the LRF as a rolling project.

### Sharing Risk Assessments

- 4.56. Regulations require CRRs to be shared with LRFs in neighbouring local areas with whom a boundary is shared, and to the DCLG Resilience and Emergencies Division. In addition, Category 1 responders should consider whether there are any specific risks which should be communicated to any LRFs in any other local areas.

#### Box 4.7: Risk treatment

Risk treatment may involve risk mitigation activity, i.e. reducing the likelihood of the risk, rather than having plans and measures in place to deal with a risk once it has happened. In some circumstances this could place a significant burden on responders. Risk treatment is therefore recommended only as good practice. Although not a statutory duty under the Act, risk treatment is the next step in the risk management process and Category 1 responders are encouraged to adopt the recommended practice.

##### Step 5:

CRRs are not an end in themselves, but serve as a means for ensuring a common starting point for responders in their approach to integrated emergency management - the adoption of coherent strategies and systems for the harmonisation of contingency plans and procedures.

In this stage of the risk assessment process, the LRF should prioritise risk reduction measures in accordance with the size of the risks and the gaps in the capabilities required to respond to those risks. This should take into account risks both in context of the current situation and consideration of the longer term risk context.

This will allow responders to identify capability gaps and risk reduction measures that may need to be tackled over a longer term period. They should set the risk priorities and, having evaluated the treatment options, agree a risk treatment plan. All such judgements should be recorded in the CRR.

The process has a number of stages that are described below. The results of each stage should be recorded in the CRR:

- o Assess the type and extent of the capabilities required to manage and respond to the hazards. The National Resilience Planning Assumptions together with Local Planning Assumptions Guidance can be used to inform local planning figures and will determine the level of capability required.
- o Identify the capabilities that are already in place
- o Considering the gap and the extent of the risk, rate the risk priority.
- o Identify the additional treatments required to close the capability gap and manage the risk more effectively.

## Publishing Risk Assessments

- 4.57. A number of hazards a community may face, including pandemic influenza and wide-spread flooding, would be beyond the capacity of the emergency services, without the co-operation of the communities affected. The Community Risk Register, which Category 1 responders have a duty to publish, is an effective mechanism for making communities and businesses more aware and better able to prepare to play their part in emergency scenarios. LRFs are encouraged to increase awareness and engagement of the local community with the CRR by taking into account the principles of effective risk communication as documented on the UK resilience website <http://www.cabinetoffice.gov.uk/resource-library/communicating-risk-guidance>. The webpage also gives examples of good practice that some LRFs have used in the production of their CRR. Category 1 responders are able to fulfil their statutory duty to publish all or part of their risk assessments by publishing all or part of the CRR or publishing all or part of a plan, where the part published includes a summary of the risk assessment <sup>25</sup> on which the plan is based. They should do so where such information is presented in such a way that informs and encourages members of the public to mitigate the consequences of risks in their area. They should also consider the security classification of the information and the restrictions on the disclosure of sensitive information (information disclosure of which would be damaging to national security or public safety or information which would be harmful to individuals or the commercial interests of any business entity.).

<sup>25</sup> s. 2(1)(f)



**Box 4.8: Access under the Freedom of Information Act**

Members of the public may make requests under the Freedom of Information Act 2000 to see the LRAG, CRR or any of the individual risk assessments. Category 1 responders who are presented with such requests will need to consider what must be released using available guidance (including guidance issued by the Ministry of Justice). The exemptions relating to national security, commercial sensitivity and policy formulation may be particularly relevant to these deliberations (subject, where appropriate, to the public interest balancing test). Given the relatively short timeframe in which information must be provided, it would be helpful for Category 1 responders to consider in advance how such requests would be handled. However, as each request under the Freedom of Information Act 2000 must be considered on a case-by-case basis, it may not be possible to form a firm view on how to handle a request in advance of a request being received.

# Annex 4 A: Summary of the six-step local risk assessment process

Revision to *Emergency Preparedness*

Step No	Name of step	Forum level	Agencies involved	Actions	Inputs
1	Contextualisation	Risk assessment working group (RAWG)	Category 1 responders	<ul style="list-style-type: none"> <li>o Define scope of project (relate to definition of emergency in the Act) and process to be followed</li> <li>o Identify stakeholders</li> <li>o Set out risk evaluation criteria and principles</li> <li>o Review or describe social, economic, cultural, infrastructural and environmental issues within local context</li> <li>o Review risk within the context of the current situation, but with regard for the longer-term risk context</li> </ul>	<ul style="list-style-type: none"> <li>o Prior internal discussions within all Category 1 responders</li> <li>o Views of Category 2 responders received</li> </ul>
2	Hazard review and allocation for assessment	RAWG	Category 1 responders	<ul style="list-style-type: none"> <li>o Taking into account centrally provided guidance and drawing on information provided by Category 2 responders, Category 1 responders provisionally identify and describe hazards which might give rise to an emergency in the next five years and those which will not</li> </ul>	<ul style="list-style-type: none"> <li>o Category 1 responders bring own research on hazards</li> <li>o Views of Category 2 responders received</li> <li>o Government to provide Local Risk Assessment Guidance (LRAG)</li> </ul>

Step No	Name of step	Forum level	Agencies involved	Actions	Inputs
3	Risk analysis	Local Resilience Forum (LRF) Risk Assessment working group (RAWG)  Lead assessors	All Category 1 responders	<ul style="list-style-type: none"> <li>o Category 1 responders provisionally agree allocation of lead assessors</li> <li>o LRF endorses hazards to be assessed and determines lead assessor responsibility</li> <li>o RAWG convenes and reviews hazards identified at LRF for confirmation or possible Community Risk Register (CRR) amendment</li> <li>o RAWG confirms appropriateness of lead allocation and identifies any other agencies with key roles</li> <li>o RAWG agrees a project plan with deadlines for assessing individual or group hazards</li>   <li>o Lead assessors consider the likelihood of hazards occurring over five-year period, drawing on generic assessments from central government, other research and knowledge of Category 1 responders</li> </ul>	<ul style="list-style-type: none"> <li>o Local Risk Assessment Guidance</li> <li>o Lead assessors' impact and likelihood assessments</li> </ul>

Step No	Name of step	Forum level	Agencies involved	Actions	Inputs
				<ul style="list-style-type: none"> <li>o Lead assessor adopts the likelihood assessment of threats from central government.</li> <li>o Lead assessor suggests the range of potential impacts arising from the hazards as well as any vulnerabilities surrounding these, and discusses with RAWG</li> <li>o For some categories of threat, the lead assessor may weight the impact of a successful attack against local targets within their area.</li> <li>o Lead assessor captures assessment details for each hazard and related reasoning within the individual risk assessment form. This generates a provisional risk statement with likelihood, impact(s) and an overall risk assessment for evaluation by RAWG</li> </ul>	<ul style="list-style-type: none"> <li>o Input from other Category 1 and 2 responders, and community where relevant.</li> </ul>

Step No	Name of step	Forum level	Agencies involved	Actions	Inputs
4	Risk evaluation	RAWG LRF	All Category 1 responders	<ul style="list-style-type: none"> <li>o RAWG considers the individual risk assessment forms, compares the results to the risk criteria, and confirms or modifies these assessments as appropriate</li> <li>o Agreed assessments are collated and incorporated into CRR</li> <li>o Risk matrix is plotted for hazards</li> <li>o RAWG incorporates into CRR threat statement provided by central government within the LRAg.</li> <li>o RAWG highlights existing capabilities and migration plans for the hazards and threats and:                             <ul style="list-style-type: none"> <li>• considers the acceptability of risks</li> <li>• identifies and recommends options for risk treatment for the LRF</li> <li>• makes recommendations to the LRF on risk priorities for hazards and threats</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>o Lead assessors bring examples of individual risk assessments back to RAWG</li> <li>o Agreed risk evaluation criteria</li> </ul>

Step No	Name of step	Forum level	Agencies involved	Actions	Inputs
5	Risk treatment	LRF	LRF	<ul style="list-style-type: none"> <li>o LRF reviews the CRR and risk matrix in light of the evaluation criteria, and amends as appropriate</li> <li>o LRF determines the acceptability of the risks before considering treatment</li> <li>o Review the capability challenges posed by the risks against existing capabilities, mitigation plans or known gaps</li> <li>o Set risk priorities</li> <li>o Evaluate proposed options for additional treatment of risks and agree risk treatment plan</li> <li>o Identify officer or organisation to be responsible for implementation of actions</li> <li>o Actions communicated to appropriate working groups</li> </ul>	<ul style="list-style-type: none"> <li>o Updated CRR, risk matrix and recommendation from RAWG</li> <li>o Updated CRR, risk matrix and recommendation from RAWG</li> </ul>
6	Monitoring and reviewing	LRF	All Category 1 responders Category 2 responders (as appropriate)	<ul style="list-style-type: none"> <li>o Review of all risks as and when appropriate, taking into account the annually updated LRAG</li> </ul>	<ul style="list-style-type: none"> <li>o Ongoing review of changes to context and hazards within responding organisations</li> <li>o Ongoing and regular reviews of risks by LRF between responders</li> </ul>

# Annex 4 B: Illustration of Local Risk Assessment Guidance

Revision to *Emergency Preparedness*



- 4B.1. The following table is illustrative of the structure and type of content that is included in the Local Risk Assessment Guidance (LRAG). It identifies the types of hazard that Category 1 responders may wish to add to their Community Risk Registers, and an assessment of the likelihood of these risks occurring in a five-year timeframe in a typical Local Resilience Forum (LRF) area. It also sets out the assumptions which underpin the likelihood assessment and guidance on how this might vary through the country. It also provides information on generic threats for Category 1 responders.
- 4B.2. Category 1 responders are collectively responsible for maintaining a Community Risk Register (CRR). The LRAG is a guide which should assist Category 1 responders in compiling and assessing their CRRs. It provides a consistent basis for emergency planning across the LRF area.
- 4B.3. For each risk, the following descriptors are provided:
- o **Risk identifier:** Risks prefixed with 'H' are hazards which will require a national as well as a local response. Risks marked 'HL' would not ordinarily prompt a national response, and would usually be dealt with locally. Risks marked 'T' are threats which will require a national as well as a local response.
  - o **Risk category:** This indicates the type of threat or hazard in question (e.g. terrorist attack, industrial accident, severe weather, public protests). Risk categories should be read in conjunction with outcome descriptions in order to understand the magnitude of the event.

- o **Outcome description:** This describes the immediate consequences or significance of the event. Outcome descriptions will often be expressed in terms of the facilities that have been destroyed, the numbers of fatalities and casualties, or extent of contamination. It is this information which enables the subsequent local impact assessment.
- o **Variation and further information:** This column focuses on the specific assumptions or causal events that drive the outcome description. Details are also given on the historical precedent and justification for the specific assumptions made.
- o **Likelihood score and lead department:** This column in the table gives the likelihood score of the risk arising, and the department or agency which has made this assessment. There is an important distinction in the treatment of likelihood assessments for threats and for hazards. In the case of hazards, the table provides an assessment of the likelihood of relevant risks occurring in a five-year timeframe in a typical LRF area. Likelihood assessments for hazards are presented on a 1-5 scale.
- o In the case of threats, the assessment of likelihoods is treated differently. The table does not show likelihood scorings for each threat event because doing so would be analytically misleading.
- o **Likelihood rationale:** This column in the table provides additional descriptive or statistical guidance on how the generic likelihood assessment was calculated. Each local area will wish to identify which of those threats and hazards listed could not occur in their area because it lacks particular sites or characteristics; and ultimately each LRF will need to decide on its own likelihood assessments. This will lead to a reduced set of assessed risks for most, if not all, local areas. The central government likelihood scores given are based upon the assessment of the risk outcome description occurring at any location across the UK. The figure provided is what policy experts assess to be the highest of all

possible local level likelihoods for that specific scenario. While ratings at a local level will vary as each area is different, no local score should be greater than the national one. Clearly, where a local version of the hazard is being assessed at the LRF's discretion and with potentially lesser impacts, the likelihood of that new, local risk, might well be greater.

- 4B.4. The Local Risk Assessment Guidance will be issued annually. Feedback from Category 1 responders about how this guidance could be improved is welcomed and should be directed to the Civil Contingencies Secretariat in the Cabinet Office.

Type of risk	Risk categories (and sub-categories)	Outcome description	Likelihood assessment, lead department and assumptions	Variation and further information	Likelihood rationale
	<b>Industrial accidents and environmental pollution</b>				
e.g. H1	Fire or explosion at a gas terminal as well as LPG, LNG and other has onshore feedstock pipeline and flammable gas storage sites	e.g. Up to 3km around site causing up to 500 fatalities and 1,500 hospitalisations. Gas terminal event likely to be of short duration once feed lines are isolated; event at a storage site could last for days if explosion damaged control equipment	<b>Likelihood rating:</b> <b>Lead:</b> Fire and Rescue Service (F&R)/Health and Safety Executive (HSE) <b>Assumptions:</b>		
e.g. H2	Fire or explosion at an onshore ethylene gas pipeline	e.g. Up to 3km around site causing up to 500 fatalities and 1,500 hospitalisations and serious downstream impact on oil and chemical production	<b>Likelihood rating:</b> <b>Lead:</b> HSE <b>Assumptions:</b>		
e.g. HL1	Fire or explosion at a gas terminal, or involving a gas pipeline	e.g. Up to 3km around site causing up to 10 fatalities and 100 hospitalisations	<b>Likelihood rating:</b> <b>Lead:</b> HSE <b>Assumptions:</b>		
	Fire or explosion at an oil refinery		<b>Likelihood rating:</b> <b>Lead:</b> HSE <b>Assumptions:</b>		

Type of risk	Risk categories (and sub-categories)	Outcome description	Likelihood assessment, lead department and assumptions	Variation and further information	Likelihood rationale
	Fire or explosion at a fuel distribution site and tank storage of flammable or toxic liquids		Likelihood rating: Lead: HSE Assumptions:		
	Fire or explosion at an onshore fuel pipeline		Likelihood rating: Lead: HSE Assumptions:		
	Fire or explosion at an offshore oil/gas platform		Likelihood rating: Lead: HSE Assumptions:		
	Explosions at a natural gas pipeline		Likelihood rating: Lead: HSE Assumptions:		
	Toxic chemical release		Likelihood rating: Lead: Environment Agency/HSE Assumptions:		
e.g. HL2	Industrial accident involving toxic release, e.g. from a site storing large quantities of chlorine	e.g. Up to 3km from site causing up to 30 fatalities and up to 250 hospitalisations	Likelihood rating: Lead: HSE Assumptions:		
e.g. HL3	Industrial accident involving toxic release	e.g. Up to 1km from site causing up to 10 fatalities and up to 100 hospitalisations	Likelihood rating: Lead: HSE Assumptions:		
	Radioactive substantive release from a nuclear reactor accident		Likelihood rating: Lead: HSE Assumptions:		

Type of risk	Risk categories (and sub-categories)	Outcome description	Likelihood assessment, lead department and assumptions	Variation and further information	Likelihood rationale
	Accidental or unplanned importation or release of radioactive material from incorrectly handled or disposed of sources		<b>Likelihood rating:</b> <b>Lead:</b> Department for Environment, Food and Rural Affairs (Defra)		
	Biological substance release from control measure failure (e.g. pathogen release from containment laboratory)		<b>Likelihood rating:</b> <b>Lead:</b> HSE <b>Assumptions:</b>		
	Widespread contamination of the food supply chain, arising from: <ol style="list-style-type: none"> <li>1. Industrial accident (chemical, microbiological nuclear) affecting food production areas e.g. Chernobyl, Sea Empress oil spill, foot and mouth disease (FMD)</li> <li>2. Contamination of animal feed, e.g. dioxins, FMD</li> </ol>		<b>Likelihood rating:</b> <b>Lead:</b> Food Standards Agency (FSA)		
	Maritime pollution		<b>Likelihood rating:</b> <b>Lead:</b> EA <b>Variation:</b>		
	Land contamination		<b>Likelihood rating:</b> <b>Lead:</b> EA <b>Variation:</b>		
	Air quality incident		<b>Likelihood rating:</b> <b>Lead:</b> EA <b>Variation:</b>		

Type of risk	Risk categories (and sub-categories)	Outcome description	Likelihood assessment, lead department and assumptions	Variation and further information	Likelihood rationale
	<b>Transport Accidents</b>				
	Rapid accidental sinking of a passenger vessel in, or close to, UK waters		<b>Likelihood rating:</b> <b>Lead:</b> Department for Transport (DfT) <b>Assumptions:</b>		
	<b>Severe weather</b>				
	Storms and gales		<b>Likelihood rating:</b> <b>Lead:</b> Meteorological Office (Met Office) (on behalf of EA) <b>Assumptions:</b>		
	Low temperatures and heavy snow		<b>Likelihood rating:</b> <b>Lead:</b> Met Office (on behalf of EA) <b>Assumptions:</b>		
	Flooding: Major coastal/tidal		<b>Likelihood rating:</b> <b>Lead:</b> EA <b>Variation:</b>		
	Flooding: Major fluvial		<b>Likelihood rating:</b> <b>Lead:</b> EA <b>Variation:</b>		

Type of risk	Risk categories (and sub-categories)	Outcome description	Likelihood assessment, lead department and assumptions	Variation and further information	Likelihood rationale
	<b>Structural hazards</b>				
	Land movement (tremors and landslides)		<b>Likelihood rating:</b> <b>Lead:</b> Fire		
	Building collapse		<b>Likelihood rating:</b> <b>Lead:</b> Fire/HSE		
	<b>Human health</b>				
	Influenza-type disease (epidemic)		<b>Likelihood rating:</b> <b>Lead:</b> Department of Health (DH)		
	Influenza-type disease (pandemic)		<b>Likelihood rating:</b> <b>Lead:</b> DH		
	SARS-type disease		<b>Likelihood rating:</b> <b>Lead:</b> DH		
	<b>Animal health</b>				
	Non-zoonotic notifiable animal disease (e.g. FMD, Classical Swine Fever, Blue Tongue and Newcastle disease of birds)		<b>Likelihood rating:</b> <b>Lead:</b> Defra		
	Zoonotic notifiable animal diseases (e.g. Highly Pathogenic Avian Influenza (HPAI), rabies and West Nile Virus)		<b>Likelihood rating:</b> <b>Lead:</b> Defra		



Type of risk	Risk categories (and sub-categories)	Outcome description	Likelihood assessment, lead department and assumptions	Variation and further information	Likelihood rationale
	<b>Public protest</b>				
	Large scale public protest		<b>Likelihood rating:</b> <b>Lead:</b> Cabinet Office Civil Contingencies Secretariat (CCS)		
	Targeted disruptive protest, i.e. fuel protest		<b>Likelihood rating:</b> <b>Lead:</b> Cabinet Office CCS		
	<b>Industrial technical failure</b>				
	Technical failure of upstream (offshore) oil/gas network leading to a disruption in upstream oil and gas production		<b>Likelihood rating:</b> <b>Lead:</b> DTI		
	Accidental failure at water treatment works		<b>Likelihood rating:</b> <b>Lead:</b> Defra		
	No notice failure of a public telephony provider		<b>Likelihood rating:</b> <b>Lead:</b> Cabinet Office Central Sponsor for Information Assurance (CSIA)		
	Technical failure of electricity network		<b>Likelihood rating:</b> <b>Lead:</b> DH		
	Telecommunication infrastructure – human error		<b>Likelihood rating:</b> <b>Lead:</b> Cabinet Office CSIA		

Type of risk	Risk categories (and sub-categories)	Outcome description	Likelihood assessment, lead department and assumptions	Variation and further information	Likelihood rationale
	<b>Terrorist bombs - infrastructure</b>				
E.g. T1	Conventional attack on main government buildings	e.g. Up to 400 fatalities and partial and temporary closure of the building	<b>Likelihood rating:</b> <b>Lead:</b> Home Office	Regions and local areas that include significant main government buildings are at greater risk.	

# Annex 4 C: Example of an individual risk assessment

Revision to *Emergency Preparedness*

## Individual risk assessment

**Hazard/threat category:**

Severe weather

**Sub-category:**

Flooding (main river)

**Hazard and threat description, including scale: Risk reference no.**

River W – flooding over an area of 10 square miles and 50 square miles SW1

**Date of revision:**

July 2011

**Next review date:**

September 2011

### 4C.1 Overview of hazard or threat

Flooding:

- o Most commonly caused by intense bursts of rain causing flash floods, or prolonged rainfall on saturated ground in river catchments, which result in rivers or other watercourses overflowing their banks.
- o May lead to a minor inundation of properties and road closures, or result in widespread loss of life and devastation of property necessitating the implementation of a co-ordinated recovery plan.

### 4C.2 Key historical evidence

2007

October/November - United Kingdom - prolonged severe rainfall led to the flooding of 12,000 homes nationwide. The River Ouse at York flooded hundreds of properties with estimated £400 million damages. The Aire flooded over 300 properties in Selby and Barlby and 300 at Stockbridge near Keighley.

2006

March - North Yorkshire - River Derwent burst its banks and inundated Malton and Norton forcing 200 families to abandon their homes (recurred in November 2007).

2005

April - Midlands - extensive flooding killed 5 and damaged 4,500 homes in Northamptonshire, Warwickshire and Oxfordshire.

**4C.3 Likelihood**

<b>Hazard</b>	<b>Outcome description</b>	<b>Likelihood</b>
Flooding (main river)	10 square miles	Probable (5)
Flooding (main river)	50 square miles	Negligible (1)

Igleby appears to be experiencing more instances of all forms of flooding in recent times, in particular as building continues on several floodplains.

**4C.4 Impact**

Summary

<b>Hazard</b>	<b>Outcome description</b>	<b>Impact</b>
Flooding (main river)	10 square miles	Significant (4)
Flooding (main river)	50 square miles	Catastrophic (5)

Details

**Impacts associated with floods:**

4C.5

- o Primary:
  - Drowning of people, pets and livestock
  - Major damage to property and surrounding
  - Closure, or washing away, of roads, bridges, railway lines

4C.6

- Loss of (and possible damage to) telephone, electricity, gas and water supplies. Pollution/health risks from sewerage systems, chemical stores, fuel storage tanks. Evacuation and temporary/long-term accommodation needs
- o Secondary:
  - Need for recovery strategy in aftermath of major flood
  - Disruption of economic life and major costs of rebuilding infrastructure
  - Public need for information, advice, benefits/emergency payments
  - Insurance implications, including help for the uninsured
  - Safety assessments/possible demolition of damaged buildings and structures
  - Shortage/overstretch of key resources (equipment and personnel) and agencies. Overstretch of normal communication links, including mobile phones

4C.5 **Vulnerability and resilience**

Areas across Igleby with a high potential for flooding based on topography and historical incidents include Hotton, Nimby and Coneywood Bridge.

**4C.6 Overall assessment**

**Category:** Severe weather  
**Sub-category:** Flooding (main river)

Outcome description	Impact	Likelihood	Risk
10 square miles	Significant	Probable	VERY HIGH
50 square miles	Catastrophic	Negligible	MEDIUM

**Controls in place:**

**Council:** Major Emergency Plan; Generic Flooding Plan; Major Flood Incident Plan for River Aire.

**Other organisations:**

- o Environment Agency:, Local Flood Warning Plan for Igleby Area.
- o Police: Flood Warning and Flood Response; Flood Plan for River Wandle

**Additional risk treatment required:**

- o Assist Environment Agency in take-up of automated voice messaging for use in warning local residents and encourage better flood preparedness in communities.
- o Work with Land Drainage on the mapping and identification of ‘flooding hotspots’ on becks and other watercourses.

# Annex 4 D: Likelihood and impact scoring scales

Revision to *Emergency Preparedness*



Level	Descriptor	Categories of impact	Description of impact
1	Insignificant	Health	<ul style="list-style-type: none"> <li>• Insignificant number of injuries or impact on health</li> </ul>
		Social	<ul style="list-style-type: none"> <li>• Insignificant number of persons displaced and personal support required</li> <li>• Insignificant disruption to community services, including transport services and infrastructure</li> </ul>
		Economic	<ul style="list-style-type: none"> <li>• Insignificant impact on local economy</li> </ul>
		Environment	<ul style="list-style-type: none"> <li>• Insignificant impact on environment</li> </ul>
2	Minor	Health	<ul style="list-style-type: none"> <li>• Small number of people affected, no fatalities, and small number of minor injuries with first aid treatment</li> </ul>
		Social	<ul style="list-style-type: none"> <li>• Minor damage to properties</li> <li>• Minor displacement of a small number of people for &lt; 24 hours and minor personal support required</li> <li>• Minor localised disruption to community services or infrastructure &lt; 24 hours</li> </ul>
		Economic	<ul style="list-style-type: none"> <li>• Negligible impact on local economy and cost easily absorbed</li> </ul>
		Environment	<ul style="list-style-type: none"> <li>• Minor impact on environment with no lasting effects</li> </ul>
3	Moderate	Health	<ul style="list-style-type: none"> <li>• Moderate number of fatalities with some casualties requiring hospitalisation and medical treatment and activation of MAJAX, the automated intelligent alert notification system, procedures in one or more hospitals</li> </ul>
		Social	<ul style="list-style-type: none"> <li>• Damage that is confined to a specific location, or to a number of locations, but requires additional resources</li> <li>• Localised displacement of &gt;100 people for 1-3 days</li> <li>• Localised disruption to infrastructure and community services</li> </ul>
		Economic	<ul style="list-style-type: none"> <li>• Limited impact on local economy with some short-term loss of production, with possible additional clean-up costs</li> </ul>
		Environment	<ul style="list-style-type: none"> <li>• Limited impact on environment with short-term or long-term effects</li> </ul>

Level	Descriptor	Categories of impact	Description of impact
4	Significant	Health	<ul style="list-style-type: none"> <li>Significant number of people in affected area impacted with multiple fatalities, multiple serious or extensive injuries, significant hospitalisation and activation of MAJAX procedures across a number of hospitals</li> </ul>
		Social	<ul style="list-style-type: none"> <li>Significant damage that requires support for local responders with external resources</li> <li>100 to 500 people in danger and displaced for longer than 1 week. Local responders require external resources to deliver personal support</li> <li>Significant impact on, and possible breakdown of, delivery of some local community services</li> </ul>
		Economic	<ul style="list-style-type: none"> <li>Significant impact on local economy with medium-term loss of production</li> <li>Significant extra clean-up and recovery costs</li> </ul>
		Environment	<ul style="list-style-type: none"> <li>Significant impact on environment with medium-to long-term effects</li> </ul>
5	Catastrophic	Health	<ul style="list-style-type: none"> <li>Very large numbers of people in affected area(s) impacted with significant numbers of fatalities, large number of people requiring hospitalisation with serious injuries with longer-term effects</li> </ul>
		Social	<ul style="list-style-type: none"> <li>Extensive damage to properties and built up environment in affected area requiring major demolition</li> <li>General and widespread displacement of more than 500 people for prolonged duration and extensive personal support required</li> <li>Serious damage to infrastructure causing significant disruption to, or loss of, key services for prolonged period. Community unable to function without significant support</li> </ul>
		Economic	<ul style="list-style-type: none"> <li>Serious impact on local and regional economy with some long-term, potentially permanent, loss of production with some structural change</li> <li>Extensive cleanup and recovery costs.</li> </ul>
		Environment	<ul style="list-style-type: none"> <li>Serious long term impact on environment and/or permanent damage</li> </ul>

Category	Explanation
Health	Encompassing direct health impacts (numbers of people affected, fatalities, injuries, human illness or injury, health damage) and indirect health impacts that arose because of strain on the health service
Social	Encompassing the social consequences of an event, including availability of social welfare provision; disruption of facilities for transport; damage to property; disruption of a supply money, food, water, energy or fuel; disruption of an electronic or other system of communication; homelessness, evacuation and avoidance behaviour; and public disorder due to anger, fear, and/or lack of trust in the authorities
Economic	Encompassing the net economic cost, including both direct (e.g. loss of goods, buildings, infrastructure) and indirect (e.g. loss of business, increased demand for public services) costs
Environment	Encompassing contamination or pollution of land, water, or air, with harmful biological/chemical/radioactive matter or oil, flooding, or disruption or destruction of plant or animal life

## Note

Strictly, levels 1 and 2 of the impact scale are likely to fall below threshold for an emergency. Consequently, there may be no statutory requirement to plan for events that score 1 or 2 on the impact scale. This scale recognises that, to demonstrate a thorough analysis, Category 1 responders will wish to include in the risk assessment certain risks with impacts at these levels.

## Likelihood scoring Scale

Level	Descriptor	Likelihood over 5 years	Likelihood over 5 years
1	Negligible	>0.005%	> 1 in 20,000 chance
2	Rare	>0.05%	> 1 in 2,000 chance
3	Unlikely	>0.5%	> 1 in 200 chance
4	Possible	>5%	> 1 in 20 chance
5	Probable	>50%	> 1 in 2 chance

# Annex 4 E: Example of a classified Community Risk Register

Revision to *Emergency Preparedness*

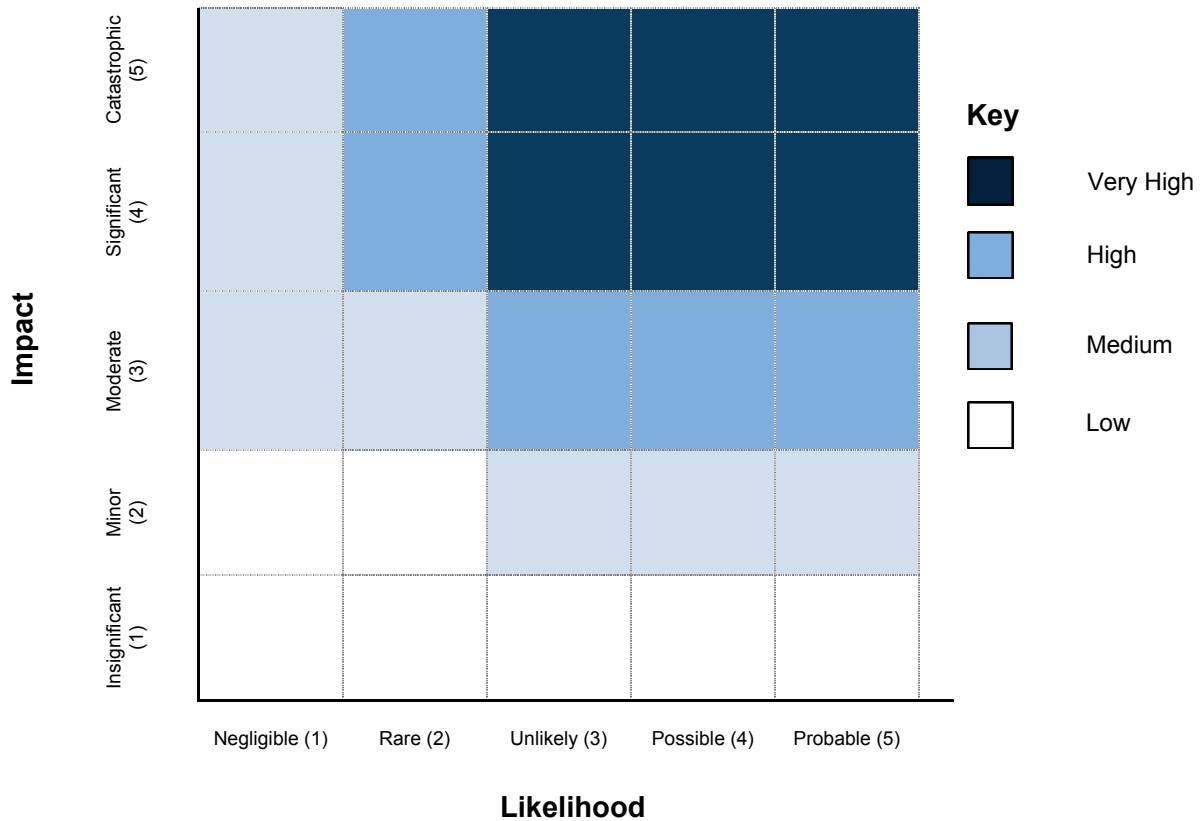
Date of revision: July 2011								Next review date: September 2011				
Risk ref	Hazard or threat category	Hazard or threat sub-category	Outcome description	Likelihood	Impact	Risk rating	Capability required	Controls currently in place	Additional risk treatment required (with timescale)	Risk priority	Lead responsibility	Review date
SW1	Severe weather	Flooding (main river)	River W – flooding 10 square miles	Probable	Significant	Very high	Flood Incident Plans  Strategic stocks of sand bags  Flood warden scheme	Major Emergency Plan  Major Flood Incident Plan	Major flood exercise every 2 years	2	TBD	July 2012
	Transport accident	Accident on motorway or major trunk road	Accident on M6. Up to 10 fatalities and 20 hospitalisations. Closure of lanes for up to 1 week	Possible	Significant	Very high	Motorway Incident Plans  Heavy lifting and earth-moving equipment	Major Incident Plans  Highway Agency Plans	Multi-agency co-ordination exercises every 2 years	3	Fire Service/ DfT	July 2012
	Industrial accident and environmental pollution	Toxic chemical release	Accident at AA chemical plant. Release up to 3km from site. Up to 30 fatalities and 250 hospitalisations	Unlikely	Significant	High	Toxic Incident and Environmental Pollution Plans  Chemical containment. Detoxification and decontamination equipment	Major Incident Plans  Emergency Services Major Incident Plans  HSE safety inspection	Exercise safety every 5 years	3	Fire Service	July 2012
	Terrorist attack (information provided by central government)	Conventional/ explosive	Explosion in a crowded place killing up to 100 people				Inherent hospital surge capacity	Emergency Services Major Incident Plans	Identification of temporary mortuary sites	2	Police	July 2012

As regards to **public information for community risk registers** for both non-malicious hazards and malicious threats, LRFs should consider the security classification of the information and the restrictions on disclosure (see para 4.57). For malicious threats, LRFs are recommended to refer directly to the NRR, perhaps by including a link or reproducing the enclosed risks as assessed in the NRR matrix, using a modified form of the language previously recommended, along the following lines:

*“The NRR is a national picture, derived from the National Risk Assessment, of the risks of emergencies. The Matrix [here] gives an indication of the relative likelihood and impact of the high consequence risks that are outlined in the National Risk Register. It includes the risk of a number of kinds of terrorist attacks, shown here as attacks on crowded places, transport systems, and critical infrastructure, and attacks using non-conventional (or in other words chemical, biological, radiological and nuclear) materials. In planning for emergencies [we] take into account the impact that such attacks would have in the local area as much as we do the impacts of other hazards of a more local nature”*

# Annex 4 F: Risk rating matrix

Revision to *Emergency Preparedness*



**Definitions of risk ratings**

**Very high (VH) risk** - these are classed as primary or critical risks requiring immediate attention. They may have a high or medium likelihood of occurrence, but their potential consequences are such that they must be treated as a high priority. This may mean that strategies should be developed to reduce or eliminate the risks, but also that mitigation in the form of (multi-agency) planning, exercising and training for these hazards should be put in place and the risk monitored on a regular frequency. Consideration should be given to planning being specific to the risk rather than generic.

**High (H) risk** - these risks are classed as significant. They may have a high or low likelihood of occurrence, but their potential consequences are sufficiently serious to warrant appropriate consideration after those risks classed as ‘very

high'. Consideration should be given to the development of strategies to reduce or eliminate the risks, but also mitigation in the form of, at least (multi-agency) generic planning, exercising and training should be put in place and the risk monitored on a regular frequency.

**Medium (M) risk** - these risks are less significant, but may cause upset and inconvenience in the short term. These risks should be monitored to ensure that they are being appropriately managed and consideration given to their being managed under generic emergency planning arrangements.

**Low (L) risk** - these risks are both unlikely to occur and not significant in their impact. They should be managed using normal or generic planning arrangements and require minimal monitoring and control unless subsequent risk assessments show a substantial change, prompting a move to another risk category.