

**EXPLANATORY MEMORANDUM TO**  
**THE ONSHORE HYDRAULIC FRACTURING (PROTECTED AREAS)**  
**REGULATIONS 2015**

**2015 No. [XXXX]**

**1.** This explanatory memorandum has been prepared by the Department of Energy and Climate Change and is laid before Parliament by Command of Her Majesty.

**2. Purpose of the instrument**

2.1 These Regulations define “protected groundwater source areas” and “other protected areas” for the purposes of section 4A of the Petroleum Act 1998. In accordance with the provisions of sections 4A and 4B of the Petroleum Act 1998, associated hydraulic fracturing will be prohibited within these areas.

**3. Matters of special interest to the Joint Committee on Statutory Instruments**

3.1 Section 50 of the Infrastructure Act 2015, which inserts new sections 4A and 4B into the Petroleum Act 1998, will initially be commenced (by 31 July 2015) only for the purposes of exercising the powers to lay and make these Regulations.

3.2 For all other purposes the Department is committed to commencing section 50 as soon as is reasonably practicable, after the conclusion of practical and resourcing discussions.

3.3 At the time of laying, the Impact Assessment that has been produced for these Regulations has been submitted to the Regulatory Policy Committee, but has not yet been formally cleared.

**4. Legislative Context**

4.1 Part I of the Petroleum Act 1998 sets out provisions relating to the grant of petroleum licences.

4.2 The Petroleum Act 1998 is amended by section 50 of the Infrastructure Act 2015 in order to establish certain statutory requirements and safeguards relating to onshore hydraulic fracturing. Section 50 of the Infrastructure Act 2015 inserts new sections 4A and 4B into the Petroleum Act 1998.

4.3 Section 4B(4) of the Petroleum Act 1998 requires the Secretary of State to specify in Regulations the description of areas which are “*protected groundwater source areas*” and “*other protected areas*”. The definitions of these areas are required for the purposes of conditions 5 and 6 of the table in section 4A(5), and ultimately for determining the areas of land beneath the surface within which hydraulic fracturing is prohibited.

4.4 Section 4B(6) of the Petroleum Act 1998 requires the Secretary of State to lay a draft of the first such Regulations before each House of Parliament on or before 31 July 2015.

4.5 These Regulations are subject to the affirmative resolution procedure in accordance with section 4B(5) of the Petroleum Act 1998.

## **5. Territorial Extent and Application**

5.1 This instrument extends to England and Wales.

## **6. European Convention on Human Rights**

6.1 The Minister of State for Energy and Climate Change, Andrea Leadsom, has made the following statement regarding Human Rights:

In my view the provisions of the Onshore Hydraulic Fracturing (Protected Areas) Regulations 2015 are compatible with the Convention rights.

## **7. Policy background**

### **Shale**

7.1 Shale gas is the natural gas found in shale rock over a mile underground. It is extracted by hydraulic fracturing which involves injecting water at high pressure to create tiny cracks so the shale gas can flow and be collected.

7.2 The Government supports the development of domestic energy sources in a safe and environmentally sound manner. The Government believes that shale gas and oil hold huge potential for adding to the UK's energy sources, helping to improve energy security, create jobs and meet carbon-reduction targets.

7.3 The Government has been clear that any future shale development must be safe and environmentally sound. The gas and oil industry has been successfully regulated in the UK for over 50 years and tough regulations exist which place strict obligations on developers to ensure on-site safety, prevent environmental contamination, mitigate seismic activity and minimise emissions. The existing regulatory regime applies in the same way to shale developers.

7.4 In addition, and indeed to reinforce the already robust regulatory regime, the Government introduced provisions in the Infrastructure Act 2015 which established a range of measures specific to the shale industry, to assure the public that any future shale development will be safe and sustainable. These include measures on environmental impact assessments, groundwater monitoring, community benefits and protected areas.

## Hydraulic Fracturing

7.5 Section 4A(1) of the Petroleum Act 1998 introduces an absolute prohibition on hydraulic fracturing in any land (in England and Wales) at a depth of less than 1,000 metres beneath the surface.

7.6 In addition to this prohibition, section 4A(3) of the Petroleum Act 1998 further provides that the Secretary of State may not issue a hydraulic fracturing consent unless the conditions in column one of the table are met. Conditions 5 and 6 of the table provide expressly that hydraulic fracturing will not take place within “*protected groundwater source areas*” or “*other protected areas*”. The two terms are not defined in the Petroleum Act 1998 – section 4B(4) requires the Secretary of State to define them in Regulations, a first draft of which is to be laid before both Houses of Parliament on or before 31 July 2015.

7.7 Essentially, both “*protected groundwater source areas*” and “*other protected areas*” must be defined in regulations in a manner which affords them an additional level of protection which goes beyond the basic 1,000 metre prohibition, since the prohibition on hydraulic fracturing at a depth of less than 1,000 metres will automatically apply to these areas of land however they are defined. The definitions contained in these Regulations do this, while at the same time satisfying the Department’s broader policy objective of supporting the long term development of the UK’s shale gas industry.

### Definition of “protected groundwater source areas”

7.8 By way of context, the Environment Agency (EA) and Natural Resources Wales (NRW) currently regulate groundwater in England and Wales. Areas of groundwater that are deemed particularly sensitive, by virtue of either their distance from a groundwater abstraction point or the relatively fast speed at which the groundwater travels through underground strata, are referred to as Source Protection Zones 1 (SPZ1s).

7.9 The fundamental characteristics of an SPZ1 are already set out in legislation<sup>1</sup> and are as follows:

- within 50 metres of a point at which groundwater is abstracted from underground strata; or
- within a zone defined by a 50-day travel time for groundwater to reach a groundwater abstraction point that is used to supply water for domestic or food production purposes.

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<sup>1</sup> See paragraph 3(2)(d) of Part 3 of Schedule 3 to the Environmental Permitting (England and Wales) Regulations 2010 (S.I. 2010/675)

7.10 These Regulations seek to align the definition of a “*protected groundwater source area*” with the concept of an SPZ1 and its definition in the Environmental Permitting (England and Wales) Regulations 2010. This approach thereby closely matches the current regulatory approach that is taken by the EA and NRW in protecting groundwater and drinking water sources and will have a minimal impact on the shale industry and prospective shale developments.

7.11 It has not been necessary, to date, to formally define in legislation how deep beneath the surface SPZ1s extend, whereas the definition of “*protected groundwater source area*” extends to a depth of 1,200 metres. The additional depth limit reflects the policy intention in these Regulations to afford greater protection to groundwater that might otherwise be impacted by hydraulic fracturing, but in a manner which at the same time satisfies the Government’s broader policy objective of supporting the long term development of the UK’s shale gas industry. In defining protected groundwater source areas, there is necessarily a need to strike the right balance between affording additional protections for these areas, whilst enabling the shale gas industry to develop. The Government believes that a depth of 1,200 metres achieves this balance. Defining a depth limit of more than 1,200m below these protected areas would hinder the exploitation of potentially valuable shale gas reserves, and would therefore have an adverse impact on the Government’s energy security and economic policy aims.

#### **Definition of “other protected areas”**

7.12 The Regulations define “*other protected areas*” as National Parks, the Broads, Areas of Outstanding Natural Beauty and World Heritage sites.

7.13 As with the definition of “*protected groundwater source areas*”, these Regulations also apply a depth limit of 1200 metres in these areas. Here again, the Government needs to ensure that appropriate additional protections is accorded to these areas, whilst ensuring that it will not impact wider energy security and economic policy aims. The Government believes that a depth of 1,200 metres achieves this balance.

## **8. Consultation outcome**

8.1 No public consultation related to these regulations was conducted.

8.2 In accordance with 4B(7) of the Petroleum Act 1998, the Government has consulted both the EA and NRW about the definition of “*protected groundwater source areas*” contained in these Regulations. Both the EA and NRW are fully supportive of the proposed definition. Both agencies already do not allow drilling within SPZ1s, and so the agencies believe that these Regulations will reinforce their existing regulatory approach.

8.3 It should be noted that these Regulations do not replace, alter or diminish the ability of the EA and NRW to protect the environment via existing regulatory tools, including in relation to applications which seek consent for hydraulic fracturing at a depth of more than 1,200 metres beneath a “*protected groundwater source area*” (or indeed “*other protected areas*”). The EA and NRW will still be in a position to object

to any proposed oil and gas activities if they believe that such activities would present a risk to groundwater or the natural environment, in accordance with their existing powers.

## **9. Guidance**

9.1 The Government does not intend to issue formal guidance in relation to the Regulations.

## **10. Impact**

10.1 An Impact Assessment has been produced for the Regulations covering also the safeguards regime contained in section 50 of the Infrastructure Act 2015 / sections 4A and 4B of the Petroleum Act 1998, and submitted to the Regulatory Policy Committee for consideration. At the time of laying, the Impact Assessment has not been formally cleared by the RPC.

10.2 The Impact Assessment has considered various options for the extent of the protected areas. There is a balance to be struck between the economic benefits from allowing hydraulic fracturing everywhere and excluding access to the hydrocarbons in some areas that are deemed to merit special protection. The Government's preferred approach to defining protected areas, as set out in these Regulations, affords an enhanced level of protection to these areas in a manner that is consistent with the Government's wider energy security and economic policy objectives and minimises the impact on business.

## **11. Regulating small business**

11.1 These Regulations apply to small businesses, but they only provide for definitions which are used in other legislation.

## **12. Monitoring & review**

12.1 These Regulations contain a review provision in accordance with Part 2 of the Small Business, Enterprise and Employment Act 2015.

## **13. Contact**

13.1 Francesca Fenton at the Department of Energy and Climate Change (Tel: 0300 068 8256 or Email: francesca.fenton@decc.gsi.gov.uk) will answer any queries regarding the instrument.