

DEFINITIONS USED IN RISK EVALUATION

This Appendix provides definitions of the terms used in the classification of harm, probability of a pollutant linkage becoming established, and classification of overall risk, as described in CIRIA Report C552¹

CLASSIFICATION OF CONSEQUENCE/HARM

Table A, reproduced from CIRIA C552 (Table 6.3)¹, provides definitions of the terms used in the classification of consequence. Hazards are classed according to the magnitude of the potential consequence (severity) when reaching a receptor. This is known as environmental harm and can be classified as minor, mild, medium or severe.

Table A. Classification of Consequence/Harm

Classification	Definition	Examples
Severe	Short-term (acute) risk to human health likely to result in 'significant harm' as defined by the Environmental Protection Act 1990, Part IIA/ Short-term risk of pollution of sensitive water resource. Catastrophic damage to buildings/property. A short-term risk to a particular ecosystem, or organism forming part of such ecosystem.	High concentrations of cyanide on the surface of an informal recreation area. Major spillage of contaminants from a site into controlled water. Explosion causing building collapse.
Medium	Chronic damage to Human Health ('Significant Harm' as defined in DETR (2000)). Pollution of sensitive water resources. A significant change in a particular ecosystem, or organism forming part of such ecosystem.	Concentrations of a contaminant exceed generic or site specific assessment criteria. Leaching of contaminants from a site to a major or minor aquifer. Death of a species within a designated nature reserve.
Mild	Pollution of non-sensitive water resources. Significant damage to crops, buildings, structures and services ('significant harm' as defined in the <i>'draft circular of contaminated land'</i> , DETR 2000). Damage to sensitive buildings/structures/services or the environment.	Pollution of non-classified groundwater. Damage to building rendering it unsafe to occupy (e.g. foundation damage resulting in instability).
Minor	Harm, although not necessarily significant harm, which may result in a financial loss, or expenditure to resolve. Non-permanent effects to human health (easily prevented by means such as PPE). Easily repairable effects/damage to buildings, structures and services.	The presence of contaminants at such concentrations that protective equipment is required during site works. The loss of plants in a landscaping scheme. Discolouration of concrete.

¹ Rudland, D., Lancefield, R.M., Mayel, P.N. (2001) "Contaminated land Risk Assessment: A guide to good practice. CIRIA C552. UK.

CLASSIFICATION OF PROBABILITY

The likelihood that receptors could be affected by on site contaminants, if present, is classified using CIRIA C552 (Table 6.4) ¹. Table B, reproduced from CIRIA C552, provides definitions of the terms used when assessing the likelihood of a pollution linkage becoming established.

Table B. Classification of Probability

Classification	Definition
High Likelihood	There is a pollution linkage and an event that either appears very likely in the short-term and almost inevitable over the long term, or there is evidence at the receptor of harm or pollution.
Likely	There is a pollution linkage and all of the elements are present and in the right place, which means it is probable that an event will occur. Circumstances are such that an event is not inevitable, but possible in the short-term and likely over the long term.
Low Likelihood	There is a pollutant linkage and circumstances are possible under which an event could occur, however it is by no means certain that even over a longer period that such an event would take place, and it is less likely in the shorter term.
Unlikely	There is a pollutant linkage, but circumstances are such that it is improbable that an event would occur even in the very long term.

RISK ASSESSMENT

The risk categories are assessed based upon the consequence vs. probability assigned to each scenario, based upon guidance originally produced by the DETR (2000). Table C shows a reproduction of the risk matrix (Table 6.5) as published in CIRIA C552, which is used to evaluate the overall risk to each identified receptor on the basis of consequence v probability. Table D records the definition of each of the risk categories, and is reproduced from Table 6.6 in CIRIA C552.

Table C. Classification of Consequence v Probability

Probability	Consequence				
		Severe	Medium	Mild	Minor
	High Likelihood	Very High Risk	High Risk	Moderate Risk	Moderate/Low Risk
	Likely	High Risk	Moderate Risk	Moderate/Low Risk	Low Risk
	Low Likelihood	Moderate Risk	Moderate/Low Risk	Low Risk	Very Low Risk
>	Unlikely	Moderate/Low Risk	Low Risk	Very Low Risk	Very Low Risk

Table D. Description of Risk Classifications and Likely Action Required

Very High Risk	There is a high probability that severe harm could arise to a designated receptor from an identified hazard, OR, there is evidence that severe harm to a designated receptor is currently happening. The risk, if realised, is likely to result in a substantial liability. Urgent investigation (if not already undertaken) and remediation are likely to be required.
High Risk	Harm is likely to arise to a designated receptor from an identified hazard. Realisation of the risk is likely to present a substantial liability. Urgent investigation (if not undertaken already) is required and remedial works may be necessary in the short term and are likely over the long term.
Moderate Risk	It is possible that harm could arise to a designated receptor from an identified hazard. However, it is relatively unlikely that any such harm would be severe, or if any harm were to occur it is more likely that the harm would be relatively mild . Investigation (if not already undertaken) is normally required to clarify the risk and to determine the potential liability. Some remedial works may be required in the longer term.
Low Risk	It is possible that harm could arise to a designated receptor from an identified hazard, but it is likely that this harm, if realised, would at worst normally be mild .
Very Low Risk	There is a low possibility that harm could arise to a receptor. In the event of such harm being realised it is not likely to be severe.