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Proximity of petroleum exploration wells to dwellings

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Introduction

The following paper considers the use of statutory minimum distances (or setback) for the proximity of petroleum exploration wells (or exploration boreholes) to dwellings. The Committee previously considered correspondence from a stakeholder detailing minimum distances in England, Scotland, Texas and New South Wales. As requested by the Committee, this paper investigates the existence of these minimum distances and any in other jurisdictions e.g. across the UK, Republic of Ireland and United States of America. The table gives an overview of the areas considered, and it should be noted that the examples used are not exhaustive in any way. In relation to the United States of America, examples used were based on those with publically available information.

Statutory setback and minimum distances - Overview

	Statutory Setback Y/N	Minimum Distance	Notes
NI	No	No	Currently there are no statutory setback distances/buffer zones in relation to wells/ exploratory boreholes and residential dwellings. PPS18 and its associated guidance recommend a setback distance for wind turbines only, however this is non-statutory. Permitted development rights may apply to exploration wells – meaning a planning application is not required.
England	No	No	There are no legislative or national planning policy requirements on minimum setback distances. At local authority level - there is no evidence of minimum setback requirements. Permitted development is not allowed for the drilling of boreholes for petroleum exploration.
Scotland	Yes	No	There is a requirement for 'buffer zones' for all proposals related to shale gas extraction. However, there is no minimum distance set – distance is determined on a case by case basis. A suggestion for a fixed 2km buffer zone was rejected by the Scottish Government in 2014. Petroleum exploration is exempt from permitted development rights.
Wales	No	No	There are currently no legislative or policy requirements. There are no permitted development rights provided.
Rol	No	No	There are currently no legislative or policy requirements for separation distance/buffer zones. Anything which involves the carrying out of any works on, in, over or under land is classed as development and not exempt from planning permission.
Texas	Yes	Yes	Dallas - 1500 feet setback distance between new well sites and 'protected use' areas such as homes, schools and churches. Fort Worth – 600 feet between any well and residence, religious institution, public building, hospital building, school or public park. Flower Mound - 1500ft from any residence, school, religious institution, public park, hospital and water well
Illinois	Yes	Yes	500 feet from any residence, place of worship, school, hospital or nursing home 750 feet from any nature reserve 1500 feet from any surface or groundwater intake of a public drinking water supply
Colorado	Yes	Yes	500 feet between wells and occupied buildings, and 1000 feet between wells and high occupancy buildings (e.g. schools, hospitals).
New South Wales	Yes	Yes	Prohibits coal seam gas (CSG) development on or under land in and within 2km of a residential zone or future identified residential growth areas.

Northern Ireland

Responsibilities for the siting and location of wells/boreholes lie with the Department of the Environment Planning (DoE Planning). There are currently no statutory requirements in Northern Ireland for separation distances between wells or exploration boreholes and residential dwellings.

However, to ensure the welfare of people living within proximity to such developments, DoE Planning consults with a range of statutory consultees when assessing all impacts to the local area, these may include:

- **NIEA** such as Water Management Unit, Industrial Pollution and Radiochemical Inspectorate and Land and Resource Management – for assessing potential environmental impacts on local land, air, water and waste management etc.
- **Local Councils' Environmental Health Department (EHD)** – assess and comment on noise, lighting and air quality impacts.
- **Health and Safety Executive (HSENI)** – to ensure the safe design, drilling operations and completion of boreholes are within health and safety regulations.¹

It should be noted, however, that Part 16 of Schedule 1 of the Planning (General Development) Order (NI) 1993 provides certain permitted development rights for Mineral Exploration. This includes exploration for petroleum, where planning permission is not required. These allow certain development on land such as drilling boreholes, carrying out seismic surveys or making other excavations, for a temporary period not exceeding four months.²

A pre-commencement notification must be given to the DoE Planning detailing the location, target mineral, details of plant and operations (i.e. number of wells) and timescale. These details must be given to DoE who will decide whether or not an Environmental Impact Assessment (EIA) is required. If an EIA is needed the permitted development rights would be removed and a full planning application required.³

Permitted development rights do not apply to any development within an area of special scientific interest or archeological site, or any development that requires an EIA under the Planning (Environmental Impact Assessment) Regulations (NI) 2012 (as stated under Article 3 (8) of the Planning General Development) Order (NI) 1993).

Temporary development rights for mineral exploration do not allow the commercial *extraction* of minerals, including petroleum. This requires a full planning application as

¹ Assembly Question AQW 31531/11-15 (25/02/2014)

<http://aims.niassembly.gov.uk/questions/printquestionssummary.aspx?docid=192341>

² Assembly Question (AQW 29551/11-15) to the Environment Minister (2014)

<http://aims.niassembly.gov.uk/questions/printquestionssummary.aspx?docid=186579>

³ Assembly Question AQW 35175/11-15 <http://aims.niassembly.gov.uk/questions/printquestionssummary.aspx?docid=203660>

well as relevant Environmental Impact Assessment, licensing and environmental permitting requirements.⁴

England

There are no legislative or national planning policy requirements on minimum setback distances in England. Chapter 9 of the UK Government's *Planning Guidance on Minerals*, which deals specifically with hydrocarbon extraction, states that

*Above ground separation distances are acceptable in specific circumstances where it is clear that, based on site specific assessments and other forms of mitigation measures (such as working scheme design and landscaping) a certain distance is required between the boundary of the minerals site and the adjacent development.*⁵

However, this is in relation to the overall mineral site and does not make specific reference to individual wells or exploratory boreholes. It is clear that separation distances may be applied on a case by case basis; however they are not a mandatory requirement.

In relation to local authority level, correspondence with researchers at the House of Commons Library indicated that there is no publically available evidence to suggest minimum distances have been set by any individual council. A search was conducted of the mineral plans and supplementary planning guidance of the local authorities most affected by fracking applications at present, and this did not yield any results.⁶

Humberside

The Committee received evidence from a stakeholder suggesting Humberside had a 650m separation distance. However, Humberside County Council no longer exists as it was inherited in 1996 by the current East Riding of Yorkshire Council, which is now the responsible planning authority. According to the Strategic Planning Division of the East Riding Council, there are currently no minimum distances or setback requirements between exploration wells and residences, or any works of a similar nature.⁷

⁴ Assembly Question (AQW 29551/11-15) to the Environment Minister (2014)

<http://aims.niassembly.gov.uk/questions/printquestionssummary.aspx?docid=186579>

⁵ UK Government Planning Portal, Planning Practice Guidance: *Planning for Hydrocarbon Extraction*. Paragraph 126

<http://planningguidance.planningportal.gov.uk/blog/guidance/minerals/planning-for-hydrocarbon-extraction/determining-the-planning-application/>

⁶ Information obtained through email correspondence with House of Commons Library (24/02/2015) and the Planning Strategy and Policy Team at Lancashire County Council (25/02/2015)

⁷ Telephone Conversation with Strategic Planning Division East Riding of Yorkshire Council (26/02/2015)

Permitted development rights

Under Schedule 2 of the Town and Country Planning (General Permitted Development) Order 1995, permitted development rights do not apply to the drilling of boreholes for petroleum exploration.⁸

Scotland

The Scottish Government sets out its policy on ‘Responsible Extraction of Resources’ in the *Scottish Planning Policy*. The SPP is a statement of Minister’s priorities and is a material consideration carrying significant weight when determining applications.

There is a requirement in the SPP for separation distances to “*protect all sensitive receptors from unacceptable risks*”. This is in relation to any type of proposal for shale gas extraction. However, there is no fixed distance stipulated as these are determined pending the outcome of a risk assessment conducted by each applicant. This means the distance will be different and specific to each application,

*The evidence from, and outcome of, the assessment should lead to buffer zones being proposed in the application which will protect all sensitive receptors from unacceptable risks. When considering applications, planning authorities and statutory consultees must assess the distances proposed by the applicant. Where proposed distances are considered inadequate the Scottish Government expects planning permission to be refused.*⁹

A stakeholder informed the Committee that “*in Scotland the recommendation is 2km*” between any drilling and settlements. However, the paper further details that this was only discussed but never enacted. A recommendation was in fact made by the Green Party in 2014; however, it was rejected by the Scottish Government.¹⁰

Permitted development rights

Under Class 53 Schedule 1 of the Town and Country Planning (General Permitted Development) Order 1992, the drilling of boreholes for petroleum exploration is exempt from permitted development.¹¹

To avail of permitted development rights, proposals must not

- operate within an area of special scientific or archaeological interest;
- use more than 1 Kilogram of explosive charge; and

⁸ Schedule 2 of the Town and Country Planning (General Permitted Development) Order 1995
<http://www.legislation.gov.uk/ukSI/1995/418/schedule/2/made>

⁹ Scottish Government, *Scottish Planning Policy* <http://www.gov.scot/Resource/0045/00453827.pdf> (p.55)

¹⁰ BBC (June 2014) *New Scotland planning policy includes backing for 14 major projects* <http://www.bbc.co.uk/news/uk-scotland-scotland-politics-27979287>

¹¹ Town and Country Planning (General Permitted Development) Order 1992 – Class 53 Schedule 1
<http://www.legislation.gov.uk/ukSI/1992/223/schedule/1/made>

- have any structures greater than 3 metres high if it is within 3 Kilometres of an aerodrome.

In any case, should Scottish Ministers decide to remove permitted development rights and require an Environmental Impact Assessment, then full planning permission is needed and an application must be submitted.

It should be noted that Scotland has announced a moratorium on unconventional oil and gas developments since January 28th, 2015.¹²

Wales

National planning policies for mineral development are set out in Minerals Planning Policy Wales (MPP). The MPP provides general guidance which is applicable to all applications for unconventional gas or oil including exploratory, appraisal, or production (extraction) phases. However there is no mention of setback/buffer zones specifically related to the exploration or extraction of unconventional oil or gas.

There is an associated Minerals Technical Advice Note which suggests the use of buffer zones and recommends distances in relation to aggregates (sand, gravel, hard rock). However there is nothing similar suggested or provided for unconventional oil and gas exploration.¹³

In fact, since 2011, calls have been made for the Welsh Government to produce specific guidance for unconventional oil and gas exploration, but as yet nothing has been produced.¹⁴

Permitted development rights

Similar to England, under Schedule 2 of the Town and Country Planning (General Permitted Development) Order 1995, the drilling of boreholes for petroleum is exempt from permitted development rights.¹⁵

On the 4th February 2015 the Welsh Government called for a moratorium on fracking – while the Assembly vote does not constitute a block on the practice, the Planning Minister is in the proceeds of considering one.¹⁶

¹² For more information see Scottish Government press release *Moratorium called on fracking* 28/01/2015)
<http://news.scotland.gov.uk/News/Moratorium-called-on-fracking-1555.aspx>

¹³ Correspondence with National Assembly for Wales Research (26/02/2015)

¹⁴ National Assembly for Wales Research Paper Shale Gas and Coal-bed Methane (unconventional gas) September 2012. P.8/9

¹⁵ Schedule 2 of the Town and Country Planning (General Permitted Development) Order 1995
<http://www.legislation.gov.uk/ukSI/1995/418/schedule/2/made>

¹⁶ Press release *Is this the end of fracking in Wales? Welsh Government moves to impose a 'moratorium' on all of the planning bids* (13/02/2015) <http://www.walesonline.co.uk/news/wales-news/end-fracking-wales-welsh-government-8638802>

Republic of Ireland

The Minister for the Environment, Community and Local Government (DECLG) is responsible for developing planning policy and legislation. The overarching piece of planning legislation is the Planning and Development Act 2000 as amended.¹⁷ Under this Act, anything which involves the “*carrying out of any works on, in, over or under land*” is classed as “development” and not exempt from planning permission under Part 1 Section 4.

DECLG produces non- statutory planning guidelines designed to help planning authorities, An Bord Pleanála, developers and the general public.¹⁸ However there is no guidance that covers petroleum exploration /excavation. There is guidance for quarries, but this is specifically aimed at aggregates, and does not cover petroleum. It suggests the use of buffer zones between excavation sites and site boundaries:

*A buffer zone can be maintained between the excavation area and the site boundary; the width of the zone needs to be decided on a case-by case basis, depending on such factors as the nature and scale of extraction and the settlement pattern in the vicinity.*¹⁹

However these are described as “possible mitigation measures” therefore not a compulsory requirement.

Texas

There are a number of areas in Texas that have set their own mandatory order for minimum setback/separation distances, some of these include:

Dallas

In December 2013 the City of Dallas Council passed a ‘drilling ordinance’ which introduced a new rule requiring a minimum 1500 feet setback distance between new well sites (including rigs and compressor sites) and ‘protected use’ areas such as homes, schools and churches.²⁰

Fort Worth

In 2006 Fort Worth introduced a setback of 600 feet:

A Gas Well Permit shall not be issued for any well to be drilled within 600ft of a residence, religious institution, public building, hospital building, school

¹⁷ Irish Statute Book, *Planning and Development Act 2000* <http://www.irishstatutebook.ie/2000/en/act/pub/0030/>

¹⁸ Department of Environment Community and Local Government, *Planning Guidelines*

<http://www.environ.ie/en/DevelopmentHousing/PlanningDevelopment/Planning/PlanningGuidance/>

¹⁹ Department of Environment Community and Local Government, *Quarries and Ancillary Activities Guidelines for Planning Authorities* (p.11). Available from

<http://www.environ.ie/en/DevelopmentHousing/PlanningDevelopment/Planning/PlanningGuidance/>

²⁰ Information obtained through a press search: Texas Tribune (11 Dec 2013) *Dallas City Council Tightens Gas Drilling Ordinance* <http://www.texastribune.org/2013/12/11/dallas-city-council-tightens-gas-drilling-ordinance/>

*or public park without a waiver granted by the City Council; or all protected use property owners.*²¹

Flower Mound

Flower Mound's new Oil and Gas Ordinance (2011) introduced setbacks of 1500 feet from any residence, school, religious institution, public park, hospital and water well.²²

Illinois

In June 2013, the Illinois Assembly enacted the Hydraulic Fracturing Regulatory Act. This allows the Department of Natural Resources to regulate hydraulic fracturing throughout the State of Illinois.

The Act stipulates that no planned, proposed or occurring wells for hydraulic fracturing may be located within:

- 500 feet of any residence, place of worship, school, hospital or nursing home;
- 750 feet from any nature reserve; and
- 1500 feet from any surface or groundwater intake of a public drinking water supply.²³

Colorado

In 2012 the State of Colorado increased its setback rules to 500 feet between wells and occupied buildings, and 1000 feet between wells and high occupancy buildings (e.g. schools, hospitals).

Operators must also apply certain mitigation measures (e.g. noise limits, screening, leak detection plans etc.) when drilling within 1000 feet of an occupied building.²⁴

New South Wales

A stakeholder informed the committee that New South Wales had introduced new buffer zones. It should be noted that this is for coal seam gas (CSG) exploration and extraction; there are currently no proven shale gas reserves in NSW. While CSG is a form of unconventional petroleum, according to the NSW Government, CSG is different to shale gas in that:

- Shale gas is held within shale layers rather than coal seams
- Shale is much harder, more impermeable and usually deeper than coal
- Due to this, shale requires fracturing to access the gas.²⁵

²¹ Fort Worth City Secretaries Office Ordinance No. 18399-12-2008. Available at

<http://fortworthtexas.gov/citysecretary/info/default.aspx?id=56294&terms=&searchtype=1&fragment=False> (p.16)

²² Flower Mound (2011) *Oil and Gas Well Ordinance Amendment Summary* <http://www.flower-mound.com/index.aspx?NID=983>

²³ *Illinois' Hydraulic Fracturing Regulatory Act* Section 1-25 (p.12/13). Available from Department of Natural Resources Illinois <http://www.dnr.illinois.gov/OilandGas/Pages/HydraulicFracturingRegulatoryAct.aspx>

²⁴ Colorado State (2014) *COGCC approves dismissal of Longmont litigation*. Available from Colorado State website:

<http://www.colorado.gov/google-search-results.html?q=500+foot+setback&cx=null&ie=UTF-8&cof=FORID%3A10>

In 2013, the NSW Government made amendments to its State Environmental Planning Policy (SEPP) for mining. The amendment prohibits CSG development on or under land in and within 2km of a residential zone or future identified residential growth areas.²⁶

²⁵ NSW Government, *FAQ on coal seam gas - is CSG in NSW different to other states and countries?*

<http://www.resourcesandenergy.nsw.gov.au/landholders-and-community/coal-seam-gas/the-facts/faqs>

²⁶ NSW Department of Planning and Infrastructure, *State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) Amendment (Coal Seam Gas) 2013*. Clause 9A (p.6)

https://majorprojects.affinitylive.com/public/1675d5c687a4feb53a04f61b3b5f17a6/Draft_Mining_SEPP_Amendment_Coal_Seam_Gas_Exclusion_Zones_2013.pdf