

PADHI – HSE’S LAND USE PLANNING METHODOLOGY

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1. Introduction

1.1 What can I use this guide for?

Are you thinking of developing a site near to a major hazard chemical installation or pipeline? Then it is likely that the planning authority (PA) will have a statutory duty to refer the planning application to the Health and Safety Executive (HSE). When HSE is consulted by the PA we will respond that we 'advise against' or 'don't advise against' the granting of planning permission on health and safety grounds that arise from the possible consequences of a major accident at the hazardous installation. The planning authority takes this advice into account when they make a decision on the planning application.

This guide is designed to help planners and developers who want to work out for themselves what the likely response of HSE will be if HSE were to be consulted about a planning proposal. In some cases it may be that working through the procedure in this guide will allow you to modify the size, layout or location of the proposed development such that HSE would not advise against the proposal. HSE uses this procedure to arrive at the advice we give to planning authorities.

Please note that use of the information in this guide in composing a planning proposal in no way assures a HSE response of "don't advise against". There is still a statutory requirement for the PA to formally consult HSE and, at the time it is formally consulted, HSE's advice will be based on:

- **the proposal as submitted**
- **current HSE methodology**
- **the latest assessment of risks**

Please also note that PADHI is not used for developments in the vicinity of Licensed Explosive sites or Nuclear sites.

1.2 Background to HSE's involvement in land use planning

HSE sets a consultation distance (CD) around major hazard sites and pipelines after assessing the risks and likely effects of major accidents at the installation or pipeline. Major hazards comprise a wide range of chemical process sites, fuel and chemical storage sites, pipelines, explosive sites and nuclear sites. The PA is notified of this CD and has a statutory duty to consult HSE on certain proposed developments within it ([see Annexe 1](#)). Planning authorities have consulted HSE for many years on planning applications and enquiries within the consultation distances of hazardous installations.

Over the years HSE has developed the way it deals with consultations. HSE's approach balances the principle of stabilising & 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", ISBN 0 11

885491 7, available from [HSE Books](#)) set out the basis of HSE's approach at that time. Between 1989 and 2003 the way HSE has implemented this approach has evolved with the PADHI codified approach now having been adopted. Pre-PADHI, HSE staff in local offices used a codified matrix from which the majority of consultations could be quickly turned around with either an "allow" or "refuse" decision. However, the system still required a significant number of consultations to be forwarded to a central HSE team of specialist risk assessors for assessment. The need for this risk assessment work both resulted in a lengthy turnaround time on these consultations and was extremely resource intensive for HSE. Following a review of its position on land use planning around hazardous installations HSE developed a comprehensive, codified methodology, PADHI, which allows all consultations to be dealt with at a local level, significantly speeding up the provision of advice to PAs. This change is in line with HSE's long term aim of progressively codifying its methodologies to enable land use planning (LUP) decision making to move from HSE HQ to HSE local offices to, possibly, PAs.

HSE's involvement in the LUP process is being further reviewed by a HSE project, the "Fundamental Review of Land Use Planning", which is taking account of developments within Europe and the related "Seveso" directives. The fundamental review team can be contacted via the email address FRLUP@hse.gsi.gov.uk (NB. Please do **not** use this address as a general contact for PADHI queries. [See Annexe 3](#) for HSE local office contact details).

1.3 What is PADHI?

PADHI (Planning Advice for Developments near Hazardous Installations) is the name given to the methodology and software decision support tool developed and used in HSE. It is used to give LUP advice on proposed developments near hazardous installations. The PADHI methodology and software was developed as an integrated system for use by staff in the Hazardous Installations Directorate of HSE. PADHI was developed in 2001 – 2002 and fully introduced in November 2002.

NB. Improvements to the methodology are ongoing and this guide may not fully reflect these. It is accurate as of 07/03/2003. This guide sets out the methodology but does not give access to the software. It is possible to use the methodology without the software aids, but the process is rather more laborious. HSE and its software systems developer are assessing the viability of an internet accessible version of the PADHI software.

PADHI uses two inputs to a decision matrix to generate the response:

- the first is which zone the development is located in of the 3 zones (that make up the CD) that HSE sets around the major hazard site. ([see section 2.2.](#))
- the second is the 'Sensitivity Level' of the proposed development which is derived from an HSE categorisation system of "Development Types". ([see section 4.](#))

The matrix will generate either an 'Advise Against' or 'Don't Advise Against' response that HSE then sends to the PA.

Additionally there is guidance in the form of 'rules' on how to deal with the more complex cases where:

- the development is located in more than one zone
- more than one hazardous installation is involved
- the proposal is for more than one development type (using HSE's categorisation method)
- there is an existing permitted use of the land

HSE deals with [pre-planning enquiries \(PPEs\)](#) in a similar way as formal consultations from PAs, provided sufficient information is available. 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. Using this guide could be regarded as doing your own PPE.

1.4 What PADHI does not deal with

There are a number of aspects of HSE's land use planning and major hazards work that PADHI, and hence this guide, does not deal with.

1. **Applications for Hazardous Substances Consent** – Requires 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 advises the Hazardous Substances Authority if they should grant consent. HSE will also set a CD and the three zones for LUP purposes for these sites.
2. **Notification of Hazardous Pipelines by pipeline operators**– Requires the specialist skills and knowledge of HSE Pipelines Inspectors to determine if the potential consequences of the pipeline 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.
3. **Licensed Explosive Sites** - Requires 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.
4. **LUP Consultations on applications for developments in the vicinity of Nuclear Installations or Licensed Explosives sites** – Such consultations are forwarded by the PA to the local HSE office as normal but are assessed by HSE's Nuclear or Explosives Inspectors as appropriate.
5. **Developments near pipelines, where the pipelines have sections with additional protection measures** - PADHI uses the 3-zones set by HSE that are based on the details given in the pipeline notification. This covers the whole length of the pipeline and is unable to accommodate isolated local variation. If subsequently advice for a planning application is 'advise against', then the option is given to you to check with the pipeline operator if the pipeline has additional protection (e.g. as thicker walled pipe) near the proposed development.

If so, then HSE risk assessors are willing to reconsider the case using the details of the pipeline specification relevant to the pipeline near the development.

- 6. Notifications to HSE for other purposes, e.g. of construction work or the establishment of a factory/workplace etc.** – These are non-LUP related and are dealt with routinely by the HSE office.

2. Getting started

2.1 Do you really need to use PADHI?

First check with the planning authority in the proposed development's locality that the development site falls at least partly within the consultation distance of a major hazard. The local authority has a list of major hazard sites and pipelines and the constraints imposed by the consultation zones set by HSE. Make sure you get details of all the major hazards that affect your development. Not all chemical plant, storage sites or pipelines are major hazards or have CDs set. HSE is not normally interested in proposed developments which are outside a CD. If it is an explosives site or a nuclear site then you cannot use PADHI; you will need to consult HSE in the normal way.

Secondly check if your development is of a type that needs to be referred to HSE ([Annexe 1](#)). This is based on the Town and Country Planning (General Development Procedure) Order 1995 (as amended) and the Town and Country Planning (General Development Procedure) (Scotland) Act 1992 (as amended).

2.2 Do you have enough information?

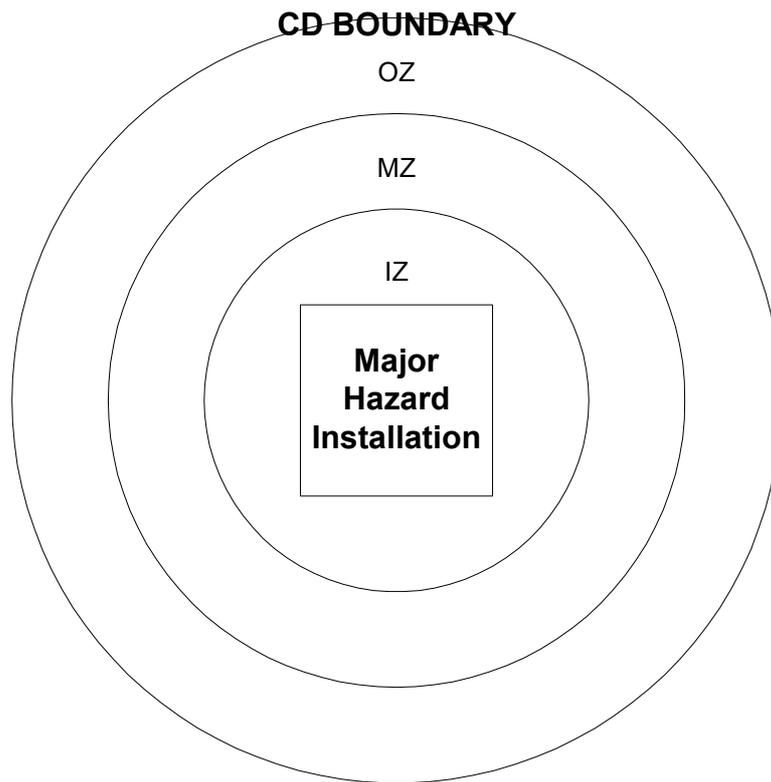
To use PADHI you will need the following information:

- the location of the proposed development in relation to the hazardous installation
- sufficient details of the proposed development to categorise it into one of HSE's [Development Types](#) to derive a [Sensitivity Level](#).

You will need to check what development types are contained in the proposal. Different development types require different sorts of information.

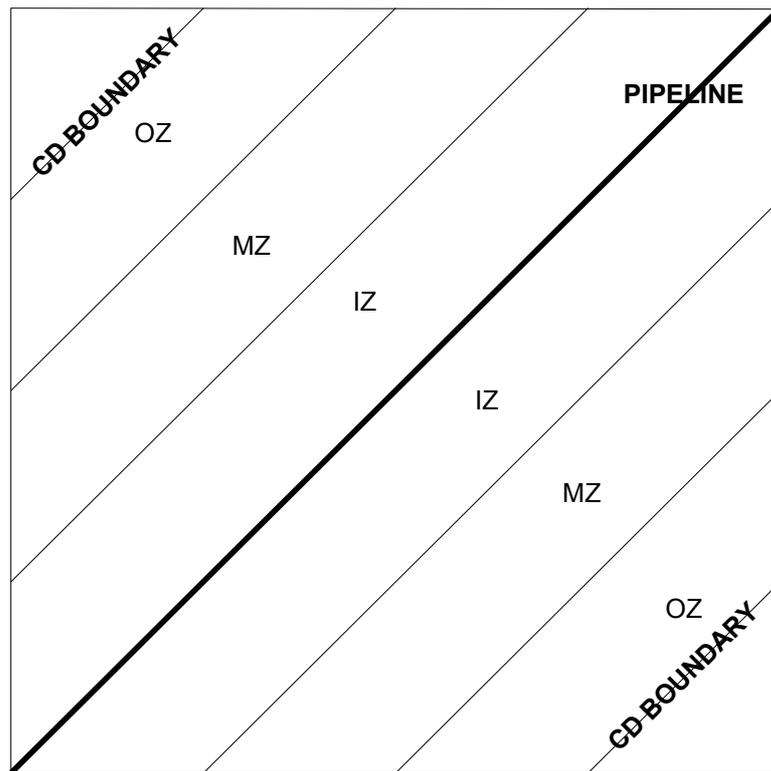
Location

If it is within the consultation distance you will need to know which zone it is in. PADHI uses a '3-zone' system. (There are normally 3 zones set by HSE: 'Inner' (IZ), 'Middle' (MZ) and 'Outer' (OZ); but occasionally fewer.) The zones are normally determined by a detailed assessment of the risks and/or hazards of the installation which takes into account the following factors; the hazard ranges and consequences of the toxic and/or flammable substances present; the volume of those substances for which the site has consent and the method of storage. The risks and hazards from the major hazard are greatest in the Inner zone and hence the restrictions on development are strictest. The 'Consultation Distance' (CD) is all the land enclosed by all the zones and the installation itself.



First check if the PA has a 3-zone map for the installation(s) – HSE has only recently started to issue these details to PAs to support the CD information. If not you will have to request them from the HSE office that deals with that planning authority ([see Annexe 3 for HSE office addresses](#)). It is HSE’s long term objective to make 3 zone maps publicly available for all Major Hazard Installations **but please note that at present HSE may not be able to provide certain maps**. HSE has to give priority to statutory consultations and due to resource constraints and an ongoing update of many assessments **HSE is currently unable to produce 3 zone maps purely in response to pre-planning enquiries**.

Please note that HSE does not maintain a detailed record of the pipeline network. If you require pipeline zone details you should in the first instance contact the PA who should have a record of the routes of all notified pipelines within their area. If you obtain the name and four digit ID number of the pipeline from the PA and contact the relevant HSE office with this information they will then be able to provide you with the pipeline’s zone details (as measured from the centre line of the pipeline – see below).



Development details

The details of the development will determine the Development Type and subsequently its Sensitivity Level. This is dealt with in detail in the section on [Processing a planning enquiry](#).

2.3 The decision process

The decision for HSE to Advise Against or Don't Advise Against a proposed development is arrived at in PADHI using a decision matrix. Without the use of the software tool the decision-making process will have to be worked through manually. The decision depends on the Sensitivity Level and the Zone.

A single consultation may consist of a number of different [Development Types](#) and may lie within more than one zone of one or more hazardous installations or pipelines. In this case each combination of zone and Sensitivity Level needs to be considered. If any combination of zone and Sensitivity Level leads to an Advise Against decision **then the overall decision for the whole proposal will be Advise Against.**

An Advise Against decision may be changed to Don't Advise Against in some cases where the development is a small extension to an existing development or it is replacing an existing development. The PADHI rules set out the details. It may be possible for you to change the details of the proposal or omit the development that lead to the Advise Against decision, and so change the overall decision for the proposal.

3. Processing a planning enquiry

3.1 What is a development in PADHI?

Many consultations are straightforward and consist of, say, ten detached houses being built on a 'green field' site. However, some can be more complex. A complex example could be for a large development with a sports centre, a fast-food restaurant, two DIY superstores and a nursery, to be built on land that is currently a school and within the Consultation Distance of three major hazard sites!

So, how is this dealt with? The first step for all consultations is to **check if it** is:

- appropriate ([see Annexe 1](#))
- includes enough information ([see Annexe 2](#)) is within the CD of a pipeline and / or a hazardous installation (as opposed to just an explosive and / or nuclear site which PADHI does not deal with). (CDs are defined and information is provided on obtaining CD details under [section 2.2.](#))

In cases which involve at least one hazardous installation and / or pipeline, the next stage is to determine how many different '[Development Types](#)' occur in the consultation. Each different development type is treated as a separate development related to the overall consultation. Remember that to arrive at a decision using PADHI, a consultation requires at least one 'development', and in reality, most consultations will only have one. However, some consultations will have more (in theory they could have 10 or more; but in practice 2 or 3 will usually be the maximum).

3.2 Identifying developments

The identification of the number and type of developments is a very important stage. You must consider the whole of the proposal and decide how many different [development types](#) there are. Take account of all proposed new buildings (or extension, change of use of land, etc.). Use the 'Development Type' (e.g. D2.1 – Housing, or D2.5 – Outdoor use by the public) set out in the Development Type tables as the criteria to divide up the plot of land that is being consulted upon. On a consultation for a large plot of land there may be buildings etc. of the same PADHI development type, but which are physically separated from each other - these need to be regarded as being grouped together as one, to determine the [Sensitivity Level](#) and subsequently to determine the advice.

Where there is more than one development and a particular development only occupies one part of the consultation site, don't forget to later check which of the 3 zones it is in; it could be different to other developments if a zone boundary crosses the consultation site!

3.3 Assessing developments

Each development needs to be assessed using the PADHI methodology. You will need to :

- [identify the development type](#)
- identify the zone(s) the development is located in (see [Rule 2](#), 'Multiple major hazards' below)
- use the [Decision matrix](#)
- apply any zoning or modification [rules](#) if they are appropriate to arrive at a decision. This decision for the development will be 'Advise Against' or 'Don't Advise Against'.

This process is repeated for all the developments you identified. An 'Advise Against' decision for any single development will dominate the final PADHI advice for the overall consultation and lead to the whole consultation being advised against. It is at this point that you might identify ways of changing your proposed development to make it acceptable.

4. Development Type Tables

4.1 Introduction to Sensitivity Levels

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).
- [Level 4](#) - Large examples of Level 3 and large outdoor examples of [Level 2](#).

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 their Development Type.

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

They show the Development Types (first column) with examples of each type of development given in column 2 (these are 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 type of development and increased for large and very large examples of a type of development 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, x2 etc). The Justification column shows the rationale for the allocation of sensitivity level to each development type.

DEVELOPMENT TYPE TABLE 1: People at work, Parking

- DT1.1 – Workplaces
- DT1.2 – Parking Areas

| DEVELOPMENT TYPE | EXAMPLES | DEVELOPMENT DETAIL AND SIZE | JUSTIFICATION |
|------------------|----------|-----------------------------|---------------|
|------------------|----------|-----------------------------|---------------|

| | | | |
|------------------------------|---|--|--|
| DT1.1 - WORKPLACES | 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 and less than 3 occupied storeys – Level 1 | 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. |
| | EXCLUSIONS | | |
| | | DT1.1 x1 Workplaces (predominantly non-retail) providing for 100 or more occupants in any building or 3 or more occupied storeys in height - Level 2 (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. | DT1.1 x2 Workplaces (predominantly non-retail) specifically for people with disabilities - Level 3 . | 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. |
| DT1.2 - PARKING AREAS | Car parks, truck parks, lock-up garages. | Parking areas with no other associated facilities (other than toilets) – Level 1 | |
| | EXCLUSIONS | | |
| | Car parks with picnic areas, or at a retail or leisure development, or serving a park and ride interchange. | DT1.2 x1 Where parking areas are associated with other facilities and developments the sensitivity level and the decision will be based on the facility or development. | |

DEVELOPMENT TYPE TABLE 2: 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

| DEVELOPMENT TYPE | EXAMPLES | DEVELOPMENT DETAIL AND SIZE | JUSTIFICATION |
|------------------|----------|-----------------------------|---------------|
|------------------|----------|-----------------------------|---------------|

| | | | |
|--|---|--|---|
| DT2.1 - HOUSING | Houses, flats, retirement flats/ bungalows, residential caravans, mobile homes. | Developments up to and including 30 dwelling units and at a density of no more than 40 per hectare – Level 2 | Development where people live or are temporarily resident. It may be difficult to organise people in the event of an emergency. |
| | EXCLUSIONS | | |
| | Infill, backland development. | DT2.1 x1 Developments of 1 or 2 dwelling units - Level 1 | Minimal increase in numbers at risk. |
| | Larger housing developments. | DT2.1 x2 Larger developments for more than 30 dwelling units – Level 3 | Substantial increase in numbers at risk. |
| | DT2.1 x3 Any developments (for more than 2 dwelling units) at a density of more than 40 dwelling units per hectare - Level 3 | High-density developments. | |
| DT2.2 - HOTEL/HOSTEL/ HOLIDAY ACCOMMODATION | 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 – Level 2 | Development where people are temporarily resident. It may be difficult to organise people in the event of an emergency. |
| | EXCLUSIONS | | |
| | Smaller - guest houses, hostels, youth hostels, holiday homes, halls of residence, dormitories, holiday caravan sites, camping sites. | DT2.2 x1 Accommodation of less than 10 beds or 3 caravan / tent pitches - Level 1 | Minimal increase in numbers at risk. |
| | Larger – hotels, motels, hostels, youth hostels, holiday camps, holiday homes, halls of residence, dormitories, holiday caravan sites, camping sites. | DT2.2 x2 Accommodation of more than 100 beds or 33 caravan / tent pitches– Level 3 | Substantial increase in numbers at risk. |

| | | | |
|--|---|---|--|
| DT2.3 - TRANSPORT LINKS | Motorway, dual carriageway. | Major transport links in their own right; i.e. not as an integral part of other developments – Level 2 | Prime purpose is as a transport link. Potentially large numbers exposed to risk, but exposure of an individual is only for a short period. |
| | EXCLUSIONS | | |
| | Estate roads, access roads. | DT2.3 x1 Single carriageway roads – Level 1 | Minimal numbers present and mostly a small period of time exposed to risk. Associated with other development. |
| Any railway or tram track. | DT2.3 x2 Railways – Level 1 | Transient population, small period of time exposed to risk. Periods of time with no population present. | |

| | | | |
|--|--|---|--|
| <p>DT2.4 - INDOOR USE BY PUBLIC</p> | <p>Food & Drink: Restaurants, Cafes, drive-through fast food, pubs.</p> <p>Retail: 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 display areas) retail warehouses, super-stores, small shopping centres, markets, financial and professional services to the public.</p> <p>Community & adult education: Libraries, art galleries, museums, exhibition halls, day surgeries, health centres, religious buildings, community centres. Adult education, 6th form college, college of FE.</p> <p>Assembly & leisure: 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 (e.g. changing rooms, club house), indoor go-kart tracks.</p> | <p>Developments for use by the general public where total floor space is from 250 m² up to 5000 m² – Level 2</p> | <p>Developments where members of the public will be present (but not resident) Emergency action may be difficult to co-ordinate.</p> |
| <p>EXCLUSIONS</p> | | | |

| | | | |
|--------------------------------------|---|--|---|
| | | DT2.4 x1 Development with less than 250 m ² total floor space – Level 1 | Minimal increase in numbers at risk |
| | | DT2.4 x2 Development with more than 5000 m ² total floor space – Level 3 | Substantial increase in numbers at risk. |
| DT2.5 - OUTDOOR USE BY PUBLIC | Food & Drink: Food festivals, picnic area. Retail: Outdoor markets, car boot sales, funfairs. Community & adult education: Open-air theatres and exhibitions. Assembly & leisure: 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 – Level 2 | Developments where members of the public will be present (but not resident) either indoors or outdoors. Emergency action may be difficult to co-ordinate. |
| | EXCLUSIONS | | |
| | Outdoor markets, car boot sales, funfairs. Picnic area, park & ride interchange, viewing stands, marquees. | DT2.5 x1 Predominantly open-air developments likely to attract the general public in numbers greater than 100 people but up to 1000 at any one time – Level 3 | 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. | DT2.5 x2 Predominantly open-air developments likely to attract the general public in numbers greater than 1000 people at any one time - Level 4 | Very substantial increase in numbers at risk, more vulnerable due to being outside and emergency action may be difficult to co-ordinate. |

DEVELOPMENT TYPE TABLE 3: Developments for use by vulnerable people

DT3.1 - Institutional Accommodation and Education

DT3.2 – Prisons

| DEVELOPMENT TYPE | EXAMPLES | DEVELOPMENT DETAIL AND SIZE | JUSTIFICATION |
|--|---|---|--|
| DT3.1 - INSTITUTIONAL ACCOMMODATION AND EDUCATION | Hospitals, convalescent homes, nursing homes. Old peoples 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 – Level 3. | 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. |
| | EXCLUSIONS | | |
| | Hospitals, convalescent homes, nursing homes, old peoples homes, sheltered housing. | DT3.1 x1 24-hour care where the site on the planning application being developed is larger than 0.25 hectare – Level 4. | Substantial increase in numbers of vulnerable people at risk. |
| Schools, nurseries, crèches. | DT3.1 x2 Day care where the site on the planning application being developed is larger than 1.4 hectare - Level 4. | Substantial increase in numbers of vulnerable people at risk. | |
| DT3.2 - PRISONS | Prisons, remand centres. | Secure accommodation for those sentenced by court, or awaiting trial etc. – Level 3. | Places providing detention. Emergency action and evacuation may be very difficult. |

DEVELOPMENT TYPE TABLE 4: 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.] | | | |
| <p>DT4.1 INSTITUTIONAL ACCOMMODATION</p> | <p>Hospitals, convalescent homes, nursing homes, old peoples homes, sheltered housing.</p> | <p>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 site on the planning application being developed is larger than 0.25 hectare – Level 4.</p> | <p>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.</p> |
| | <p>Nurseries, crèches. Schools for children up to school leaving age.</p> | <p>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 site on the planning application being developed is larger than 1.4 hectare - Level 4.</p> | <p>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.</p> |

| | | | |
|--|--|---|---|
| <p>DT4.2 - VERY LARGE OUTDOOR USE BY PUBLIC</p> | <p>Theme parks, large sports stadia and events, open air markets, outdoor concerts, and pop festivals.</p> | <p>Predominantly open air developments where there could be more than 1000 people present – Level 4.</p> | <p>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.</p> |
|--|--|---|---|

5. Decision matrix

Having determined which zone the development falls into and also the Sensitivity Level of the development, the following matrix is used to decide the type of 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.

If all developments result in DAA then DAA is the final HSE advice.

If any one development gives an AA result then the interim result for the consultation is AA. Each AA result is always subjected to an additional rule check ([Rule 4](#)) to determine if it will remain AA or change to a DAA. If any one development is still AA after application of this rule then the final advice will be AA.

6. How the rules are applied

Overview of the rules

The rules have been developed to allow consideration of the more complex planning consultations. More detail on each of the rules is given after this overview.

There are 5 main rules to consider for each development.

Rule 1 - straddling developments. When the site area of the proposed development lies across a zone boundary you need to use this rule to decide which zone will be used in the decision matrix. The Consultation Distance is considered a zone boundary in this context.

Rule 2 - multiple major hazards. For each major hazard, you need to determine which zone the development is in, after applying the straddling rule if necessary. The final advice is decided on the basis of the most onerous of the zones that the development is in.

Rule 3 - multiple use developments. You need to use this rule when the planning consultation is for a multiple use development (e.g. a mix of housing, indoor use by the public and a workplace). You need to identify the separate parts of the proposal according to the HSE Development Types. You then need to group together all facilities of the same development type before proceeding (for example before going on to use the straddling rule).

Rule 4 – developments on sites with an existing permitted use. This rule is concerned with Advise Against responses and taking any existing development into account before deciding on the final advice. It is concerned with ‘extensions’ and redevelopment/change of use.

Rule 5 - temporary/time limited planning permissions.

The Rules in detail

Rule 1 – Straddling developments

Use this rule set (1a, then 1b if applicable) when the site area of the proposed development lies across a zone boundary.

1a. Developments 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 is in the OUTERMOST of the zones if:

- less than 10% of the site area marked on the application 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.

1b. For the special case where the development straddles the CD boundary follow the rule above, then:

- if, after using the rules, the development is 'considered' to be outside the CD, then there is no need to categorise further; a 'DAA' response is appropriate.
- if, after using the rules, the development is 'considered' to be within the CD then look at all the facilities that make up the development proposal. Any that are **entirely outside** the CD should be discounted when coming to a decision about 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, apply the ['Multiple-use developments' rule](#).)

(N.B. 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 must always be considered as being in the innermost of the zones to the major hazard that it straddles.)

Rule 2 – Multiple major hazards

Where the development is in the CD of more than one major hazard or pipeline it is necessary to determine which zone the development is in for each major hazard (after applying the straddling rule if necessary). The overall advice is decided on the basis of the most onerous of any of the zones the development is in (Inner Zone more onerous than Middle Zone, Middle Zone more onerous than Outer Zone).

In some cases HSE has provided a composite 3 zone map for complexes of adjacent major hazards and have merged the zones. In this case the assessment is simplified, as only the one 3-zone map needs to be considered.

Rule 3 – Multiple-use developments

This rule set is used when the planning consultation is for multiple-use developments (e.g. a mix of housing, indoor use by the public and a workplace).

- first identify the separate parts of the proposal according to the development types, as in column 1 of Tables 1-4. Group together all facilities of the same development type and determine the Sensitivity level of each of the groups.
- determine which zone each development is in, if necessary using the straddling rule (Rule 1) for each development type.
- determine the appropriate AA or DAA response from the decision matrix for each development
- apply [Rule 4a](#).

Rule 4 – Development on sites with an existing permitted use

Many proposed developments are not on ‘green field’ sites. They may involve extension to an existing development or they may involve the redevelopment and / or change of use, of a site with an existing permitted use

4a. **First consider the development in the application on its own merit** according to the normal procedure and rules. There are two outcome options:

- a DAA outcome, in which case there is no need to apply Rule 4b or 4c. (For ‘[Multiple-use developments](#)’, if the application of Rule 3 results in **all** outcomes from the matrix being DAA, then that is the final advice. In which case there is no need to apply Rule 4b or 4c.) or;
- an AA response, then **either** Rule 4b or 4c should be applied as appropriate. If it appears that both rules apply, then it is only necessary to apply Rule 4c. (For ‘[Multiple-use developments](#)’, if the application of Rule 3 results in one or more AA outcomes from the matrix, then apply **either** Rule 4b or 4c individually to every one the development type groups resulting in these AA outcomes. This may possibly result in 4b being applied to some groups and 4c to others.)

N.B. For consultations sent to HSE only the details supplied with the consultation are used to determine if, and how, the Rules 4b and / 4c apply. HSE will not seek additional details from the consultee.

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

| If... | Then... |
|---|--|
| <p>If 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>And 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 by not more than 10%)</p> | <p>then 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 reduced Sensitivity level, 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 ALL of the AA outcomes to DAA</p> | <p>then this will replace the initial AA response.</p> <p>If at least one outcome remains AA, then an AA response is the final advice. Any remaining AA from 4b or 4c dominates for ‘Multiple-use developments’ and an AA response is the final advice</p> |

4c. **Redevelopment of site or change of use.** A site that is being redeveloped is assumed to already have permission for its existing use. 'Change of use' refers to a change in the 'use class' allocated for the existing use of the site; a change of use does not necessarily result in a change in HSE's Sensitivity Level. (Any existing use is normally identified on the planning application. If there is no stated or obvious existing use, HSE work on the basis that there is none.) Existing buildings may or may not be demolished to allow for redevelopment or change of use. Previously granted and still valid planning permission does count as existing use even if buildings have not yet been built; but temporary/time limited planning permission does not.

- Assess the [Sensitivity level](#) of the current (or previous) permitted use.
- **If** the proposed redevelopment or change of use is at the same Sensitivity level or less than this existing permitted use, then it should not be advised against. (This takes account of the need not to blight existing developed areas and the fact that the existing permitted use could continue or restart with no requirement for consultation.) (For '[Multiple-use developments](#)', if the application of Rule 4c changes **all** of the AA outcomes to DAA then this will replace the initial AA response. If at least one outcome remains AA, then an AA response is the final advice. Any remaining AA from 4b or 4c dominates for 'Multiple-use developments' and an AA response is the final advice.)

It should be noted that if the application of this rule results in a DAA outcome during formal consultation, HSE will identify in its response that existing use has been taken into account to change the decision. This is done to identify to the PA that whilst HSE will not unduly blight existing developed areas it would prefer it if the population of the area did not increase.

Rule 5 – Temporary/time limited planning permissions

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, however.

7. Definitions

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

Consultation – the enquiry that comes to HSE (normally from a PA) for HSE’s comment on a proposed change to land usage within a CD. The consultation will consist of at least one ‘Development’.

Development – to consider any planning proposal using the PADHI system, all proposed new buildings (or extension, change of use of land, etc.) need to be categorized into a PADHI ‘[Development Type](#)’. A proportion of planning proposals will consist of more than one Development Type. Having identified all Development Types, each is subsequently assessed using the decision matrix. An ‘Advise Against’ decision for any single development will dominate the final PADHI advice for the proposal.

Development type – (see the [first column in the Development Type tables](#)) term used to group together developments (and / or facilities) that are considered to be of the same [Sensitivity level](#).

Dwelling units - mean the smallest individual unit of accommodation e.g. house, apartment, caravan.

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

‘Green field’ site – site to be developed where the current use generally involves minimal buildings and also does not attract people to it in significant numbers. Typically agricultural land, but can also be parkland or other open-spaces of a similar nature.

Hectare – unit of area equal to 10,000 square metres (m²) in any shape (e.g. rectangles 10m x 1,000m or 25m x 400m; square 100m x 100m; or other regular and irregular shapes).

Multiple use development - see ‘[development](#)’.

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.

Redevelopment - the new development re-uses the existing facilities or replaces them with new facilities. (In some cases previous buildings may already have been demolished. This does not alter the principle that it is redevelopment of a site with an existing permitted or established use.)

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

Sensitivity Level – the scale used in the PADHI system 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 m²).

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.

Use class – the way different types of development are described by planners. They are not identical to HSE's Development Types or Sensitivity Levels.

ANNEXES

Annexe 1 - Types of development to consult on under the Town and Country Planning (General Development Procedure) Order 1995 (as amended) and the Town and Country Planning (General Development Procedure) (Scotland) Act 1992 (as amended)

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

- [ODPM Circular 04/2000](#)
- 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. For licensed explosive sites the criteria are the same as above, but only if within the explosive site's Safeguarding Zone.
3. HSE is a non-statutory consultee for certain developments near licensed nuclear sites. The criteria are:
 - any development involving more than 50 people (or 20 people if previously advised of this figure by HSE) within the Detailed Emergency Planning Zone
 - any development of more than 500 people within the Outer Zone (only applies on sites which have an Outer Zone).
4. HSE will also:
 - advise Hazardous Substances Authorities prior to them determining a consent application
 - comment on planning developments involving quarries.
5. HSE does not give retrospective advice on planning applications where the decision has already been made by the planning authority.

Annexe 2 - Information needed when using PADHI

In order to properly apply the PADHI methodology to a planning proposal you will require the following information:

1. Sufficient details of the location of the proposed development to relate it to the consultation distance and the zones of all the relevant hazardous installations, complexes, pipelines and sites.

2. Sufficient details of the proposed development, and those people likely to be there, to enable you to categorise the development within its 'sensitivity levels'. (If the proposal involves the redevelopment or change of use of an existing site or building then, to be able to take account of that permitted use when formulating the final advice, it is necessary to have similar information for that existing use.) These details should include:

- Principal purpose of the proposed development.
- The area (hectare or m²) of the development site.
- Certain building sizes:

| Buildings that are... | Indication |
|---|---|
| <i>predominantly workplaces</i> (i.e. not retail, community, leisure, accommodation, etc.) - the number of normally occupied storeys. Or at the very least an indication that: | all buildings have less than 3 occupied stories; or at least one building has at least 3 occupied stories |
| for <i>retail, community, assembly or leisure</i> , etc. use - the total floor area (m ²) that will be used by the general public Or at the very least an indication if this total is: | less than 250 m ² ; or, between 250 m ² and 5000 m ² ; or, more than 5000 m ² |

- For certain developments it is essential that there is an indication of the maximum number of people likely to be at the development at any one time. These may be actual numbers or best estimates/guesses. This can be in the form of:

| Development type | Indication |
|---|--|
| <i>predominantly workplaces</i> (i.e. not retail, community, leisure, accommodation, etc.) - the number of people and the number of normally occupied buildings. Or at the very least an indication: | that no building is likely to contain more than 100 people; or, if any building is likely to contain more than 100 people |
| for <i>houses, flats, caravans</i> etc. - the actual number of 'dwelling units'. Or at the very least an indication if it is for: | less than 3 dwelling units; or, between 3 and 30 dwelling units; or, more than 30 dwelling units |
| for <i>hotels, hostels</i> etc. – the actual number of beds. Or at the | less than 10 beds; or, between 10 and 100 beds; |

| | |
|--|--|
| very least an indication if it is for: | or, more than 100 beds |
| for <i>predominantly outdoor events</i> and outdoor facilities – the number of people anticipated. Or at the very least an indication if the event will attract a peak attendance of: | less than 100 people; or, between 100 and 1000 people; or, more than 1000 people |

- **failing that** - an estimation / best guess of the maximum number of people. (There is no need to differentiate between residents, those at work, visitors etc.)
- An indication if there are likely to be ***vulnerable people*** (children, those with mobility difficulties, those unable to recognise physical danger or those in need of care) at the development in a higher proportion than would be found in a typical cross-section of the community. Examples include residential care, sheltered workshop, crèche, school, and prison.

Annexe 3 – HSE office addresses

NB. Only HSE offices that deal with Land-use Planning are listed. Please address any correspondence to “Health and Safety Executive, Hazardous Installations Directorate, Land Division” at the addresses below.

| OFFICES | GEOGRAPHICAL COVERAGE |
|--|--|
| SCOTLAND AND NORTH EAST | |
| Belford House, 59 Belford House, Edinburgh EH4 3UE Tel: 0131 247 2053 | Scotland |
| Arden House, Regent Centre, Gosforth, Newcastle-upon-Tyne NE3 3JN Tel: 0191 202 6226 | Cleveland, Durham, Tyne & Wear, Northumberland, North Yorkshire (except Selby District Council) |
| Marshall House, Ringway, Preston , PR1 2HS Tel: 01772 836233 | Cumbria, Greater Manchester, Lancashire |
| WALES & WESTERN ENGLAND | |
| 2 nd Floor Podium, Daniel House, Trinity Road Bootle , Merseyside L20 3TW Tel: 0151 951 4241 | Merseyside, Conwy, Gwynedd, Isle of Anglesey, Denbighshire, Flintshire, Wrexham, Shropshire, Staffordshire, Cheshire |
| 1 Hagley Road, Birmingham , B16 8HS Tel: 0121 607 6280 | West Midlands, Powys, Worcestershire, Gloucestershire, South Gloucestershire, Bristol |
| Government Buildings, Ty Glas, Llanishen, Cardiff , CF14 5SH Tel: 01222 263020 | Dyfed, West, Mid & South Glamorgan, Gwent, Gloucester, Somerset, Devon, Cornwall, Isles of Scilly |
| SOUTH & EAST ENGLAND | |
| Edgar Allen House, 241 Glossop Road, Sheffield S10 2GW Tel: 0114 291 2364 | South Yorkshire, Humberside, Derbyshire, Nottinghamshire, Lincolnshire |
| Marshall's Mill, Marshall Street, Leeds , LS11 9YJ Tel: 0113 283 4211 | West Yorkshire, Selby District Council |
| Wren House, Hedgerows Business Park, Colchester Road, Springfield, Chelmsford , Essex CM2 5PF, Tel: 01245 706228 | Essex, Norfolk, Suffolk |
| 5th Floor, Belgrave House, 1 Greyfriars, Northampton NN1 2BS, Tel: 01604 738367 | Leicestershire, Northamptonshire, Oxfordshire, Bedfordshire, Buckinghamshire, Cambridgeshire, Warwickshire, Hertfordshire, London boroughs north of the Thames |
| Priestley House, Priestley Road, Basingstoke RG24 9NS, Tel: 01256 404066 | Berkshire, Dorset, Hampshire, Wiltshire, Isle of Wight, East & West Sussex, London boroughs south of the Thames, Surrey |
| 3 East Grinstead House, London Road, East Grinstead , West Sussex, RH19 | Kent |

| | |
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| 1RR, Tel: 01342 334212 | |
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