



Onshore oil and gas exploratory operations: technical guidance

A summary of consultation responses

We are the Environment Agency. We protect and improve the environment and make it a better place for people and wildlife.

We operate at the place where environmental change has its greatest impact on people's lives. We reduce the risks to people and properties from flooding; make sure there is enough water for people and wildlife; protect and improve air, land and water quality and apply the environmental standards within which industry can operate.

Acting to reduce climate change and helping people and wildlife adapt to its consequences are at the heart of all that we do.

We cannot do this alone. We work closely with a wide range of partners including government, business, local authorities, other agencies, civil society groups and the communities we serve.

Published by:

Environment Agency Horizon house, Deanery Road, Bristol BS1 5AH Email: enquiries@environment-agency.gov.uk www.environment-agency.gov.uk

© Environment Agency 2013

All rights reserved. This document may be reproduced with prior permission of the Environment Agency.

Further copies of this report are available from our publications catalogue: http://publications.environment-agency.gov.uk or our National Customer Contact Centre: T: 03708 506506

Email: enquiries@environment-agency.gov.uk.

Contents

Purpose of this document	4
Introduction	5
About the consultation	5
How we ran the consultation	6
Overview of responses received	
Summary of key findings	7
Responses to questions	8
Question 1: The purpose of this technical guidance is to signpost the reader to the appropriate regulatory regimes for onshore oil and gas exploration. Does the document fulfil this purpose?	8
Question 2: Does the document provide the right level of detail to guide an operator (or their agent) when applying for environmental permits and other permissions from the Environment Agency for onshore oil and gas exploration?	9
Question 3: Does the document clearly outline the consultation process for permit applications?	
Question 4: Does the document clearly outline the operator's role in the consultation process for permit applications?	1
Question 5: Does the document clearly outline how stakeholders and the public can take part in the consultation process for permit applications?1	2
Question 6: Is the language used in this document easy to understand, bearing in mind the technical nature of the subject matter and the intended audience (operators and other regulators)?	2
Question 7: Does the document meet the Better Regulation principles? You can find the Principles at http://www.bis.gov.uk/brdo/resources/knowledge/better-regulation-principles 1	3
Question 8: Please tell us if you have any other views or comments to make on this document that have not been covered by previous questions1	4
Next steps1	7
Annex 1 - List of respondents1	8
Annex 2 - Glossary1	9

Purpose of this document

This report provides a summary of the consultation on our draft technical guidance for onshore oil and gas exploratory operations. In it we explain why and how we ran the consultation, outline the responses we received and explain how we intend to consider the results to inform the development of our revised guidance.

Introduction

We are the environmental regulator for onshore oil and gas operations in England. Through effective regulation we will help ensure that these operations are conducted in a way that protects people and the environment.

We are developing technical guidance which explains the environmental regulations that apply to operations to explore for onshore oil and gas in England and the permissions operators need to obtain. It includes activities with a technical connection to the exploration work which could lead to emissions and pollution, such as:

- · raw material storage and handling
- all aspects of waste management (prevention, recovery, safe disposal)
- · systems to control and reduce emissions to land, air and water

The guidance does not cover the commercial extraction of oil and gas or underground coal gasification.

The guidance is for oil and gas companies, their consultants and other technical audiences like land use planners. It is not aimed at operators drilling exploratory boreholes for other purposes, including exploration for minerals other than oil and gas.

We ran this consultation to seek views about whether our draft technical guidance for onshore oil and gas exploratory operations provides the appropriate level of detail for the intended target audience and is easy to understand.

About the consultation

We asked respondents to tell us their views on the draft technical guidance by answering eight consultation questions.

- 1. The purpose of this technical guidance is to signpost the reader to the appropriate regulatory regimes for onshore oil and gas exploration. Does the document fulfil this purpose?
- 2. Does the document provide the right level of detail to guide an operator (or their agent) when applying for environmental permits and other permissions from the Environment Agency for onshore oil and gas exploration?
- 3. Does the document clearly outline the consultation process for permit applications?
- 4. Does the document clearly outline the operator's role in the consultation process for permit applications?
- 5. Does the document clearly outline how stakeholders and the public can take part in the consultation process for permit applications?
- 6. Is the language used in this document easy to understand, bearing in mind the technical nature of the subject matter and the intended audience (operators and other regulators)?
- 7. Does the document meet the Better Regulation principles? You can find the Principles at http://www.bis.gov.uk/brdo/resources/knowledge/better-regulation-principles.
- 8. Please tell us if you have any other views or comments to make on this document that have not been covered by previous questions.

How we ran the consultation

We ran the consultation for 12 weeks, from 31 July until 23 October 2013. We published the consultation on our website at https://consult.environment-agency.gov.uk/portal/ho/climate/oil/gas and invited consultees to submit comments online, by email and by post.

We contacted various interested parties known to us to notify them of this consultation, as set out in Table 1. In addition to the formal consultation, we discussed issues of interest with representatives from a small group of key stakeholders (see Table 1).

Table 1: Stakeholders we contacted as part of our consultation

We contacted		
interested parties known to us to notify them of the consultation:	AEA Ricardo; Aylesbury Vale District Council; British Geological Survey; Committee on Climate Change; The Chartered Institution of Water and Environmental Management; The Department for Communities and Local Government; The Co-operative; Campaign to Protect Rural England; Department of Energy & Climate Change; Defra; Department of Enterprise, Trade and Investment Northern Ireland; Department of the Environment Northern Ireland; Durham University; DNV; Drinking Water Inspectorate; Energy & Climate Change Committee; Energy Institute; Glasgow University; Health and Safety Executive; Institute of Directors; Kent County Council; Lancashire County Council; Natural Resources Wales; Public Health England; Scottish Environment Protection Agency; Welsh Government; European Commission	
a small group of key stakeholders to discuss issues:	Friends of the Earth; Greenpeace; Institution of Mechanical Engineers; Local Government Association; Royal Academy of Engineering; Royal Society; Royal Society for the Protection of Birds; United Kingdom Onshore Operators Group; Water UK; WWF	

Overview of responses received

We received 36 consultation responses altogether, of which 16 were from members of the public, six from non-governmental organisations (NGOs) and environmental groups, six from water companies, three from oil and gas business representatives, three from statutory bodies and two from other types of business and industry.

You can view the consultation responses that were submitted online in full on our <u>website</u> (https://consult.environment-agency.gov.uk/portal/ho/climate/oil/gas).

Summary of key findings

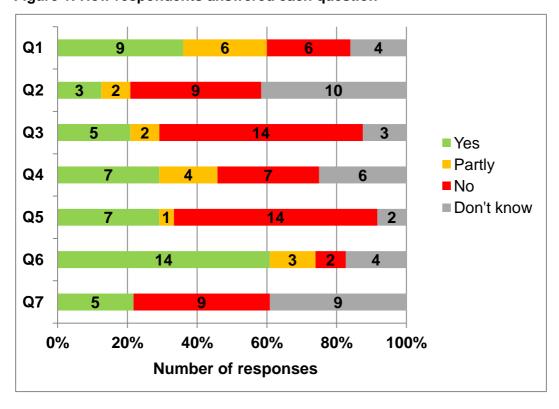
The consultation attracted a range of views from people with various interests in oil and gas exploration. Table 1 shows how many consultees answered each question.

Table 1: Number of respondents who answered each question

Question	Number of respondents	Percentage of respondents
Question 1	25	69%
Question 2	24	67%
Question 3	24	67%
Question 4	24	67%
Question 5	24	67%
Question 6	23	64%
Question 7	23	64%
Question 8	36	100%

Within their answers, many respondents indicated a "yes" or "no" answer to questions one to seven. Others told us that they partly agreed, but identified areas for improvement. Some said that they did not know or could not comment. Figure 1 illustrates the answers to each question.

Figure 1: How respondents answered each question



Responses to questions

The tables in this section summarise what consultees said; they do not represent the Environment Agency's view. Selected quotes from respondents are shown in speech bubbles.

Question 1: The purpose of this technical guidance is to signpost the reader to the appropriate regulatory regimes for onshore oil and gas exploration. Does the document fulfil this purpose?

We received 25 responses to question one. Almost two thirds agreed or partly agreed that the technical guidance points readers to the appropriate regulatory regimes, while around a quarter disagreed.

Table 2: Summary of responses to question one

Respondents told us that		
the guidance fulfils its purpose by	 Focusing on key environmental risks Providing a useful reference document "I think as a 'crib sheet' for oil and gas exploration companies it is probably better than anything else they've seen" 	
the guidance could be improved by	 Putting the flow diagram towards the start of the document, and including stakeholder consultation and the planning process within it Giving more clarity on timescales, the pre-application process and our permitting approach Including information on how other regulators are involved Drawing on industry best practice and knowledge Including drilling and hydraulic fracturing Describing compliance and enforcement measures Requiring more and better monitoring regimes 	
they are concerned about	 There are still many unknowns about fracking The current regulatory regime is inappropriate 	

Question 2: Does the document provide the right level of detail to guide an operator (or their agent) when applying for environmental permits and other permissions from the Environment Agency for onshore oil and gas exploration?

We received 24 responses to question two. Overall respondents told us that the guidance does not provide enough detail. This includes the two oil and gas business respondents who answered this question. Only 13% told us that it does provide enough detail; these were two individuals and one water company.

Table 3: Summary of responses to question two

Respondents told us that we should provide more detail or improve information on:		
Planning and EIA	 Clarify when an environmental impact assessment (EIA) is needed The Environment Agency should quality check what operators say Provide more prescriptive guidance, with examples of risks 	
Intention to construct	 The Environment Agency should judge well designs Notice should stand for 2-3 months, not just one 	
Permitting	Only allow fracking where standard permits for a set of common low risk activities would apply	
Groundwater	 Guidance presents a mixed message about SPZ1 areas and deep horizontal drilling under aquifers Clarify terminology and changes from previous practices Recognise challenges associated with JAGDAG (Joint Agencies Groundwater Directive Advisory Group) assessments Guidance favours water-based mud, although oil-based mud is safer 	
Mining waste	Improve section on escaping gas to give clarity for operators	
RSR	 Operators should consult the Environment Agency before re-using fracking fluid Clarify production volume limits Confirm whether NORM can be injected back into where it came from 	
Water	 More detail about managing waste water Set out how the Environment Agency monitors abstraction compliance 	
Flood	More on inland floods	
Other comments	 Add timescales to the flow chart Clarify step from exploration to production "the process looks daunting and cumbersome. The reality is that as long as effective communication are maintained the process is relatively straightforward" 	

Question 3: Does the document clearly outline the consultation process for permit applications?

We received 24 responses to question three, with 71% of respondents answering 'no' or 'don't know'. Four individuals and one water company told us that the consultation process is clear in the document.

Table 4: Summary of responses to question three

Different types of respondents had different views		
NGOs said	 Concerned that some permits will be issued in two weeks, with limited consultation The document does not explain how to object to applications The guidance does not encourage operators to engage with the public before applying 	
Water companies said	They want the Environment Agency to contact them early on so they can be aware of the risk to water supply	
Industry said	They expect every permit application with be high public interest and therefore have a longer consultation period "it would be naïve to believe that any permit to hydraulically fracture would not be of 'high public interest' and so the 13 week determination period is unlikely to apply to any near term applications"	
Individuals said	 The guidance is unclear and doesn't give enough detail The Environment Agency doesn't offer to help individuals/communities The guidance helps operators satisfy Environment Agency requirements Applications should require more than nine permits 	
Suggestions on how to improve	Include a flowchart of the consultation process or summary section upfront	

Question 4: Does the document clearly outline the operator's role in the consultation process for permit applications?

There was a very varied response to this question. Around a quarter of respondents settled on each of the possible types of response: yes, partly, no, don't know. Some individuals and businesses linked to the oil and gas industry tended to agree, while the only statutory body disagreed.

Table 5: Summary of responses to question four

Different types of respondents had different views		
The perspective of businesses linked to the oil and gas industry	 Expand the flow chart The guidance sets out the operator's role, not the Environment Agency's Specify timescales for the Environment Agency's response 	
The water company perspective	 The onus is on the developer to provide data Encourage pre-application engagement with key organisations, as well as the Environment Agency 	
Comments from NGOs	 Concerned about wastewater disposal; needs to be actively regulated and considered within a regional context The guidance should set out how the Environment Agency will interpret commercial confidentiality; fracturing fluids should be disclosed. Pre-application discussions should be transparent and open to the public Not clear who is responsible when wells are abandoned 	
Comments from individuals	 It is unclear in places, e.g. about re-injection of produced water Unsatisfactory standards Concerned about compliance "it is poor at identifying the who does what part if the processit fails to expect a complete record of who does what after consultation is complete" 	
	"the chain of command and authority should be required on each application for a permit so that accountability is clear"	

Question 5: Does the document clearly outline how stakeholders and the public can take part in the consultation process for permit applications?

The majority of respondents told us that the document does not clearly explain how stakeholders and the public can take part in the consultation process. This includes five NGOs and seven individuals.

Table 6: Summary of responses to question five

Summary of responses to question five		
Those who agreed said	The document is clear, but public comment	s will be ignored
Those who disagreed said	 It does not explain how/to whom the public can object Could improve by including a section on stakeholder input, with timescales The guidance is aimed at operators, not the public It would be useful to have a separate public-facing document for stakeholders 	"we find it unclear how stakeholder engagement will be carried out. Given present public anxiety we feel that this is an important element missing from the document"

Question 6: Is the language used in this document easy to understand, bearing in mind the technical nature of the subject matter and the intended audience (operators and other regulators)?

Almost three-quarters of respondents either agreed or partly agreed that the language in the document is clear and understandable.

Table 7: Summary of responses to question six

Summary of responses to question six	
Suggestions for how to improve	 Expand the glossary Split the mining waste section into exploration and production Where does testing fit; is it exploration or commercial extraction?

Question 7: Does the document meet the Better Regulation principles? You can find the Principles at http://www.bis.gov.uk/brdo/resources/knowledge/better-regulation-principles.

The majority of respondents either answered 'no' or 'don't know' to this question. This includes the two oil and gas businesses who answered this questions as well as nine individuals, four NGOs, one other business and two water companies.

Table 8: Summary of responses to question seven

Summary of responses to question seven		
Those who agreed said	 Unconventional gas has unique risks and limited experience, so comprehensive regulation is appropriate Operator self-regulation is not appropriate Operators need to meet certain standards before they are given permission 	
Those who disagreed said	 They disagree with the concept of 'better regulation' There must be enforcement activity Need to define who is responsible before things go wrong Guidance does not comply with the fourth principle, since nine permits are required for short term exploratory drilling 	
Those who were unsure said	 This can only be judged once exploratory applications are approved Inconsistent regulation across the different sectors Must take a risk-based approach "we support the government in its drive to reduce unnecessary red tape and regulation but believe that properly resourced and targeted regulation and enforcement underpins the protection of our environment" 	

Question 8: Please tell us if you have any other views or comments to make on this document that have not been covered by previous questions.

Respondents gave various views and comments about the guidance, as shown in Table 9.

Table 9: Summary of responses to question eight

Summary of responses to question eight		
Introductory section	 Clarity on whether guidance applies to exploration only Clarity on whether the guidance applies for new drilling at established sites Explicitly mention water usage and groundwater protection Permission granted for exploration will automatically lead to commercial exploitation "the construction and casing standards would not have been determined on the basis that the well would be fracked; would permission to frack be refused? This is far from transparent or robust, and planning committees could be led to grant permission on what could be described as misleading terms" 	
Planning and EIA	 Include mitigation measures in planning approval Pre-application advice must be impartial Concerned that EIA guidance is based on one operator's work as an example EIA not mandatory for exploratory works What to include in EIA/planning application — waste disposal, soils, geology, landscape, biodiversity, noise, air and water, traffic management, road damage, lighting and flaring, requiring green completions, public consultation required, baseline monitoring, natural faults and historical drilling, seismicity control measures, designated sites, cumulative impacts, decommissioning 	
Intention to construct	 Clarity on requirements for notification on WR11 form Incorrect references to IPCC S1.02 Give details on content of 'Drilling mud management plan' 	
Permitting	 Should regulate subsurface impacts of horizontal drilling, not just surface site All sites will be high public interest Not appropriate to develop standard rules – not enough experience or understanding of risks yet Concerned about two week determination timescale 	

Be clear that all groundwater should be protected, not just high quality. Modify Groundwater definition of groundwater activity Clarify difference between use of formation water and flowback fluid Concerned about contamination from rising mine waters Concerned approach is not precautionary, as required by EU Should require baseline monitoring Not clear how chemicals will be assessed under WR11 notification Need to manage risks from surface spilling of chemicals Describe how substances are classified as 'hazardous' Environment Agency should check chemicals used for well stimulation with random inspections Environment Agency should inspect/verify waste water to ensure it is non-Mining hazardous before allowing operator to commence work waste Need more comprehensive approach to regulating waste liquid underground; contradicts approach to surface permitting Be more specific on conditions when produced or flowback water can be used for hydraulic fracturing Site specific air quality monitoring Concerned about venting and fugitive emissions (not just methane); section should be more comprehensive Operator should be required to deal with waste gas rather than venting Does not refer to potential for radioactive gases **RSR** More clarity on NORM – not clear what permits and exemptions needed Does not specify how permitted levels of NORM should be treated Public sewerage operator should permit Water "the EA cannot highlight an treatment of toxic waste issue as a potential Should recognise Environment Agency's problem and then step back role in permitting radioactive discharges to from doing anything about sewers it, particularly given it has Stress importance of pre-application regulatory functions in this discussions with water and wastewater area...it must be directly providers involved in discussion and decisions about fracking Concerned about pressure on local water resources, operators and the Environment and water resources" Agency should engage with water companies early on Clarity on who is Seismic "extremely scant and leave this very responsible - DECC or the activity sensitive subject inadequately addressed" **Environment Agency?** More detail needed Need clear guidance on nature, frequency and length of monitoring of Monitoring mothballed wells and post-abandonment monitoring Site condition reports should include baseline monitoring Clarity on operational monitoring including methane leakage/emissions/ambient levels, water resource monitoring and ecological monitoring Groundwater monitoring should include assessing chemicals in fracking fluid

Implies automatic move to commercial production; should be clear about new **Flow** permissions required diagram Put flow chart at front of document, include consultation and planning processes Site condition report comes after well due to be stimulated; this should be highlighted earlier in the flow chart Include more about Environment Agency enforcement General comments Does not mention protecting animals and wildlife EIAs are compulsory, based on European Parliament legislation Be clear about Natural England's role throughout the guidance – statutory consultee for development within SSSIs Clarify aspects of risk assessment process: description of well-stimulation chemicals; wildlife disturbance from flaring; impacts on soils; radiological assessment criteria; monitoring to "in their current state, these protect designated sites Technical Guidelines provide Guidance puts greater burden on little or no support or technical operators information for new operators Need to clarify relationship with other wishing to enter the market" regulators and whether operators should be responsible for initiating discussions More clarity on permitting process and prescriptive guidelines Implies all onshore exploration sites will have Environmental Survey but existing regulations do not require this Nothing about compliance in guidance Should take account of cumulative impacts of lots of sites nearby Concerned about risks of streamlining regulatory processes. Should take a precautionary approach. Based on inaccurate view of industry and its practices Not suitable for communities Does not include how the Environment Agency will monitor operators What's missing Need to refer to Habitats Risk Assessment for Natura 2000 sites Clarity of liaison with Scotland and Wales for cross-border drilling Does not advise landowners who are affected by applications Does not mention need for research to better understand effects of extraction BAT should feature more prominently Guidance does not explain when an oil permit would be required The government should listen to public opinion; the document should not exist **Comments** Shouldn't allow oil and gas - environmental concerns not directly about the Concerned about the number of wells and their impacts guidance Current regulatory regime not appropriate The Environment Agency needs to be adequately resourced and should recover costs through permitting charges

Need to have good enforcement as well as guidance

conversations to avoid duplication

than conventional drilling

Request that the Environment Agency and local authorities have three-way

Unconventional oil and gas extraction should have a longer consultation period

16 of 20

Next steps

We have reviewed these consultation responses in detail and are taking account of them as we develop our technical guidance for onshore oil and gas exploratory operations.

Given the recent publication of the European Commission's recommendations on shale gas, we do not feel it is appropriate to publish final guidance until we have fully considered the Commission's position. We have therefore decided to publish a revised draft version of the technical guidance, which we will consult on during summer 2014.

Individuals who wish to follow up their responses in more detail are welcome to contact us at oilandgas@environment-agency.gov.uk.

Annex 1 - List of respondents

Affinity Water Angling Trust Burnley Pendle & Rossendale Green Party Friends of the Earth Lancashire County Council National Farmers Union Natural England Network Rail Perenco Wytch Farm Public Health England Ribble Estuary Against Fracking The Royal Society for the Protection of Birds RSKW Ltd Sefton Green Party Severn Trent Water South Staffordshire Water South West Water Sutton and East Surrey Water United Kingdom Onshore Operators Group Water UK

Members of the public - 16 responses

Annex 2 - Glossary

E	1
Flowback fluids	Liquids produced following drilling and initial completion and clean-up
	of the well.
Formation	A rock body distinguishable from other rock bodies and useful for
	mapping or description. Formations may be combined into groups or
	subdivided into members.
Fugitive emissions	Emissions of pollutants from sources other than point sources such
	as flares or outflow pipes.
Hydraulic fracturing	The act of pumping hydraulic fracturing fluid into a formation to
	increase its permeability.
Hydraulic fracturing fluid	Fluid used to perform hydraulic fracturing. Includes the primary
	carrier fluid, proppant material and all applicable additives.
NORM	Naturally occurring radioactive materials contained in rock formations
	and soil.
Produced water	Liquids co-produced during oil and gas wells production.
Standard rules	A set of fixed rules for common activities.
Venting	The release to air of a gas without treatment.
Well stimulation	The act of increasing a well's productivity by artificial means such as
	hydraulic fracturing or acidising.
Well stimulation fluids	Fluids, often water, mixed with additives used to encourage more oil
	and gas to flow from a particular rock formation.

Would you like to find out more about us, or about your environment?

Then call us on 03708 506 506 (Mon-Fri 8-6)

Calls to 03 numbers cost the same as calls to standard geographic numbers (i.e. numbers beginning with 01 or 02).

email enquiries@environment-agency.gov.uk or visit our website www.environment-agency.gov.uk

incident hotline 0800 80 70 60 (24hrs) floodline 0845 988 1188

Environment first: Are you viewing this on screen? Please consider the environment and only print if absolutely necessary. If you are reading a paper copy, please don't forget to reuse and recycle if possible.