

# Land use planning

NS-LUP-GD-001 Land Use Planning and the Siting of Nuclear Installations


[1]

ONR research project - Defining distances for consultation zones around nuclear sites

[2]

## Development on and around nuclear sites

### Introduction

ONR provides advice to the Planning Inspectorate, Scottish Government and local planning authorities on proposed developments on and around nuclear sites ('nuclear sites' are defined as GB licensed nuclear sites, authorised nuclear sites and nuclear warship sites. See [ONR - Map of regulated sites/facilities](#) <sup>[3]</sup>). The advice provided seeks to limit both the potential for developments to pose external hazards to nuclear sites and the radiological consequences to members of the public in the event of a radiation emergency occurring on such sites.

Under the Radiation (Emergency Preparedness and Public Information) Regulations (REPPiR) 2019, local authorities are responsible for setting Detailed Emergency Planning Zones (DEPZ) for nuclear sites where there could be a radiation emergency with off-site consequences and preparing detailed plans for responding to such an emergency, within the DEPZ area. The off-site plans are put in place to minimise and mitigate the health consequences of any significant radiological release that might occur as a result of radiation emergencies at nuclear sites.

Proposed developments on, or in the vicinity of nuclear sites could have an impact on detailed emergency planning arrangements or could pose external hazards to nuclear sites (even in instances where no DEPZ are required). ONR therefore requests consultation regarding proposed developments within DEPZ and within wider consultation zones within which ONR deems development could impact on

the operability and viability of the detailed emergency planning arrangements or pose external hazards to sites.


## Consultation zones


For the purpose of advising on planning applications, ONR has the following consultation zones:

**Table 1 - ONR Consultation Zones**

Zone	Description
On the nuclear site	Within the nuclear site boundary.
Detailed Emergency Planning Zone (DEPZ)	The DEPZ where set by a Local Authority.
Outer Consultation Zone (OCZ)	Extends from the perimeter of the DEPZ out to a distance defined by ONR from the centre point of the site, where this distance is determined by the nature of the site. For sites without a DEPZ, the OCZ extends outward from the site perimeter fence.
12km zone	A circular zone of 12km radius around all nuclear sites, for certain types of significant development due to the potential for such developments to pose an external hazard to sites.
Special case	ONR also requests to be consulted on planning applications, irrespective of distance from nuclear sites, for special cases. These represent developments that either introduce a new hazard or change the existing external hazards posed to nuclear sites.

Each consultation zone has its own consultation criteria (see Table 2 below).

Guidance on how the criteria should be interpreted is given in Table 3 below and in [ONR research project: Defining distances for consultation zones around nuclear sites](#) <sup>[4]</sup>.

Details of each site's DEPZ, which are published on the appropriate local authority website, can be found here [ONR - Local Authorities for sites](#)<sup>[5]</sup>. Details of each site's OCZ can be found here - [details of OCZ](#) <sup>[6]</sup>. The centre points for OCZ should be used to determine the extent of the 12km consultation zone for each site.

## Consultation advice

ONR's advice on proposed developments is informed by the views of local authority emergency planners and the licensee's planning function.

The impact of any proposed development on an emergency plan depends on multiple factors including its size in terms of the population involved, the type of development (e.g. nursery or care home), transport infrastructure and any other special features that might affect protective actions required to be taken in the event of a radiation emergency.

Any proposed industrial and commercial developments in the vicinity of a nuclear site that have the potential to constitute an external hazard are of particular additional concern. The impact of such developments on the safety of the nuclear site requires detailed assessment.

## Consultation Process

ONR requests consultation from the Planning Inspectorate, Scottish Government and local planning authorities regarding:

- Local and neighbourhood plans that include developments within DEPZ and OCZ that meet the consultation criteria set out in Table 2 below.
- Any application for planning permission **within one of ONR's consultation zones** that **meets the consultation criteria** set out in Table 2 below.
- Any development of which they are notified (that does not require planning permission) **within one of ONR's consultation zones** that **meets the consultation criteria** set out in Table 2 below.

Note that applications for planning permission include but are not limited to:

- applications for planning permission, made to local planning authorities.
- applications made under section 73 of the Town and Country Planning Act 1990 (Determination of applications to develop land without compliance with conditions previously attached).
- applications for approval of reserved matters.
- applications for hazardous substances consent.
- applications for Development Consent Orders for Nationally Significant Infrastructure Projects.

[Guidance notes](#)  <sup>[7]</sup> for applications for planning permission.

Where an application for hazardous substances consent does not also involve a planning application, it will be for the hazardous substances authority (HSA) to consult with ONR. While the HSA is usually the

local planning authority, there are exceptions. To avoid any hazardous substances consent applications being missed, local planning authorities should ensure, if they are not themselves the HSA, that the relevant HSA is aware of ONR's request to be consulted about hazardous substances consent applications.


**Table 2 - ONR Consultation criteria**

Zone	Consultation criteria
<b>On the nuclear site</b>	Any development
<b>DEPZ</b>	<p>Any new development, re-use or re-classification of an existing development that could lead to an increase in residential or non-residential populations, thus impacting on the off-site emergency plan.</p> <p>Any new development, re-use or re-classification of an existing development that could pose an external hazard to the site.</p> <p>Any re-use or re-classification of an existing development that could introduce vulnerable groups to the DEPZ</p>
<b>OCZ</b>	<p>Any new residential development of 200 dwellings or greater.</p> <p>Any re-use or re-classification of an existing development that will lead to a material increase in the size of an existing development (greater than 500 persons).</p> <p>Any new non-residential development that could introduce vulnerable groups to the OCZ.</p> <p>Any new development, re-use or re-classification of an existing development that could pose an external hazard to the site.</p>
<b>12km zone</b>	<p>Major hazard facilities i.e. those included within the scope of the Control of Major Accident Hazard Regulations 2015, the Offshore Installations Regulations 2015, the Offshore Installations (Safety Case) Regulations 2005, or the Pipelines Safety Regulations 1996 that could pose an external hazard to the site.</p> <p>Military installations storing munitions</p>
<b>Special case</b>	Special case developments that either introduce a new hazard or change the existing external hazards posed to nuclear sites, irrespective of distance from nuclear sites.

At the current time these special cases include:

- New or expanded airports (including civil airports, military airports and airfields) that:
  - (a) qualify as NSIPs under the Planning Act 2018; or
  - (b) would enable a material increase in the number of aircraft movements; or material changes in aircraft types and sizes, in the nature of aircraft operations (passenger, cargo, military etc), in the number and orientation of runways, or in flight paths;
- Other launch facilities;
- Large reservoirs. These are currently defined as a reservoir with a maximum impounded capacity of 25,000 m<sup>3</sup> (25 megalitres) or greater;
- Activities that involve hydraulic fracturing of rock, as this can induce seismicity. Example developments that may come forward in the UK in the near future are geothermal power and the injection of CO<sub>2</sub> as part of carbon capture and storage. (Note: the current UK moratorium on fracking for shale gas means that further developments for this purpose are now frozen); and
- Military airspace use (e.g. for training) and military practice, bombing or firing ranges.

Consultation zones, distances and special cases are based on current information and will be reviewed by ONR on a periodic basis.

Additional examples of the types of developments that could pose an external hazard to the site are set out in Table 3 and in [ONR research project: Defining distances for Consultation zones around nuclear sites](#). <sup>[8]</sup> These provide examples of the types of developments that ONR would expect to be consulted on but are not meant to be exhaustive.

When ONR is consulted by the Planning Inspectorate, Scottish Government or a local planning authority regarding a planning application (or other notification) for a development within an ONR consultation zone that that meets the consultation criteria, it will undertake the following process:

1. Where appropriate, ONR will consult with the emergency planning function within the local authority, whose area includes the relevant nuclear site. This is in order for ONR to seek assurance that the proposed development has been discussed with the licensee, if appropriate, and can be accommodated within the local authority's existing off-site emergency planning

arrangements, or that the off-site emergency planning arrangements will be amended to accommodate the proposed development.


2. If the proposed development presents a potential external hazard to a nuclear site, ONR will consult the licensee's planning function to obtain their opinion as to the significance of the proposal with regard to safety on their site.
  3. ONR will state that it **does not advise against** the proposed development on planning grounds if, in its opinion, the following statements apply:
    - the local authority emergency planners, if consulted, have provided adequate assurance that the proposed development can be accommodated within their existing off-site emergency planning arrangements (or an amended version); and
    - the development does not represent an external hazard to a nuclear site or the planning function for the site that may be affected by the development has demonstrated that it would not constitute a significant hazard with regard to safety on their site.
  4. When ONR has not received a response from either the local authority emergency planning function or the licensee's planning function, ONR may provide a conditional response, in order to meet the consultation deadline. Conditional responses may state that:
    - ONR does not advise against the development, provided that .....:or
    - ONR advises against the development unless.....
- In exceptional cases, ONR may notify the local planning authority that ONR is not in a position to make a determination with regard to the application.
5. In all other cases, where the above statements do not apply, the ONR Inspector will determine that ONR **advises against** the proposed development.

When ONR is consulted on a local or neighbourhood plan, its response will depend on the level of precision in the information provided:

- If individual developments in the plan within ONR consultation zones that meet the consultation criteria have been clearly identified and adequately described, then ONR will carry out a process equivalent to that it carries out for consultations on a planning application and give an indicative response as to whether or not it is likely to advise against these developments at the planning application stage; or
- If individual developments in the plan within ONR consultation zones that meet the consultation criteria have not been clearly identified and adequately described, then ONR will respond by outlining the process that will be followed at the planning application stage and it will be for


those producing the plan to satisfy themselves that ONR will not advise against any development in the plan at the planning application stage before including such developments within the plan.

Where ONR is consulted on a local or neighbourhood plan, this does not remove the requirement to consult on any relevant planning applications made pursuant to the plan.

The following descriptions and [ONR research project: Defining distances for Consultation zones around nuclear sites](#) <sup>[9]</sup> provide examples of the types of developments that ONR would expect to be consulted on but are not meant to be exhaustive.

**Table 3 - Development Category Examples**

Type	Description
<b>External hazards</b>	
<b>Commercial and industrial</b>	<p>Developments (including those requiring either Hazardous Substances Consent and / or have to be notified under the Pipeline Safety Regulations) in the vicinity of the nuclear site which have the potential to constitute an external hazard. For example those:</p> <ul style="list-style-type: none"> <li>• that involve the handling, processing, transport and storage of chemicals having a potential for explosions or for the production of gas clouds capable of deflagration or detonation;</li> <li>• in which asphyxiant, toxic, or corrosive materials are stored, processed, transported and otherwise dealt with, that can be discharged under normal or accident conditions;</li> <li>• that could increase the likelihood of missiles or any other form of impact loading such as wind turbines (blade detachment) and military facilities (missiles, aircraft);</li> <li>• that could increase the likelihood of electromagnetic interference, and/or electrical transmission grid instability;</li> <li>• that could increase the likelihood of seismic activity, such as mining and quarrying;</li> <li>• that could increase the likelihood of flooding or blockage of cooling water inlets by silt, debris or biological phenomena such as algae or other forms</li> </ul>

	<p>of marine life, which could have an adverse effect on nuclear safety systems;</p> <p>More information on developments which may pose an external hazard to nuclear sites is available in <a href="#">ONR research project: Defining distances for Consultation zones around nuclear sites.</a> <sup>[10]</sup></p>
<b>Developments likely to adversely affect the operation of the off-site emergency plan</b>	
<b>Businesses and general industry</b>	Including offices, financial institutions, research and development facilities, laboratories, high technology and light industry, wind farms, aircraft runways and runway extensions.
<b>Storage or distribution</b>	Wholesale warehouses, repositories, petrol filling stations.
<b>Hotels</b>	Hotels, motels, boarding and guest houses.
<b>Residential institutions</b>	Residential schools and colleges, hospitals and convalescent/nursing homes.
<b>Secure residential institutions</b>	Use for a provision of secure residential accommodation, including a prison, young offender institution, detention centre, secure training centre, custody centre, short term holding centre, secure hospital, secure local authority accommodation or use as a military barracks.
<b>Residential</b>	Residential housing, flats, caravan sites.
<b>Non-residential institutions</b>	Places of worship, church halls, clinics, health centres, churches, day nurseries, consulting rooms, museums, public halls, libraries, art galleries, exhibition halls, law courts, non-residential education and training centres, supermarkets and retail parks.
<b>Assembly and leisure</b>	Cinemas, concert and conference venues, sporting establishments, leisure pools, skating rinks, gymnasiums, other indoor and outdoor sports and leisure uses.

## Link URLs in this page

1. NS-LUP-GD-001 Land Use Planning and the Siting of Nuclear Installations  
<https://www.onr.org.uk/operational/other/ns-lup-gd-001.docx>
2. ONR research project - Defining distances for consultation zones around nuclear sites  
<https://www.onr.org.uk/documents/2021/defining-distances-consultation-zones.pdf>



3. ONR - Map of regulated sites/facilities  
<https://www.onr.org.uk/documents/map-of-regulated-sites.pdf>
4. ONR research project: Defining distances for consultation zones around nuclear sites  
<https://www.onr.org.uk/documents/2021/defining-distances-consultation-zones.pdf>
5. ONR - Local Authorities for sites  
<https://www.onr.org.uk/local-authorities-sites.htm>
6. details of OCZ  
<https://www.onr.org.uk/documents/2021/lup-outer-consultation-zones.pdf>
7. Guidance notes  
[http://www.planningportal.gov.uk/uploads/1app/guidance/guidance\\_note-outline\\_application\\_with\\_reserved\\_matters.pdf](http://www.planningportal.gov.uk/uploads/1app/guidance/guidance_note-outline_application_with_reserved_matters.pdf)
8. ONR research project: Defining distances for Consultation zones around nuclear sites.  
<https://www.onr.org.uk/documents/2021/defining-distances-consultation-zones.pdf>
9. ONR research project: Defining distances for Consultation zones around nuclear sites  
<https://www.onr.org.uk/documents/2021/defining-distances-consultation-zones.pdf>
10. ONR research project: Defining distances for Consultation zones around nuclear sites.  
<https://www.onr.org.uk/documents/2021/defining-distances-consultation-zones.pdf>