

## HSE'S LAND USE PLANNING METHODOLOGY

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## **Introduction**

1. The Health and Safety Executive (HSE) is a statutory consultee on certain developments in the vicinity of major hazard sites and major accident hazard pipelines. HSE's land use planning (LUP) advice is based on the methodology set out in this document, and in the majority of cases HSE's advice is provided through HSE's Planning Advice Web App.

## **Background to HSE's involvement in land use planning**

2. Major accidents at sites storing hazardous substances are rare, but when they do happen the effects on people living nearby can be devastating. This became apparent following the Flixborough incident in the UK in 1974, more recently at Buncefield in 2005 and across Europe for example at Enschede in The Netherlands in 2000. HSE first offered advice to Planning Authorities (PA) in 1972 and this was introduced across the EU by the 1996 Seveso II Directive, which was replaced in 2012 by the Seveso III Directive (See Annex 1). The simple aim is to manage population growth close to such sites to mitigate the consequences of a major accident.

3. HSE sets a consultation distance (CD) around major hazard sites and major accident hazard pipelines after assessing the risks and likely effects of major accidents at the major hazard. Major hazards comprise a wide range of chemical process sites, fuel and chemical storage sites, and pipelines. The CDs are based on available scientific knowledge using hazard /risk assessment models updated as new knowledge comes to light. Major accidents are also closely studied. The PA is notified of this CD and has a statutory duty to consult HSE on certain proposed developments within it (see Annex 2), and this should be done through HSE's Planning Advice Web App. HSE's response will be that HSE either 'advises against' or 'does not advise against' the granting of planning permission on safety grounds that arise from the possible consequences of a major accident at the major hazard. The PA must take this advice into account when they make a decision on the planning application.

4. PAs have consulted HSE for many years on planning applications and proposed developments within the CD of major hazards. In 2006/2007, HSE provided PAs with direct on-line access to a software decision support tool known as PADHI+ (Planning Advice for Developments near Hazardous Installations), based on HSE's methodology, for them to use to consult HSE for advice on the majority of planning applications rather than having to contact HSE directly.

5. In 2015, PADHI+ was replaced by the HSE Planning Advice Web App, which PAs should now use to consult HSE for advice. The Web App is also available to developers to use to identify if a proposed development site lies within the CD of a major hazard; if it does, they can also use the Web App to obtain HSE's pre-application advice on their proposal, although there is a charge for that particular service.

6. For more background information see Annex 1 – HSE's land use planning advice provision.

## **The principles behind HSE's land use planning methodology**

7. HSE's land use planning methodology is based on the following principles:

- The risk considered is the residual risk which remains after all reasonably practicable preventative measures have been taken to ensure compliance with the requirements of the Health and Safety at Work etc. Act 1974 and its relevant statutory provisions.
- Where it is beneficial to do so, advice takes account of risk as well as hazard, that is the likelihood of an accident as well as its consequences.
- Account is taken of the size and nature of the proposed development, the inherent vulnerability of the exposed population and the ease of evacuation or other emergency procedures for the type of development proposed. Some categories of development (e.g. schools and hospitals) are regarded as more sensitive than others (e.g. light industrial) and advice is weighted accordingly.
- Consideration of the risk of serious injury, including that of fatality, attaching weight to the risk where a proposed development might result in a large number of casualties in the event of an accident.

#### **HSE's Planning Advice Web App**

8. The HSE Planning Advice Web App is the name given to the software used to provide HSE's LUP advice to PAs on proposed developments near major hazard sites and major accident hazard pipelines. It replaced PADHI+ in 2015, and uses the methodology which HSE has used since 2002, which codified the principles used by HSE in providing LUP advice since the 1970s.

9. HSE's Planning Advice Web App can also be used by PAs and developers to obtain HSE's advice on a pre-planning enquiry (PPE) provided sufficient information is available. Developers will be charged for that service. Any decision on a PPE will be conditional on the assessment of the formal planning application which will be made using the information that is appropriate and relevant when HSE is consulted by the PA.

10. Very exceptionally there may be cases of development where the use of HSE's Planning Advice Web App alone is inappropriate and HSE will take account of wider factors so that the usual criteria can be usefully complemented.

11. There are some types of development on which HSE's Planning Advice Web App is currently unable to provide advice. When such cases are identified during a consultation, the PA or developer will be advised to contact HSE directly for advice. These include:

- developments which involve more than 5 separate development types
- mixed-use developments where two or more development types share the same footprint at different levels
- developments which involve a small extension to an existing facility
- developments on a major hazard site which are under the control of the operator of the major hazard site.

### **What HSE's methodology does not deal with**

12. There are a number of aspects of HSE's land use planning and major hazards work that HSE's methodology and HSE's Planning Advice Web App does not deal with.

### **Incremental development around major hazard sites and major accident hazard pipelines**

13. Where HSE has previously advised against a development (particularly where there is a history of incremental development), or where there has already been a Planning Inquiry into a development, the HSE Planning Advice Web App cannot take account of such matters and it is expected that PAs will take this additional information into account when deciding whether or not to grant planning permission.

14. Para 069 of Planning Practice Guidance 'Hazardous Substances – handling development proposals around hazardous installations' advises planning authorities to be alert to encroachment of development in consultation zones, including where larger developments are divided between smaller applications to fall below consultation thresholds. Planning authorities are advised to consult HSE in such cases.

### **Developments within the Development Proximity Zone (DPZ) of large-scale petrol storage sites**

15. Following the Buncefield incident in 2005, HSE reviewed the CDs of all sites which met the criteria for large-scale petrol storage sites, and an additional zone – a Development Proximity Zone (DPZ) was introduced 150 metres from the boundary of the relevant storage tank bunds. HSE's approach to providing land use planning advice on developments in the vicinity of such sites can be found in SPC/Tech/Gen/49 – 'Land use planning advice around large-scale petrol storage sites'. HSE's Planning Advice Web App cannot be used to determine HSE's advice on developments within the DPZ, and PAs must refer any planning applications or pre-planning enquiries which involve such a development to HSE.

### **Applications for Hazardous Substances Consent**

16. These require the specialist skills and knowledge of HSE risk assessors to determine the potential risks and consequences from the hazardous substances in the Consent application. HSE will advise the Hazardous Substances Authority if they should grant consent and will also set a CD, usually comprising three consultation zones (inner, middle and outer – see Annex 3 for LUP purposes for these sites).

### **Notification of Major Accident Hazard Pipelines by pipeline operators**

17. These require the specialist skills and knowledge of HSE Pipelines Inspectors to determine if the potential consequences of the pipelines being approved are acceptable. HSE will then determine the sizes of the 3 zones to be used for LUP purposes basing their assessment on the pipeline details notified to HSE by the pipeline operator.

### **Applications for Licensed Explosive Sites**

18. These require the specialist skills and knowledge of HSE's Explosives Inspectors to determine if the potential consequences of the explosives site being approved are acceptable. They will also determine the safeguarding zones and then advise on any planning consultations within those zones.

#### **Consultations on applications for developments in the vicinity of Licensed Explosives sites or Licensed Nuclear Installations**

19. PAs should forward such consultations to HSE's Explosives Inspectorate or the Office for Nuclear Regulation (ONR) as appropriate.

#### **Developments near Major Accident Hazard Pipelines where the pipelines have sections with additional protection measures**

20. HSE's Planning Advice Web App uses the 3 consultation zones set by HSE which are based on the details given in the pipeline notification. This covers the whole length of the pipeline and the Web App is unable to accommodate any isolated local variations. If HSE advises against the granting of planning permission due to the proximity of a proposed development to a pipeline, then the option is given to check with the pipeline operator to see if the pipeline has additional protection (e.g. thicker walled pipe) near the proposed development. If so, then HSE's risk assessors are willing to reconsider the case using the details of the pipeline specification relevant to the pipeline near the development. HSE will charge for this service if it is provided as part of the pre-application advice process.

#### **Retrospective advice on developments when a decision has been made by the planning authority**

21. HSE does not give retrospective advice on planning applications where a decision has already been made by the planning authority. However, this does not remove the responsibility on the planning authority to take account of public safety in their planning decisions, which in some cases is required by European Directive. Where a decision should have been made with the benefit of HSE's advice, but was not, then it is for the planning authority to consider whether to take any remedial action, which could include revocation of any permission granted.

#### **When to consult HSE**

22. HSE should be consulted on any developments which lie within the CD of a major hazard site or a major accident hazard pipeline and which meet the criteria (see Annex 2 for details) set out in:

- the Town and Country Planning (Development Management Procedure) (England) Order 2015,
- the Town and Country Planning (Development Management Procedure) (Wales) Order 2012 and
- the Town and Country Planning (Development Management Procedure) (Scotland) Regulations 2013.

#### **How HSE's advice is determined**

23. HSE's advice is usually determined by a combination of:

- the consultation zone in which the development is located, of the 3 zones that make up the CD set by HSE around the major hazard (see paragraph 26 and Figures 1 and 2); and
- the 'Sensitivity Level' of the proposed development which is derived from HSE's categorisation system of "Development Types" (see paragraphs 34-38).

24. Additionally there are situations where 'rules' may be applied when dealing with the more complex cases in which any of the following apply:

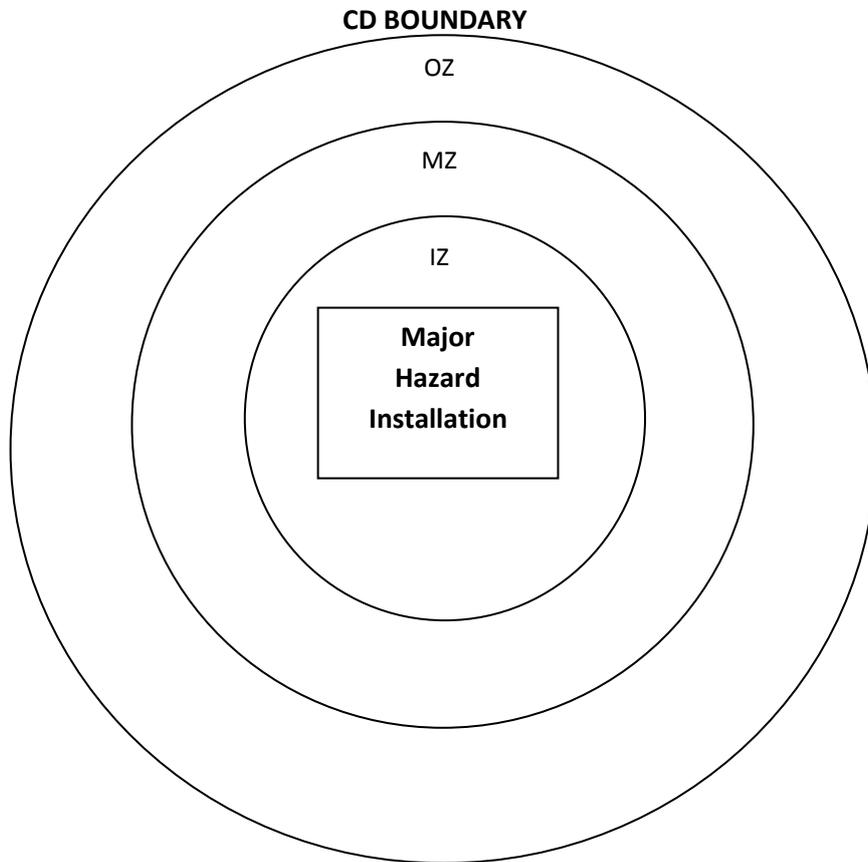
- the development is located in more than one zone
- more than one major hazard is involved
- the proposal involves more than one Development Type (using HSE's categorisation method)
- the development involves a small extension to an existing facility.

25. A decision matrix (see paragraph 39), using the combination of the consultation zone and sensitivity level will determine HSE's response, which will be that HSE either 'Advise Against' or 'Does Not Advise Against' the granting of planning permission for the proposed development.

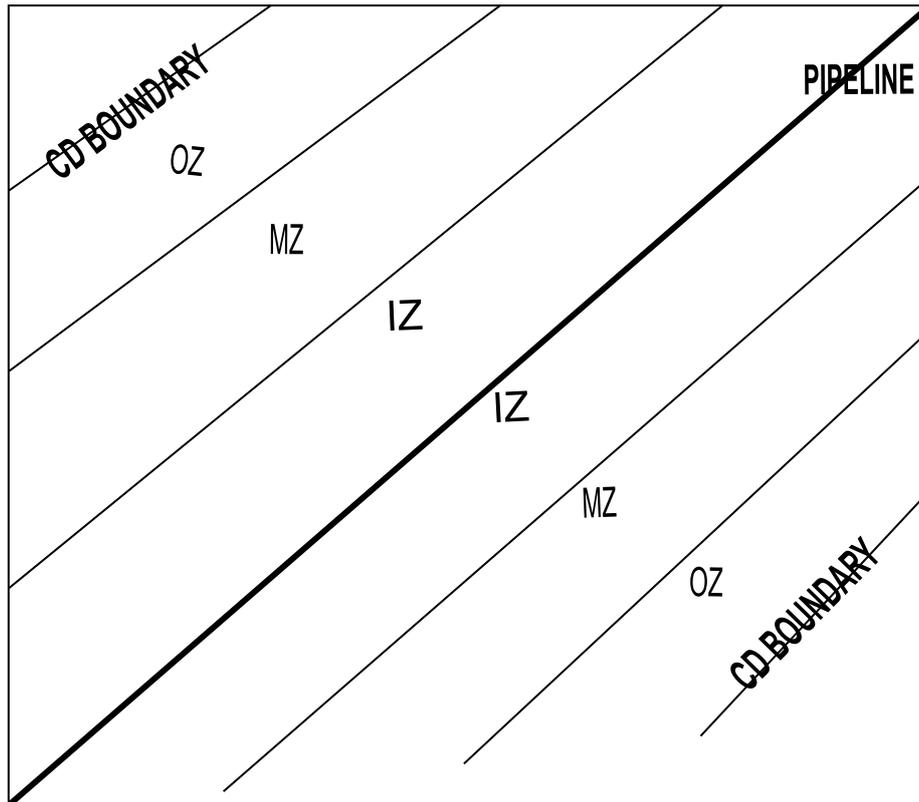
26. In some cases, a development may involve several different Development Types. In these situations, the combination of consultation zone and Sensitivity Level is considered for each individual Development Type. If any individual Development Type receives an 'Advise Against' response, **then HSE's response for the whole proposal will be 'Advise Against'**.

#### **HSE Consultation distances and consultation zones**

27 The consultation zones are normally determined by a detailed assessment of the risks and/or hazards of the installation or pipeline which takes into account the following factors; the quantity of hazardous substances for which the site has hazardous substances consent and details of the storage and/or processing; the hazard ranges and consequences of major accidents involving the toxic and/or flammable and/or other hazardous substances that could be present. The risks and hazards from the major hazard are greatest in the Inner Zone and hence the restrictions on development are strictest within that zone. The CD comprises the land enclosed by all the zones and the installation itself (See Annex 3 for further information).



**Figure 1** Three zone map



**Figure 2** Pipeline zones

**Development details**

28. The Sensitivity Level of a proposed development will be determined by the Development Type(s) involved and the size and scale of each Development Type (see Tables 1-4).

29. A development proposal may consist of a number of different Development Types and may lie within more than one consultation zone of one or more hazardous installations or pipelines. If a Development Type lies within two or more consultation zones of the CD of a major hazard, including the outer zone and outside the CD, Rule 1 – straddling developments – will be applied to decide the zone in which the whole Development Type is considered to lie when using the decision matrix (see paragraphs 43-45). For a development involving several different Development Types, each combination of consultation zone and Sensitivity Level is considered. If any individual Development Type receives an Advise Against decision **then the overall advice for the whole proposal will be Advise Against.**

30. In certain circumstances where a development is considered to be a small extension to an existing facility, an 'Advise Against' response may be changed to 'Does Not Advise Against'; see Rule 4b (see paragraph 50).

### Identifying developments

31. Where a development proposal includes more than one Development Type, all individual Development Types are identified and considered separately. All facilities that involve the same Development Type, but which are physically separated from each other, are aggregated together to determine the Sensitivity Level for that Development Type and subsequently to determine the advice. For example, a development may involve several individual buildings, each of which falls into the category of 'indoor use by the public' such as shops, a cinema and a library; these are all aggregated when determining the sensitivity level of that Development Type. However, any facilities that lie entirely outside the CD are discounted when determining the Sensitivity Level.

32. Developments with a sensitivity level of SL4 (i.e. Institutional accommodation and education and large outdoor use by public developments) are not aggregated with facilities of the same Development Type with a lower sensitivity level.

### Assessing developments

33. HSE's advice is assessed for each individual Development Type, taking account of:

- the sensitivity level of the Development Type
- the zone in which the Development Type lies – after applying Rule 1 – 'Straddling developments' and/or Rule 2 - 'Multiple major hazards' if appropriate.

34. This process is repeated for each different Development Type identified. An 'Advise Against' response for any single Development Type will dominate the HSE's advice for the overall consultation and lead to the whole consultation being advised against.

### Decision matrix

35. Having determined which consultation zone a Development Type falls into, after applying the straddling rule if necessary, and the Sensitivity Level of the development, the following matrix is used to decide HSE's advice.

Level of Sensitivity	Development in Inner Zone	Development in Middle Zone	Development in Outer Zone
1	DAA	DAA	DAA
2	AA	DAA	DAA
3	AA	AA	DAA
4	AA	AA	AA

**DAA = Don't Advise Against development**

**AA = Advise Against development**

36. If all Development Types in a consultation result in a DAA response, then DAA is the final HSE advice.

37. If any individual Development Type gives an AA response, then the result for the consultation is AA. If a development which HSE has advised against involves an extension to an existing facility, HSE will reconsider this advice and may revise the advice if it involves a small extension – see paragraph 50

### **Introduction to Sensitivity Levels**

38. The Sensitivity Levels are based on a clear rationale in order to allow progressively more severe restrictions to be imposed as the sensitivity of the proposed development increases. There are 4 sensitivity levels:

- Level 1 – Based on normal working population
- Level 2 – Based on the general public – at home and involved in normal activities
- Level 3 – Based on vulnerable members of the public (children, those with mobility difficulties or those unable to recognise physical danger) and
- Level 4 – Large examples of Level 3 and very large outdoor developments.

39. Development Types are used as a direct indicator of the Sensitivity Level of the population at the proposed development. Exceptions are made for some very large or very small developments by assigning them a higher or lower Sensitivity Level than normal for that Development Type.

40. The tables below expand on the four basic Development Types:

- 1 – People at work, Parking
- 2 – Developments for use by the general public
- 3 – Developments for use by vulnerable people
- 4 – Very large and sensitive developments

41. The tables show the Development Types (first column) with examples of each type of development given in column 2 (these are only a guide – they are not exhaustive). Fuller details that are needed to determine the Sensitivity Level of any particular development proposal are given in column 3. As a general principle, the Sensitivity Level is decreased by one for small examples of a particular Development Type and increased for large and very large examples, or where particular features of the development increase the risk to the population. These exceptions are identified in the tables under the EXCLUSIONS for each type of development (and identified as x1, x 2 etc.). The Justification column shows the rationale for the allocation of the Sensitivity Level to each Development Type.

42. All facilities of the same Development Type which are completely and/or partly inside the CD are aggregated in determining the Sensitivity Level. Any facilities that are entirely outside the CD are discounted when determining the Sensitivity Level. For example all housing areas within the CD are aggregated to determine the overall Sensitivity Level of a housing development, but any housing area which lies completely outside the CD is not included. The only exception to the aggregation is Sensitivity Level 4 developments involving outdoor use by the public or institutional accommodation and education – see paragraph 47.

**Development Type Tables**

**Table 1 Development type: People at work, Parking**

**DT1.1 – Workplaces**

**DT1.2 – Parking Areas**

DEVELOPMENT TYPE	EXAMPLES	DEVELOPMENT DETAIL AND SIZE	JUSTIFICATION
<b>DT1.1 – WORKPLACES</b>	Offices, factories, warehouses, haulage depots, farm buildings, non-retail markets, builder’s yards	Workplaces (predominantly non-retail), providing for less than 100 occupants in each building <b>and</b> less than 3 occupied storeys – <b>Level 1</b>	Places where the occupants will be fit and healthy, and could be organised easily for emergency action. Members of the public will not be present or will be present in very small numbers and for a short time
	<b>EXCLUSIONS</b>		
		<b>DT1.1 x1</b> Workplaces (predominantly non-retail) providing for 100 or more occupants in any building <b>or</b> 3 or more occupied storeys in height – <b>Level 2</b> (except where the development is at the major hazard site itself, where it remains Level 1)	Substantial increase in numbers at risk with no direct benefit from exposure to the risk

	Sheltered workshops, Remploy	<b>DT1.1 x2</b> Workplaces (predominantly non-retail) specifically for people with disabilities – <b>Level 3</b>	Those at risk may be especially vulnerable to injury from hazardous events and / or they may not be able to be organised easily for emergency action
<b>DT1.2 – PARKING AREAS</b>	Car parks, truck parks, lock-up garages	Parking areas with no other associated facilities (other than toilets) – <b>Level 1</b>	
	<b>EXCLUSIONS</b>		
	Car parks with picnic areas, or at a retail or leisure development, or serving a park and ride interchange	<b>DT1.2 x1</b> Where parking areas are associated with other facilities and developments the sensitivity level and the decision will be based on the facility or development	

**Table 2 Development type: Developments for use by the general public**

**DT2.1 – Housing**

**DT2.2 – Hotel / Hostel / Holiday Accommodation**

**DT2.3 – Transport Links**

**DT2.4 – Indoor Use by Public**

**DT2.5 – Outdoor Use by Public**

<b>DEVELOPMENT TYPE</b>	<b>EXAMPLES</b>	<b>DEVELOPMENT DETAIL AND SIZE</b>	<b>JUSTIFICATION</b>
<b>DT2.1 – HOUSING</b>	Houses, flats, retirement flats / bungalows, residential caravans, mobile homes	Developments up to and including 30 dwelling units <b>and</b> at a density of no more than 40 per hectare – <b>Level 2</b>	Development where people live or are temporarily resident. It may be difficult to organise people in the event of an emergency
	<b>Exclusions</b>		
	Very small developments including infill and backland developments	<b>DT2.1 x1</b> Developments of 1 or 2 dwelling units – <b>Level 1</b>	Minimal increase in numbers at risk
	Larger housing developments	<b>DT2.1 x2</b> Larger developments for more than 30 dwelling units – <b>Level 3</b>	Substantial increase in numbers at risk
		<b>DT2.1 x3</b> Any developments (for more than 2 dwelling units) at a density of more than 40 dwelling units per hectare – <b>Level 3</b>	High-density developments
<b>DT2.2 – HOTEL / HOSTEL / HOLIDAY ACCOMMODATION</b>	Hotels, motels, guest houses, hostels, youth hostels, holiday camps, holiday homes, halls of residence, dormitories, accommodation centres, holiday caravan sites, camping sites	Accommodation up to 100 beds or 33 caravan / tent pitches – <b>Level 2</b>	Development where people are temporarily resident. It may be difficult to organise people in the event of an emergency
	<b>Exclusions</b>		
	Smaller – guest houses, hostels, youth	<b>DT2.2 x1</b> Accommodation of less	Minimal increase in numbers at risk

	hostels, holiday homes, halls of residence, dormitories, holiday caravan sites, camping sites	than 10 beds or 3 caravan / tent pitches – <b>Level 1</b>	
	Larger – hotels, motels, hostels youth hostels, holiday camps, holiday homes, halls of residence, dormitories, holiday caravan sites, camping sites	<b>DT2.2 x2</b> Accommodation of more than 100 beds or 33 caravan / tent pitches – <b>Level 3</b>	Substantial increase in numbers at risk
<b>DT2.3 – TRANSPORT LINKS</b>	Motorway, dual carriageway	Major transport links in their own right i.e. not as an integral part of other developments – <b>Level 2</b>	Prime purpose is as a transport link. Potentially large numbers exposed to risk, but exposure of an individual is only for a short period
	<b>Exclusions</b>		
	Estate roads, access roads	<b>DT2.3 x1</b> Single carriageway roads – <b>Level 1</b>	Minimal numbers present and mostly a small period of time exposed to risk. Associated with other development
	Any railway or tram track	<b>DT2.3 x2</b> Railways – <b>Level 1</b>	Transient population, small period of time exposed to risk. Periods of time with no population present
<b>DT2.4 – INDOOR USE BY PUBLIC</b>	<p><b>Food &amp; drink:</b></p> <p>Restaurants, cafes, drive-through fast food, pubs</p> <p><b>Retail:</b></p> <p>Shops, petrol filling station (total floor space based on shop area not forecourt), vehicle dealers (total floor space based on showroom/sales building not outside</p>	Developments for use by the general public where total floor space (of all floors) is from 250 m <sup>2</sup> up to 5000 m <sup>2</sup> – <b>Level 2</b>	Developments where members of the public will be present (but not resident). Emergency action may be difficult to co-ordinate

	<p>display areas), retail warehouses, super-stores, small shopping centres, markets, financial and professional services to the public</p> <p><b>Community &amp; adult education:</b></p> <p>Libraries, art galleries, museums, exhibition halls, day surgeries, health centres, religious buildings, community centres. Adult education, 6th-form college, college of FE</p> <p><b>Assembly &amp; leisure:</b></p> <p>Coach/bus/railway stations, ferry terminals, airports. Cinemas, concert/bingo/dance halls. Conference centres Sports/leisure centres, sports halls. Facilities associated with golf courses, flying clubs (eg changing rooms, club house), indoor go-kart tracks</p>		
	<b>Exclusions</b>		
		<b>DT2.4 x1</b> Development with less than 250 m <sup>2</sup> total floor space (of all floors) – <b>Level 1</b>	Minimal increase in numbers at risk

		<b>DT2.4 x2</b> Development with more than 5000 m <sup>2</sup> total floor space (of all floors)– <b>Level 3</b>	Substantial increase in numbers at risk
<b>DT2.5 – OUTDOOR USE BY PUBLIC</b>	<b>Food &amp; Drink:</b> Food festivals, picnic areas <b>Retail:</b> Outdoor markets, car boot sales, funfairs <b>Community &amp; adult education:</b> Open-air theatres and exhibitions <b>Assembly &amp; leisure:</b> Coach/bus/railway stations, park & ride interchange, ferry terminals. Sports stadia, sports fields/pitches, funfairs, theme parks, viewing stands. Marinas, playing fields, children’s play areas, BMX/go-kart tracks. Country parks, nature reserves, picnic sites, marquees	Principally an outdoor development for use by the general public i.e. developments where people will predominantly be outdoors and not more than 100 people will gather at the facility at any one time – <b>Level 2</b>	Developments where members of the public will be present (but not resident) either indoors or outdoors. Emergency action may be difficult to co-ordinate
	<b>Exclusions</b>		
	Outdoor markets, car boot sales, funfairs. Picnic area, park & ride interchange, viewing stands, marquees	<b>DT2.5 x1</b> Predominantly open-air developments likely to attract the general public in numbers greater than 100 people but up to 1000 at any one time – <b>Level 3</b>	Substantial increase in numbers at risk and more vulnerable due to being outside
Theme parks, funfairs, large sports stadia and events, open-air markets, outdoor concerts, pop festivals	<b>DT2.5 x2</b> Predominantly open-air developments likely to attract the general public in numbers greater than 1000 people at any one time – <b>Level 4</b>	Very substantial increase in numbers at risk, more vulnerable due to being outside and emergency action may be difficult to co-ordinate	

**Table 3 Development type: Developments for use by vulnerable people**

**DT3.1 – Institutional Accommodation and Education**

**DT3.2 - Prisons**

DEVELOPMENT TYPE	EXAMPLES	DEVELOPMENT DETAIL AND SIZE	JUSTIFICATION
<b>DT3.1 – INSTITUTIONAL ACCOMMODATION AND EDUCATION</b>	Hospitals, convalescent homes, nursing homes. Old people’s homes with warden on site or ‘on call’, sheltered housing. Nurseries, crèches. Schools and academies for children up to school leaving age	Institutional, educational and special accommodation for vulnerable people, or that provides a protective environment – <b>Level 3</b>	Places providing an element of care or protection. Because of age, infirmity or state of health the occupants may be especially vulnerable to injury from hazardous events. Emergency action and evacuation may be very difficult
	<b>EXCLUSIONS</b>		
	Hospitals, convalescent homes, nursing homes, old people’s homes, sheltered housing	<b>DT3.1 x1</b> 24-hour care where the total site area on the planning application being developed is larger than 0.25 hectare – <b>Level 4</b>	Substantial increase in numbers of vulnerable people at risk
	Schools, nurseries, crèches	<b>DT3.1 x2</b> Day care where the total site area on the planning application being developed is larger than 1.4 hectare – <b>Level 4</b>	Substantial increase in numbers of vulnerable people at risk
<b>DT3.2 – PRISONS</b>	Prisons, remand centres	Secure accommodation for those sentenced by court, or awaiting trial etc. – <b>Level 3</b>	Places providing detention. Emergency action and evacuation may be very difficult

**Table 4 Development type: Very large and sensitive developments**

**DT4.1 – Institutional Accommodation**

**DT4.2 – Very large Outdoor Use by Public**

DEVELOPMENT TYPE	EXAMPLES	DEVELOPMENT DETAIL AND SIZE	JUSTIFICATION
[Note: All Level 4 developments are by exception from Level 2 or 3. They are reproduced in this table for convenient reference]			
<b>DT4.1 – INSTITUTIONAL ACCOMMODATION</b>	Hospitals, convalescent homes, nursing homes, old people’s homes, sheltered housing, boarding schools	Large developments of institutional and special accommodation for vulnerable people (or that provide a protective environment) where 24-hour care is provided and where the total site area on the planning application being developed is larger than 0.25 hectare – <b>Level 4</b>	Places providing an element of care or protection. Because of age or state of health the occupants may be especially vulnerable to injury from hazardous events. Emergency action and evacuation may be very difficult. The risk to an individual may be small but there is a larger societal concern
	Nurseries, crèches. Schools for children up to school leaving age	Large developments of institutional and special accommodation for vulnerable people (or that provide a protective environment) where day care (not 24-hour care) is provided and where the total site area on the planning application being developed is larger than 1.4 hectare – <b>Level 4</b>	Places providing an element of care or protection. Because of age the occupants may be especially vulnerable to injury from hazardous events. Emergency action and evacuation may be very difficult. The risk to an individual may be small but there is a larger

			societal concern
<b>DT4.2 – VERY LARGE OUTDOOR USE BY PUBLIC</b>	Theme parks, large sports stadia and events, open air markets, outdoor concerts, and pop festivals	Predominantly open air developments where there could be more than 1000 people present at any one time– <b>Level 4</b>	People in the open air may be more exposed to toxic fumes and thermal radiation than if they were in buildings. Large numbers make emergency action and evacuation difficult. The risk to an individual may be small but there is a larger societal concern

#### **Additional rules and how they are applied**

43. The following rules have been developed to allow consideration of the more complex planning consultations.

#### **Rule 1 – Straddling developments**

44. This rule is applied (Rule 1a, then Rule 1b if applicable) when the site area of a proposed Development Type lies across a zone boundary (e.g. when a development site lies within the inner and middle zones), to decide the zone which will be used in the decision matrix. The CD is considered a zone boundary in this context.

45. **Rule 1a:** Development Types that ‘straddle’ zone boundaries will normally be considered as being in the innermost zone to the major hazard unless either of the two following conditions applies. The Development Type will be considered to be in the OUTERMOST of the zones if:

- less than 10% of the area marked on the application for that particular development type is inside that boundary, OR
- it is only car parking, landscaping (including gardens of housing), parks and open spaces, golf greens and fairways or access roads etc. associated with the development; that are in the inner of the zones.

46. **Rule 1b:** For the special case where a Development Type straddles the CD boundary (i.e. part of the site lies within the CD and part lies outside) Rule 1a is followed, then:

- If, after using the Rule 1a, the Development Type is considered to be outside the CD, then there is no need to categorise further; a 'DAA' response is appropriate.
- If, after using Rule 1a, the Development Type is considered to be within the CD then all of the facilities that make up the proposed Development Type are considered. Any that are **entirely outside** the CD are discounted when determining the Sensitivity Level. All the facilities that are **completely and/or partly inside** the CD are then considered together for the purpose of determining the Sensitivity Level. (If appropriate, the 'Multiple-use developments' rule – Rule 3 should be applied).

**(Note: Rules 1a and 1b do not apply where the development type is a Sensitivity Level 2 Transport Link. Even though this type of development is likely to 'straddle' zone boundaries, it will always be considered as being in the innermost of the zones).**

### **Rule 2 – Multiple major hazards**

47. Where a proposed development lies within the CD of more than one major hazard site and/or major accident hazard pipeline, the zone within which the development lies is determined for each major hazard (after applying the straddling rule (Rule 1) if necessary). The overall advice is decided on the basis of the most onerous of any of the zones the development is in (i.e. the Inner Zone is more onerous than Middle Zone, the Middle Zone is more onerous than Outer Zone).

### **Rule 3 – Multiple-use developments**

48. This rule is applied when a proposed development involves more than one Development Type (e.g. a mix of housing, indoor use by the public and a workplace).

- All individual Development Types are identified, as in column 1 of Tables 1-4. All facilities involving the same Development Type are aggregated to determine the Sensitivity Level of that Development Type (being aware that any facilities which are completely outside the CD boundary are not considered). **The only exception to this is an SL4 development (outdoor use by public and Institutional accommodation and education) which is not aggregated with facilities of the same development type with a lower sensitivity level.**
- The zone within which each Development Type lies is identified, using the straddling rule (Rule 1) if appropriate.
- The appropriate 'Advise Against' or 'Does Not Advise Against' response is determined for each Development Type using the decision matrix. If each individual Development Type receives a 'Does Not Advise Against' response, then that will be HSE's overall advice. If any individual Development Type receives an 'Advise Against' decision **then HSE's overall advice will be 'Advise Against'**.

- If any individual Development Type receives an ‘Advise Against’ response, then if appropriate, Rule 4b– ‘Developments which involve a small extension to an existing facility’ is applied, to decide if HSE’s ‘Advise Against’ response should be revised.

**Rule 4 – Developments which involve a small extension to an existing facility.**

49. This rule is concerned with an ‘Advise Against’ response where the proposed development involves a small extension to an existing facility. If the proposed development is a **small** extension to the existing development, then in certain circumstances the ‘Advise Against’ response may be revised to ‘Does Not Advise Against’. This Rule applies only to small extensions to existing facilities, and not to new developments, or to change of use on sites which may have an existing use.

50. **Rule 4a:** First **the proposed development is considered on its own merit** according to the normal procedure and rules. There are two outcome options:

- a ‘Does Not Advise Against’ response, in which case there is no need to apply Rule 4b. (For ‘Multiple-use developments’, if the application of Rule 3 results in **all** outcomes from the matrix being ‘Does Not Advise Against’, then that is the final advice, in which case there is no need to apply Rule 4b) or;
- an ‘Advise Against’ response, in which case Rule 4b is applied if appropriate. (For ‘Multiple-use developments’, if the application of Rule 3 results in one or more ‘Advise Against’ responses from the matrix, then Rule 4b is applied individually to each Development Type which received an ‘Advise Against’ response.)

NB: only the details supplied with the planning application or pre-planning enquiry are used to determine if, and how, Rule 4b applies.

51. **Rule 4b: Extensions (including minor modifications, alterations, or additions)**

If...	Then...
<p>the proposal is for an extension to an existing development, and the proposed extension is of the same Development Type as the existing development that is going to be extended.</p> <p><b>And</b> the population at the development will not increase by more than 10% (or, if the population data is not readily available, the total floor area will not increase by more than 10%),</p>	<p>the consultation should be treated as though the proposed extension had a Sensitivity Level one less than the Sensitivity Level of the existing (i.e. not that of the proposed) development.</p> <p>If this results in a reduced Sensitivity Level, which combined with the zone that the extension is in, produces a DAA response, then this will replace the initial AA response.</p>
<p>For ‘Multiple-use developments’, if the application of Rule 4b changes <b>ALL</b> of the AA</p>	<p>then this will replace the initial AA response.</p>

outcomes to DAA	If at least one outcome remains AA, then an AA response is the final advice. Any remaining AA responses after applying Rule 4b dominates for 'Multiple-use developments' and an AA response is the final advice for the overall development.
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**Rule 5 – Temporary / time limited planning permissions**

52. HSE treats proposals for these the same way as any other planning permission consultations; no allowance is given for the time restriction. Existing temporary / time limited permissions are not taken into account when applying Rule 4.

## Glossary

**Beds** – the number of residents/visitors for which sleeping accommodation is provided.

**Consultation** – an enquiry from a PA or a developer, usually made through the HSE Planning Advice Web App, seeking HSE’s comments on a proposed development within a CD, either on a formal planning application or a pre-planning enquiry. A consultation will involve at least one ‘Development type’.

**Development** – the proposed use of an area of land (e.g. housing, a school, etc.) for which planning permission is sought, or to which a pre-planning enquiry relates. A proportion of planning proposals will consist of more than one Development Type.

**Development type** – term used to describe proposed uses (and/or facilities) that are considered to involve a similar type of population (see the first column in the Development Type Tables 1-4).

**Dwelling units** – the smallest individual unit of accommodation e.g. house, apartment, caravan.

**Extension** – a development which involves an addition to, or the expansion of, an existing facility. This must be

- of the same Development Type as the existing facility.
- an integral part of the existing facility that is being extended. This will commonly be through physical attachment to an existing structure but, in certain cases, it might qualify by being within the control boundaries of the existing facility of which it will be an extension (e.g. a proposed physically isolated classroom within an existing school confines can be considered an ‘extension’).
- usually under the control of the same owner and have the same operator/tenant as the existing facility that is being extended (the owner and the operator/tenant of the existing facility might be different people/companies).
- unable to function independently of the existing facility that is being extended.

Most developments are expected to be developments in their own right – not extensions to existing facilities. For example, a proposed housing development would not be treated as though it is an extension to an existing area of housing. Similarly, an application for additional residential caravan plots would not be considered an application for an extension to an existing area for such use, because the residential caravan plots are able to function independently.

Major redevelopment which involves demolishing a large existing structure(s)/facility and then replacing it by building a slightly bigger version is not considered to be an extension, because the demolition is seen as providing an opportunity to review the situation. For example, if the existing facility is an ‘incompatible’ one then the proposed replacement could be rebuilt further away from

the hazardous installation. A building/facility such as a school for several hundreds of pupils would be considered a 'large' structure/facility.

**Facilities** – buildings and other provisions (e.g. picnic area, children's play area, park and ride bus stop) where people may congregate.

**Hectare** – unit of area equal to 10,000 square metres (m<sup>2</sup>) in any shape (e.g. rectangles 10m x 1,000m or 25m x 400m; square 100m x 100m; or other regular and irregular shapes)

**LUP** – land use planning

**Multiple use development** – see 'development'.

**PA** – planning authority

**Pre-Planning Enquiry (PPE)** – an informal, non-statutory LUP consultation made by a developer or a PA to determine what HSE's advice is likely to be before submitting a formal planning permission application to the PA.

**Protective environment** – there is provision of some element of supervision or care e.g. by a warden being available on-site or on call.

**School leaving age** – the minimum age at which a young person can leave school – currently 16.

**Sensitivity Level** – the scale used to define the vulnerability of a development population to major accident hazards. It is based on pragmatic criteria; the type of development, likely numbers present and whether any vulnerable people will be present. The scale ascends from Level 1 to Level 4: the more vulnerable the population, the higher the sensitivity level.

**Total floor space** – the area of buildings enclosed by the exterior walls multiplied by the number of floors (units are m<sup>2</sup>).

**Vulnerable people** – people who by virtue of age (children and elderly) and/or ill health may be particularly susceptible to the effects of a major accident.

## **Annex 1**

### **HSE's land use planning advice provision**

1. HSE's land use planning (LUP) advice is based on the recommendations of the Advisory Committee on Major Hazards (ACMH). The principles behind the recommendations are followed in guidance; see for example 'Planning Practice Guidance: Hazardous Substances – handling development proposals around hazardous installations', which is available through the Planning Portal. The principles and objectives HSE uses in giving its advice received strong support in a public consultation in 2007 (CD211 – Proposals for revised policies for HSE advice on development control around large-scale petrol storage sites). Failure to follow the principles will lead to non-compliance with Article 13 of the Seveso III Directive.

2. HSE's advice is currently delivered through HSE's Planning Advice Web App. This is a codification of the methodology used by HSE over the last 30 years or more and replaced PADHI+ which PAs used between 2006 and 2015.

3. Under Article 18 of the Town and Country Planning (Development Management Procedure) (England) Order 2015, Article 14 of the Town and Country Planning (Development Management Procedure) (Wales) Order 2012 and Regulation 25 of the Town and Country Planning (Development Management Procedure) (Scotland) Regulations 2013, decision-makers are required to consult HSE on certain planning proposals around major hazard establishments and to take into account the Executive's representations when determining associated applications. This is to ensure that the UK complies with Article 13 of the Seveso III Directive which has the specific objective of controlling specified new development to maintain adequate separation; including residential areas, buildings and areas of public use; around major hazard establishments when the development is such as to increase the risk or consequences of a major accident. In essence decision-makers should ensure that new development does not significantly worsen the situation should a major accident occur.

4. In some instances there may already be existing development which is closer to a potentially hazardous installation. In these cases HSE has recognised the views of the Advisory Committee on Major Hazards as expressed in paragraphs 108 and 109 of their Second Report which reads as follows:

'108.....The HSE is also frequently asked to comment on proposals to develop or to redevelop land in the neighbourhood of an existing hazardous undertaking where there may already be other land users which are closer and possibly incompatible. In these cases, HSE tells us that it takes the view, which we fully endorse, that the existence of intervening developments should not in any way affect the advice that it gives about the possible effects of that activity on proposed developments which may appear to be less at risk than the existing ones'.

'109.....The overall objective should always be to reduce the number of people at risk, and in the case of people who unavoidably remain at risk, to reduce the likelihood and the extent of harm if loss of containment occurs.....

5. HSE's approach balances the principle of stabilising and not increasing the numbers at risk with a pragmatic awareness of the limited land available for development in the UK. An HSE discussion document in 1989 ("Risk criteria for land-use planning in the vicinity of major industrial hazards") sets out the basis of HSE's approach at that time.

6. The Government committee of experts, the Advisory Committee on Major Hazards (ACMH), which originally proposed HSE's role in the LUP system did recognise "*the remote possibility that in some instances a local planning authority may not feel inclined, for a variety of reasons, to follow the advice of the Executive on particular applications for potentially hazardous developments or other developments in their vicinity.*" As a consequence, arrangements were set up so that in this rare circumstance, a planning authority is required by 'Planning Practice Guidance: Hazardous Substances – handling development proposals around hazardous installations', Circular 20/01 (Wales), or Circular 4/1997 (Scotland) to formally notify HSE of its intention to grant against the Executive's advice. This is so that, in England and Wales, HSE can decide whether or not to request the Secretary of State to call-in the application for their own determination. In Scotland, if the planning authority is minded to grant permission they have to notify the Scottish Ministers who can decide to call-in the application.

7. HSE's consideration of call-in should not be confused with its LUP advice delivered through HSE's Planning Advice Web App; it is the latter which is provided to enable LUP decision-makers to comply with the objectives of Seveso III, Article 13. In line with Government policy, HSE normally requests call-in only in cases of exceptional concern. However if HSE decides not to make such a request this does not mean that it has withdrawn its advice against permission, which remains on file and in the future is likely to be published on our website. A decision not to request call-in does not negate HSE's LUP advice.

8. HSE's role in the LUP process is to provide independent advice on the residual risks from major accidents to people at specified proposed new developments. This is delivered through HSE's Planning Advice Web App and hence that is what planning authorities must 'seriously consider' in accordance with 'Planning Practice Guidance: Hazardous Substances – handling development proposals around hazardous installations', which advises decision-makers that:

*"In view of its acknowledged expertise in assessing the off-site risks presented by the use of hazardous substances, any advice from Health and Safety Executive that planning permission should be refused for development for, at or near a hazardous installation or pipeline **should not be overridden without the most careful consideration.**"*

9. Furthermore the Courts (Regina v Tandridge District Council, Ex parte Al Fayed, Times Law Report 28 January 1999) have decided that on technical issues, local authorities, while not bound to follow the advice of statutory bodies such as the HSE, "*should nevertheless give great weight to their advice*" when determining planning applications.

10. A published external review "Analysis of Planning Appeal Decision Reports" (HSE contract research number 262/2000) concluded "*It is clear the HSE's risk policies are largely upheld on appeal.*

*It is viewed as a competent and expert body, and its advice provides considerable support to PA decisions."*

## Annex 2

### **Types of development to consult on under the Town and Country Planning (Development Management Procedure) (England) Order 2015, the Town and Country Planning (Development Management Procedure) (Wales) Order 2012 and the Town and Country Planning (Development Management Procedure) (Scotland) Regulations 2013**

The following guidance and circulars provide further guidance on when HSE is a statutory consultee:

- 'Planning Practice Guidance: Hazardous Substances – handling development proposals around hazardous installations',
- SOEnD Circular 5/1993 (This document is not available on the internet)
- National Assembly for Wales Circular 20/01

They identify the following developments:

1. Within the Consultation Distance (CD) of major hazard installations / complexes and pipelines, HSE should only be consulted for developments involving:

- residential accommodation
- more than 250 square metres of retail floor space
- more than 500 square metres of office floor space
- more than 750 square metres of floor space to be used for an industrial process
- transport links (railways, major roads, etc.)
- a material increase in the number of persons working within, or visiting, a CD

and then only if the development is within the CD.

2. HSE should also be consulted on

- proposed development involving the siting of new establishments where hazardous substances may be present; or
- modifications to existing establishments which could have significant repercussions on major accident hazards; or
- proposed development that is in the vicinity of existing hazardous installations and pipelines where the siting is such as to increase the risk or consequences of a major accident

3. For licensed explosive sites the criteria are the same as above, but only if within the explosive site's Safeguarding Zone.

4. HSE will also advise Hazardous Substances Authorities prior to them determining a consent application. The HSE Planning Advice Web App cannot be used to provide HSE's advice on applications for hazardous substances consent – HSE must be consulted directly on such applications...

5. HSE does not give retrospective advice on planning applications where the decision has already been made by the planning authority.

## Annex 3

### HSE'S approach to land use planning

#### Policy & Practice

1. The aim of health and safety advice relating to land use planning is to mitigate the effects of a major accident on the population in the vicinity of hazardous installations, by following a consistent and systematic approach to provide advice on applications for planning permission around such sites.
2. Since the early 1970s, arrangements have existed for local planning authorities (PAs) to obtain advice from HSE about risks from major hazard sites and the potential effect on populations nearby. The Advisory Committee on Major Hazards (ACMH), set up in the aftermath of the Flixborough disaster in 1974, laid down a framework of controls which included a strategy of mitigating the consequences of major accidents by controlling land use developments around major hazard installations
3. Historically, HSE has based its land-use planning advice on the presumption that site operators are in full compliance with the Health & Safety at Work etc. Act 1974 (HSW Act). Section 2 of the Act places a duty on an employer to ensure, so far as is reasonably practicable, the health and safety of his employees. There is a corresponding duty in section 3 to ensure, so far as is reasonably practicable, that others (which includes the public) are not exposed to risks to their health & safety. It was presumed that the safety precautions taken by the employer to comply with Section 2 (risks to his workers) would also ensure compliance with Section 3 of the HSW Act.
4. The main legal driver now is the EU Seveso III Directive, the principal land use planning aspects of which are given effect in the UK by the Planning (Hazardous Substances) Regulations (the PHS Regulations) and associated legislation.

#### HSE's role

5. HSE's specific role in LUP is **twofold**:
  - i. Under the PHS Regulations, the presence of hazardous chemicals above specified threshold quantities requires consent from the Hazardous Substances Authority (HSA), which is usually also the local planning authority (PA). HSE is a statutory consultee on all hazardous substances consent applications. **Its role is to consider the hazards and risks which would be presented by the hazardous substance(s) to people in the vicinity, and on the basis of this to advise the HSA whether or not consent should be granted.** In advising on consent, HSE may specify conditions that should be imposed by the HSA, over and above compliance with statutory health and safety requirements, to limit risks to the public (e.g. limiting which substances can be stored on site, or requiring tanker delivery rather than on-site storage). HSAs should notify HSE of the outcome of all applications for consent and where consent has been granted should supply copies of the site plans and conditions.

ii. HSE uses the information contained in consent applications to establish a consultation distance (CD) around the installation. This usually comprises three zones or risk contour areas – see paragraph 8. The CD is based on the maximum quantity of hazardous substance(s) that the site is entitled to have under its consent. HSE notifies the PAs of all CDs in their areas. The Development Management Procedure Orders require the PA to consult HSE about certain proposed developments (essentially those that would result in an increase in population) within any CD. **HSE advises the PA on the nature and severity of the risks presented by the installation to people in the surrounding area so that those risks are given due weight by the PA when making its decision. Taking account of the risks, HSE will advise against the proposed development or simply note that it does not advise against it.** This advice balances the ACMH principle of stabilising and not increasing the numbers at risk, with a pragmatic awareness of the limited land available for development in the UK.

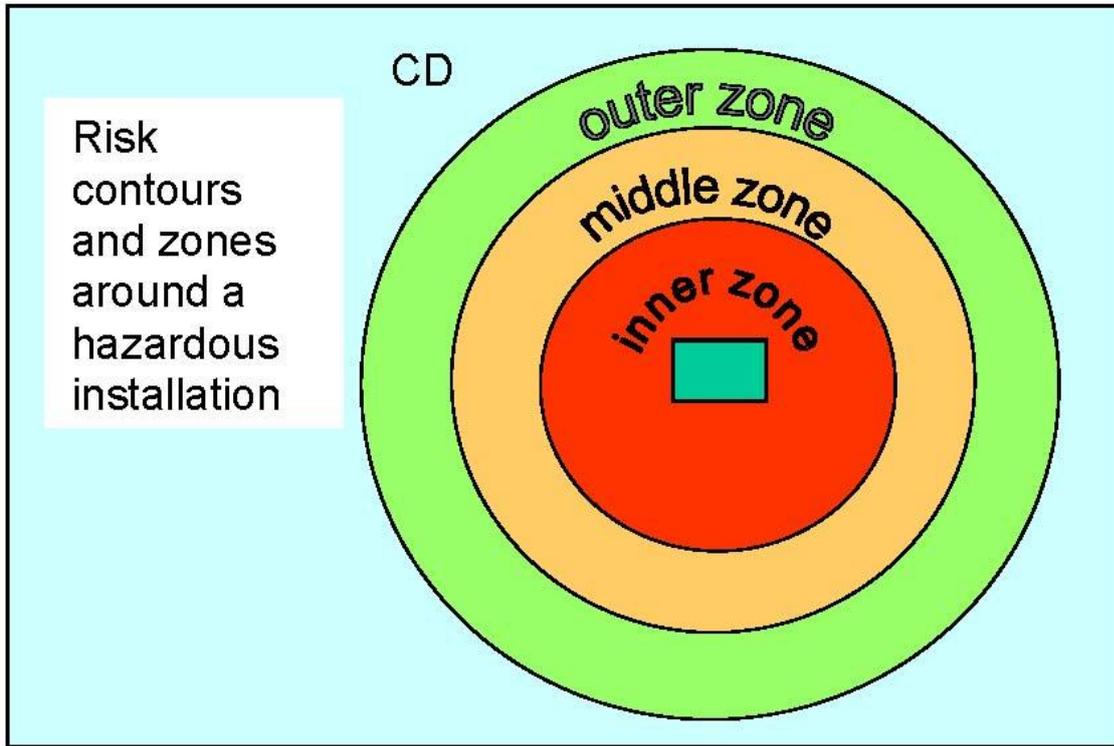
6. Like other statutory consultees, HSE's role in the land use planning system is advisory. It has no power to refuse consent or a planning application. It is the responsibility of the HSA or PA to make the decision, weighing local needs and benefits and other planning considerations alongside HSE advice, in which case they should give HSE advance notice of that intention. PAs may be minded to grant permission against HSE's advice. In such cases HSE will not pursue the matter further as long as the PA understands and has considered the reasons for our advice. However HSE has the option, if it believes for example that the risks are sufficiently high, to request the decision is 'called in' for consideration by the Secretary of State, in England and Wales (a very rare situation). In Scotland, if the planning authority is minded to grant permission they have to notify the Scottish Ministers who can decide to call-in the application.

### **Consultation distances and risk contours**

7. Using hazardous substances consent information, HSE undertakes a detailed assessment of the hazards and risks from the installation and produces a map with three risk contours representing defined levels of risk or harm which any individual at that contour would be subject to. The risk of harm to an individual is greater the closer to the installation. In each case the risk relates to an individual sustaining the so-called 'dangerous dose' or specified level of harm. A 'dangerous dose' is one which would lead to:

- severe distress to all;
- a substantial number requiring medical attention;
- some requiring hospital treatment; and,
- some (about 1%) fatalities.

8. The three contours represent levels of individual risk of 10 chances per million (cpm), 1 cpm and 0.3cpm per year respectively of receiving a dangerous dose or defined level of harm. The contours form three zones (see below), with the outer contour defining the CD around major hazard sites.



The PA consults HSE on relevant proposed developments within this CD through the HSE Planning Advice Web App.

**How HSE gives advice**

9. When consulted, HSE firstly identifies which of the three defined zones the proposed development is in. Secondly, the proposed development is classified into one of four “Sensitivity Levels”. The main factors that determine these levels are the numbers of persons at the development, their sensitivity (vulnerable populations such as children, old people) and the intensity of the development. With these two factors known, a simple decision matrix is used to give a clear ‘Advise Against’ (AA) or ‘Don’t Advise Against’ (DAA) response to the PA, as shown below:

Level of Sensitivity	Development in Inner Zone	Development in Middle Zone	Development in Outer Zone
1	DAA	DAA	DAA
2	AA	DAA	DAA
3	AA	AA	DAA
4	AA	AA	AA

Sensitivity Level 1 - Example: Factories

Sensitivity Level 2 - Example: Houses

Sensitivity Level 3 - Example: Vulnerable members of society e.g. primary schools, old people's homes

Sensitivity Level 4 - Example: Football ground/Large hospital

DAA means Do not Advise Against the Development

AA means Advise Against the Development

### **Technical assumptions underpinning HSE methodology for land use planning**

**10. The installation:** The quantities and properties of hazardous substances, and the descriptions of storage and process vessels, are assumed to be in accordance with the 'hazardous substances consent' entitlement for the site since this represents an operator's declaration of their entitlement to store such substances which could be introduced at any time. For each type of development HSE's advice to PAs will take account of the maximum quantity of a hazardous substance permitted by a hazardous substances consent and any conditions attached to it. Best cautious, but not pessimistic, assumptions concerning substances, locations, operating conditions and surroundings are used. For operations not described in the consent (e.g. numbers and sizes of road tanker operations, pipework diameters, pumps and other fittings) site-specific values are obtained as necessary.

**11. Hazardous events:** All foreseeable major accidents are considered and a representative set of events which describe a set of circumstances which, for that installation, could lead to an accidental release of hazardous substances.

**12. Consequences:** The previously described 'dangerous dose' concept is generally used to describe the extent of the impact of any hazardous event on the surrounding population. Protection provided to persons by being sheltered within buildings is generally taken into account by the approach, as is the likelihood of persons being outdoors at the time of the incident.

**13. Ambient conditions:** Local weather data is used to provide wind and stability information around the installation. Further, the surroundings are generally assumed to be flat although ground roughness can be taken into account where circumstances require it.

**14. Risk assessment:** The calculations produce contours of the frequency that a typical house resident would be exposed to a dangerous dose or worse. This is generally expressed in terms of 'chances per million per annum' or cpm for short, i.e. 10cpm, 3CPM cpm, 0.3cpm.

## **Annex 4**

### **Contact**

Any queries regarding HSE's land use planning methodology, or on how to use or access HSE's Planning Advice Web App to consult HSE in order to obtain advice on planning applications or pre-application enquiries, should be referred to [lupenquiries@hsl.gsi.gov.uk](mailto:lupenquiries@hsl.gsi.gov.uk) or tel: 01298 218159.

Any queries relating to hazardous substances consent should be sent to [hazsubcon.CEMHD5@hse.gsi.gov.uk](mailto:hazsubcon.CEMHD5@hse.gsi.gov.uk)