



# Onshore oil and gas sector guidance

## A summary of consultation responses

We are the Environment Agency. We protect and improve the environment.

Acting to reduce the impacts of a changing climate on people and wildlife is at the heart of everything we do.

We reduce the risks to people, properties and businesses from flooding and coastal erosion.

We protect and improve the quality of water, making sure there is enough for people, businesses, agriculture and the environment. Our work helps to ensure people can enjoy the water environment through angling and navigation.

We look after land quality, promote sustainable land management and help protect and enhance wildlife habitats. And we work closely with businesses to help them comply with environmental regulations.

We can't do this alone. We work with government, local councils, businesses, civil society groups and communities to make our environment a better place for people and wildlife.

**Published by:**

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# Purpose of this document

This report provides a summary of the consultation on our onshore oil and gas sector guidance. In it we explain why and how we ran the consultation, outline the responses we received and explain how we have considered 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 help ensure that these operations are conducted in a way that protects people and the environment.

We have developed guidance which explains the environmental regulations that apply to operations to explore and extract onshore oil and gas in England and the permissions operators need to obtain. It includes activities with a technical connection to the exploration and extraction activities 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 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 on our 'approach and the standards we are proposing' rather than on the style and format of the guidance which will be re-formatted following a GOV.UK editing review. We wanted to collect thoughts, comments, and opinions on the guidance from anyone working on or having an interest in the exploration and extraction of onshore oil and gas.

## About the consultation

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

1. The purpose of this guidance is to signpost the reader to the appropriate regulatory regimes for onshore oil and gas exploration and extraction. Do you feel the document fulfils this purpose?
2. Does the guidance clearly outline the Environment Agency permits that are needed for onshore oil and gas?
3. Does the guidance clearly outline the other Environment Agency permissions that are needed for onshore oil and gas?
4. Is there anything missing that you feel should be included in the guidance?
5. Please tell us if you have any other views or comments on the guidance that have not been covered by previous questions.

# How we ran the consultation

We ran the consultation for 14 weeks, from 26 November 2015 until 3 March 2016. We published the consultation on our website at <https://www.gov.uk/government/consultations/onshore-oil-and-gas-sector-guidance-consultation> and invited consultees to submit comments online and by post.

We contacted various interested parties known to us to notify them of this consultation. Throughout the consultation period we organised a number of telephone and face-to-face meetings with some of our stakeholders to talk through the guidance and clarify any points they wanted to raise.

## Overview of responses received

We received 44 consultation responses altogether, of which twelve were from members of the public, nine from NGOs and environmental groups, seven from oil and gas business representatives, six from public sector bodies, five from professional bodies, four from water companies, and one from a local political group.

# Summary of key findings

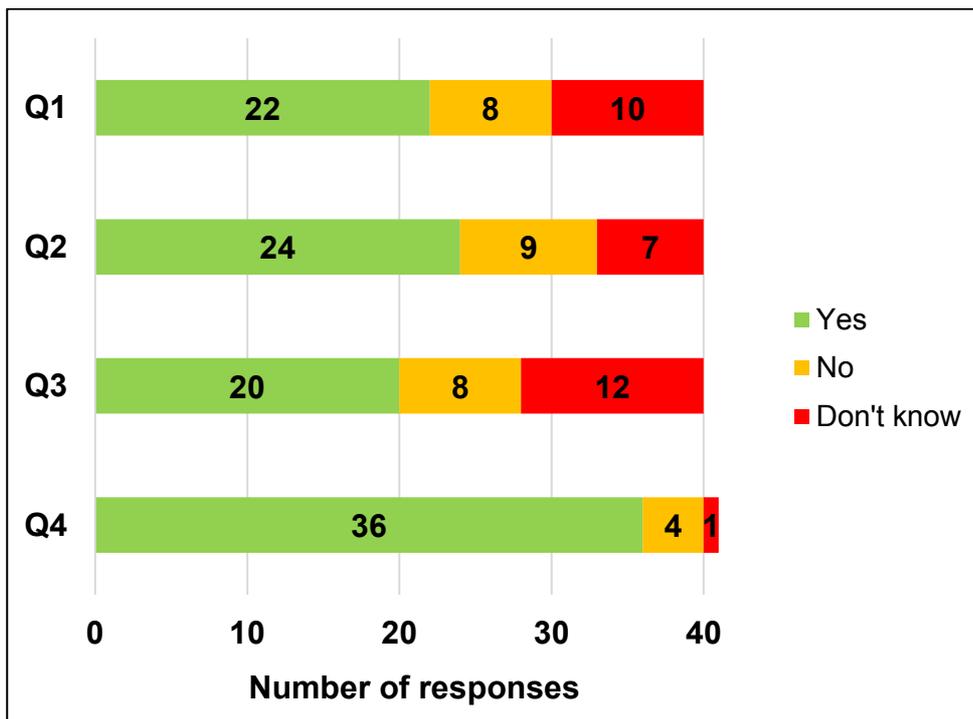
The consultation attracted a range of views from people with various interests in oil and gas exploration. Table 1 shows how many consultees answered each question.

**Table 1: Number of respondents who answered each question**

Question	Number of respondents	Percentage of respondents
Question 1	40	91%
Question 2	40	91%
Question 3	40	91%
Question 4	41	93%
Question 5	34	77%

Respondents indicated a "yes", "no" or "don't know" answer to questions one to four. Figure 1 illustrates the answers to each question.

**Figure 1: How respondents answered each question**



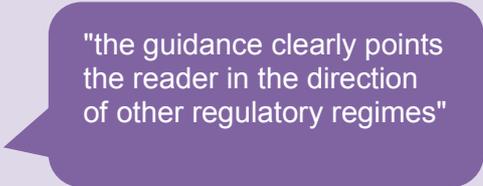
# Responses to questions

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 guidance is to signpost the reader to the appropriate regulatory regimes for onshore oil and gas exploration and extraction. Do you feel the document fulfils this purpose?**

We received 40 responses to question one. Just over half agreed that the guidance points readers to the appropriate regulatory regimes, while around a fifth disagreed. The remainder answered "don't know".

**Table 2: Summary of responses to question one**

Respondents told us that...	
<p><b>...the guidance fulfils its purpose by...</b></p>	<ul style="list-style-type: none"> <li>• Providing a clear explanation of a complex web of regulatory regimes.</li> <li>• Providing a good overview.</li> </ul> 
<p><b>...the guidance could be improved by...</b></p>	<ul style="list-style-type: none"> <li>• Incorporating a checklist for operators to identify the permits and permissions they require.</li> <li>• Adding a diagram/timeline which sets out when actions are required under each regulatory regime.</li> <li>• Adding in a description of how any baselines (hydrology, ecology, public health) will be first established.</li> <li>• Clarify how the Environment Agency assesses whether all information has been submitted at application stage, and whether further information received after the application is submitted will be available for public consultation.</li> <li>• Being more explicit and clear about the relationship between environmental planning and permitting.</li> <li>• Clarifying the roles and responsibilities of all other regulators and how they interact.</li> </ul> 
<p><b>...they are concerned that...</b></p>	<ul style="list-style-type: none"> <li>• Regulatory regimes are inappropriate for the sector.</li> <li>• Combining locations under one permit will not deliver enhanced environmental protection.</li> </ul>

## Question 2: Does the guidance clearly outline the Environment Agency permits that are needed for onshore oil and gas?

We received 40 responses to question two. Overall respondents told us that the guidance does clearly outline the permits that are needed. This includes seven oil and gas business respondents. Two out of ten respondents told us that it does provide enough detail.

**Table 3: Summary of responses to question two**

<b>Respondents told us that we should provide more detail or improve information on:</b>	
<b>Planning and EIA</b>	<ul style="list-style-type: none"> <li>Clarify regulatory requirements for Environmental Impact Assessments (EIA).</li> </ul>
<b>Permitting</b>	<ul style="list-style-type: none"> <li>Amend Figure 1 to refer to the phases of development and the relevant (potential) permits within those phases.</li> <li>Concerns about case-by-case approach in SPZ2 and SPZ3.</li> <li>Define 'high public interest'.</li> <li>Clarify permitting process for exploration operations and those involving hydraulic fracturing.</li> <li>Consistent use of terminology.</li> <li>Provide templates specific to oil and gas applications.</li> </ul>
<b>Extractive waste</b>	<ul style="list-style-type: none"> <li>Explain why standard rules permits should be applied for towards the end of the bespoke process.</li> <li>Standard rules are not applicable to well testing.</li> <li>Whether applicants must demonstrate that waste facilities have the capacity for the potential maximum waste generated.</li> </ul>
<b>Groundwater</b>	<ul style="list-style-type: none"> <li>Explain different depth requirements for hydraulic fracturing under different types of protected areas.</li> </ul>
<b>Re-injection</b>	<ul style="list-style-type: none"> <li>Clarity on reinjection policy and why it has changed.</li> <li>Include seismicity induced by re-injection.</li> </ul>
<b>Decommissioning</b>	<ul style="list-style-type: none"> <li>Include abandonment and long term radioactive substances containment.</li> </ul>
<b>Other comments</b>	<ul style="list-style-type: none"> <li>Guidance should include: vertical separation/continuity of aquifers; directional drilling into proximity of sources from further away; into SPZ1 at depth from surface entry point outside SPZ1; concerns relating to encountering fissures.</li> <li>Further work on methodology for analysing aqueous liquid mining waste to ensure the accuracy and consistency.</li> <li>Stronger air monitoring regime.</li> <li>Clarity on Greenhouse Gas Emissions permit requirements.</li> </ul> <div data-bbox="858 1509 1469 1800" style="border: 1px solid black; border-radius: 15px; padding: 10px; background-color: #e0e0e0; margin-top: 10px;"> <p>"the guidance needs to be flexible enough to deal with different approaches and be able to support companies in identifying whether they need the same, different, new permits to account for this"</p> </div>

### Question 3: Does the guidance clearly outline other Environment Agency permissions that are needed for onshore oil and gas?

We received 40 responses to question three, with 5 out of 10 respondents answering 'yes'. Five environmental groups disagreed or answered "don't know".

**Table 4: Summary of responses to question three**

Respondents told us that we should provide more detail or improve information on...	
<b>Planning and EIA</b>	<ul style="list-style-type: none"> <li>• Clarify on links between Environmental Impact Assessments and environmental permits.</li> <li>• Explain categorisation of a waste facility.</li> </ul>
<b>Permitting</b>	<ul style="list-style-type: none"> <li>• More detail on impacts on rural communities.</li> </ul>
<b>Extractive waste</b>	<ul style="list-style-type: none"> <li>• Long term consideration of well casing failure.</li> </ul>
<b>Radioactive substances</b>	<ul style="list-style-type: none"> <li>• Include wastes other than water.</li> <li>• Clarify who is responsible for making the radiological assessment when waste is transferred to disposal companies or discharged to sewer.</li> </ul>
<b>Installations</b>	<ul style="list-style-type: none"> <li>• Define the term 'the site'.</li> <li>• Further assessment of flaring best practice.</li> <li>• Removing overlap and references to other regulatory requirements, such as hazardous waste producers.</li> </ul> <div data-bbox="815 1010 1465 1272" style="border: 1px solid purple; border-radius: 15px; padding: 10px; background-color: #d8bfd8; margin-left: 20px;"> <p>"recommend that further work is undertaken with both the industry and the supply chain to understand the full environmental benefits before a formal position is taken on the flaring of waste gases at exploration stages"</p> </div>
<b>Other comments</b>	<ul style="list-style-type: none"> <li>• Further work on identifying and testing best available techniques (BAT) with the industry.</li> <li>• Define the roles of the Environment Agency and other regulators.</li> </ul>

## Question 4: Is there anything missing that you feel should be included in the guidance?

There was a more consistent response to this question. Almost 9 out of 10 respondents agreed that there are things missing from the guidance.

**Table 5: Summary of responses to question four**

Different types of respondents said that the following is missing from the guidance...	
<b>Some common themes...</b>	<ul style="list-style-type: none"> <li>• Flaring BAT.</li> <li>• Evidence to support reinjection as BAT and how risks will be managed.</li> </ul>
<b>Industry said...</b>	<ul style="list-style-type: none"> <li>• Clarity on upfront definitions of terms, what different regulatory bodies are responsible for, EIA and permitting timescales.</li> <li>• Guidance on how pre-operational conditions are agreed.</li> </ul>
<b>Professional bodies said...</b>	<ul style="list-style-type: none"> <li>• Ability and capacity to treat flowback fluid.</li> </ul>
<b>Water companies said...</b>	<ul style="list-style-type: none"> <li>• Clarity on who is responsible for radiological assessment of waste discharged to sewer.</li> <li>• Opportunities to get water from other providers.</li> </ul>
<b>NGOs said...</b>	<ul style="list-style-type: none"> <li>• Clarify distance for proximity regarding sensitive areas.</li> <li>• Regulation of hazardous waste, including handling, storing, treating, reporting and emergency plans.</li> <li>• Long-term effects of deep disposal of radioactive waste and treatment by dilution.</li> <li>• Dealing with spills and leakages from wells.</li> <li>• Real time monitoring and results to be made public. Responsibilities for ongoing monitoring.</li> <li>• Sanctions for failing to follow regulations.</li> </ul> <div data-bbox="909 1052 1468 1299" style="border: 1px solid black; border-radius: 15px; padding: 10px; background-color: #4a4a8a; color: white; margin-top: 10px;"> <p>"Current treatment plants will not be able to deal with the scale of flowback requiring treatment prior to disposal. This is a major shortcoming of the signposting"</p> </div>
<b>Individuals said...</b>	<ul style="list-style-type: none"> <li>• Flat rate pre-application charges.</li> <li>• Consideration of hazardous waste threshold.</li> <li>• Groundwater ecosystems monitoring.</li> <li>• When enforcement action will be applied.</li> <li>• Well abandonment and containment.</li> </ul>

**Question 5: 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 6.

**Table 6: Summary of responses to question five**

<b>Additional comments for various sections of the guidance</b>	
<b>Planning and EIA</b>	<ul style="list-style-type: none"> <li>• Update text on Protected Areas Regulations 2015.</li> <li>• More guidance on Health Impact Assessment.</li> <li>• Twin tracking should not be a requirement.</li> <li>• Protection where operations are under protected areas.</li> </ul>
<b>Permitting</b>	<ul style="list-style-type: none"> <li>• Define 'minded to', 'WR11' and 'S199'.</li> <li>• Update screening for protected areas. Clarify whether this is part of the 15 hours pre-application.</li> <li>• More on drinking water protected areas and consulting drinking water companies.</li> </ul>
<b>Extractive waste</b>	<ul style="list-style-type: none"> <li>• Hazardous waste classification of oil based cuttings should be based on oil concentration.</li> <li>• Will emergency plans be available to communities?</li> <li>• Waste plan should contribute to Water Framework Directive good ecological status.</li> </ul>
<b>RSR</b>	<ul style="list-style-type: none"> <li>• Radioactive isotope monitoring.</li> <li>• Define term 'production'.</li> <li>• How will the Environment Agency check compliance?</li> </ul>
<b>Installations</b>	<ul style="list-style-type: none"> <li>• Need BAT documents for onshore oil and gas.</li> <li>• State that venting is not permitted.</li> <li>• Green completions and monitoring of emissions at all stages.</li> <li>• Clarify that tank vent for crude oil is not open storage.</li> <li>• Consistency of storing and handling crude oil limits with Environmental Permitting Regulations 2010.</li> </ul> <div data-bbox="829 1361 1476 1668" style="border: 1px solid black; border-radius: 15px; padding: 10px; background-color: #d9ead3; margin-top: 10px;"> <p>"the absence of a BAT reference document for onshore oil and gas creates uncertainty for applicants as to what constitutes compliance with their permit requirement to demonstrate best available techniques"</p> </div>
<b>Groundwater</b>	<ul style="list-style-type: none"> <li>• Define 'periods when there is less risk of pollutants entering the site drainage system' and 'non-hazardous to groundwater'.</li> <li>• Include Water Protection Zones and Safeguard Zones.</li> <li>• Clarity on distance, depth and minimum separation distance and exceptions to 400m maximum depth where groundwater is very low.</li> </ul>

	<ul style="list-style-type: none"> <li>• More on well integrity requirements. Is BAT the same for hydrocarbon and groundwater wells?</li> <li>• Exclusion zone should include SPZ1, SPZ2 and SPZ3.</li> <li>• Mention Water Framework Directive.</li> <li>• Consider turbidity as a pollutant.</li> </ul>
<b>Abstraction</b>	<ul style="list-style-type: none"> <li>• More protection of public water supply.</li> <li>• Consult statutory drinking water suppliers.</li> </ul>
<b>Re-injection</b>	<ul style="list-style-type: none"> <li>• NORM above out of scope values - error in text.</li> <li>• Clarify what is needed for permit.</li> <li>• Need seismic exploration to identify rocks suitable to store injected fluids.</li> </ul>
<b>Flood</b>	<ul style="list-style-type: none"> <li>• Define 'near' main river and guidance on operating in flood prone areas.</li> </ul>
<b>Sub-surface information plan</b>	<ul style="list-style-type: none"> <li>• Hydraulic fracturing plan should be available for Local Authority and interested parties to review before permissions are granted.</li> <li>• Streamline sub-surface information plan with Hydraulic Fracture Plan.</li> </ul>
<b>Monitoring</b>	<ul style="list-style-type: none"> <li>• Link to more detailed groundwater monitoring guidance.</li> <li>• Ensure waste monitoring is reasonable.</li> <li>• Noise management plan - guidance inconsistent with standard permit conditions.</li> <li>• What baseline monitoring will the Environment Agency do?</li> </ul>
<b>Decommissioning</b>	<ul style="list-style-type: none"> <li>• Who is responsible for long-term monitoring beyond 5 years?</li> <li>• Concerned pressure in deep boreholes may force produced water to surface or into aquifer and cumulative risk.</li> </ul>
<b>Disclosure of information</b>	<ul style="list-style-type: none"> <li>• More guidance needed on information on substances not yet assessed.</li> <li>• Protect commercially confidential information by providing chemical family name, and Letters of Access from suppliers, as for offshore regulation.</li> <li>• How changes to fracturing fluid will be dealt with after pre-application stage to avoid delay to permit application.</li> <li>• Definition of 'emission' disputed by industry. View hydrocarbon well as closed system.</li> <li>• Are substances within de minimis thresholds included?</li> </ul>
<b>General comments</b>	<ul style="list-style-type: none"> <li>• Tone of document should be more authoritative.</li> <li>• Clarify what will be available on public register.</li> <li>• Keep policy and guidance under review as the industry develops.</li> <li>• Need evidence to support regulatory regime.</li> </ul> <div data-bbox="884 1532 1465 1890" style="border: 1px solid black; border-radius: 15px; padding: 10px; background-color: #808080; color: white; margin-top: 10px;"> <p>"We believe regulatory mechanism and approach is in place or is being put in place to achieve safe, best practice implementation but, guidance and regulation (permitting) has to be applied thoroughly and carefully to ensure practice lives up to theory and undue risks are not taken"</p> </div>

# How we considered the responses

We have reviewed the consultation responses in detail and taken account of all comments in developing our sector guidance for onshore oil and gas. This section sets out our responses to the key themes raised by consultees.

**Question 1: The purpose of this guidance is to signpost the reader to the appropriate regulatory regimes for onshore oil and gas exploration and extraction. Do you feel the document fulfils this purpose?**

**Table 7: Summary of responses to comments made under Question 1**

<b>Our responses to points made under Question 1</b>	
<b>Information submitted at application stage</b>	<p>We undertake a basic technical assessment to decide if an application contains the required components and sufficient information for us to determine the application. If so, we assign the application as duly made.</p> <p>We can also obtain information which would not materially affect the outcome of the permit determination through pre-operational conditions or improvement programme conditions in the permit. We use these conditions to deal with issues where we will need more detail about what operators are doing but do not need to assess those issues to be able to decide whether or not to grant the permit or variation.</p>
<b>Planning advice</b>	<p>Our pre-application advice covers environmental requirements for developments where we are a statutory consultee. We also advise on development issues related to environmental permits, consents and licences that we issue.</p>
<b>Interface between regulators</b>	<p>The guidance will include a link to the DECC Regulatory Roadmap along with other relevant GOV.UK pages.</p>
<b>Combining multiple locations under a single permit</b>	<p>In our guidance we have stipulated that regulated facilities located at a distance from each other, or managed by different operators, will be required to hold individual permits. In order to be included under a single permit we need to conclude that two or more regulated facilities represent a single site.</p> <p>The guidance includes a link to the EPR Core Guidance, adding that if an operator can satisfy us that they meet the requirements for proximity, coherence and an integrated management plan, it is likely their regulated activities can be considered to be on the same site, and potentially regulated under one environmental permit.</p>

## Question 2: Does the guidance clearly outline the Environment Agency permits that are needed for onshore oil and gas?

**Table 8: Summary of responses to comments made under Question 2**

<b>Our responses to points made under Question 2</b>	
<b>Source Protection Zones</b>	We will assess the risks to groundwater on a site-by-site basis within Source Protection Zones 2 and 3.
<b>'High public interest' definition</b>	When determining high public interest we consider each site on its individual merits. Whilst we are confident that our decisions are technically sound, we need to ensure that other statutory bodies and the public have the opportunity to become involved in our decision-making, so that they can share our confidence. The Government's Penfold Review of non-planning development consents recognised that we need more time for determinations of this kind, and dis-applied the requirement to complete our decision-making within the normal 13 weeks. The local area team will make the decision on whether a site is HPI in discussion with our National Permitting Service and Oil and Gas Programme.
<b>Standard rules</b>	Standard rules permits maintain high levels of environmental protection but allow for a more streamlined application process, where activities involved in onshore oil and gas are common between operators. We will only issue a standard permit when we are confident that we understand the risks to the environment and how a company should control those risks.  We will keep our standard rules under review.
<b>Infrastructure Act 2015 depth requirements</b>	The guidance has been updated to reflect the changes relating to hydraulic fracturing that were introduced through the Infrastructure Act 2015.
<b>Re-injection</b>	We have revised our guidance on reinjection to take account of comments we received in our previous public consultation and further technical consideration.
<b>Greenhouse Gas Emissions permit requirements</b>	Onshore oil and gas installations with a capacity of 20MW thermal or 1.5mscfd <sup>1</sup> equivalent fall within the scope of the EU Emissions Trading System and will require a Greenhouse Gas permit issued under this scheme. This has now been added to the guidance.

<sup>1</sup> Million standard cubic feet of gas per day

### Question 3: Does the guidance clearly outline other Environment Agency permissions that are needed for onshore oil and gas?

**Table 9: Summary of responses to comments made under Question 3**

<b>Our responses to points made under Question 3</b>	
<b>Radiological assessment</b>	An operator will not need to assess the radiological impacts of waste being transferred to another operator for treatment and disposal. This is because the impact of disposals from the waste disposal operators were assessed when their permits were issued. This is outlined in the guidance.
<b>'The site' definition</b>	All onshore oil and gas sites are permitted as regulated facilities. For oil and gas operations 'the site' will be the land occupied at the surface (as per site plan). Where hydraulic fracturing takes place the site plan must show the proposed extent of the below ground extractive waste facility to be created by each hydraulically fractured well. The facility will also be limited by description to particular geological formations and the geological extent of this area will be referred to in the permit.
<b>References to hazardous waste producers</b>	In April 2016 the law changed such that producers of hazardous waste no longer need to complete an annual registration. We have removed references to producers of hazardous waste from the guidance.
<b>Further work on developing BAT</b>	Our work on identifying BAT is ongoing and we will make further amendments to the guidance as our understanding evolves. We will continue to engage with industry to understand emerging techniques and technologies.

## Question 4: Is there anything missing that you feel should be included in the guidance?

**Table 10: Summary of responses to comments made under Question 4**

<b>Our responses to points made under Question 4</b>	
<b>Treatment of flowback fluid</b>	<p>Flowback fluid can be treated and re-used as fresh injection fluid for the purpose of hydraulic fracturing.</p> <p>We consider flowback fluid that cannot feasibly be re-used to be an extractive waste which must be sent to an appropriate permitted waste facility for treatment or disposal.</p> <p>The operator will be responsible for ensuring that any waste materials (including flowback fluid) are taken to a suitably equipped and permitted waste treatment facility. This forms part of the 'duty of care' for waste.</p>
<b>Hazardous waste</b>	<p>We have simplified and clarified the guidance on hazardous waste, including text relating to the designation of a category A mining waste facility.</p>
<b>Sanctions</b>	<p>We have provided a link to our enforcement, sanctions and offences guidance on GOV.UK:  <a href="https://www.gov.uk/government/publications/environment-agency-enforcement-and-sanctions-statement">https://www.gov.uk/government/publications/environment-agency-enforcement-and-sanctions-statement</a></p>
<b>Well abandonment</b>	<p>Additional detail has been added to the guidance to clarify that decommissioning and post abandonment monitoring will be required. The guidance outlines the requirements for surrender of a permit and the information we require within a site condition report. The guidance also states that if the Environment Agency has cause to consider that there is an ongoing risk to the environment, the application to surrender the environmental permit may not be accepted and the operator may have to undertake further site remediation and/or post-decommissioning monitoring.</p>

Question 5: Please tell us if you have any other views or comments to make on this document that have not been covered by previous questions.

**Table 11: Summary of responses to comments made under Question 5**

<b>Our responses to points made under Question 5</b>	
<b>Twin tracking</b>	<p>Planning and environmental permitting decisions are separate but closely linked. Twin tracking of planning and permit applications will help us to work with the operator and the planning authority to resolve complex permitting issues at the same time as decision making for the planning process. We believe that this joint working approach will benefit operators and planning decision makers.</p>
<b>Screening for protected areas</b>	<p>Screening is a free pre-application service run by the Environment Agency Permitting &amp; Support Centre using the Easimap for National Permitting Screening Tool. Where the screening identifies nature and heritage conservation sites and/or protected habitats and species that may be affected by the proposal the applicant will be provided with a pre-application pack.</p> <p>The pre-application pack includes:</p> <ul style="list-style-type: none"> <li>- maps showing the location of the relevant sites, species and habitats</li> <li>- a site-specific document explaining what is required of the applicant</li> <li>- a conservation assessment checklist, which will form part of the duly-making checklist</li> </ul> <p>Applicants may be advised to speak to the appropriate bodies, for example the conservation agencies or local wildlife trusts to discuss their proposals prior to submitting their application.</p>
<b>Consulting drinking water companies</b>	<p>Additional detail has been added to the guidance to highlight when we would consult water companies.</p>
<b>Oil based cuttings waste classification</b>	<p>The law changed in June 2015 and the classification of these wastes is clear. These wastes fall within the classification of Oil-containing drilling muds and wastes, with a waste code 01 05 05, which is an absolute hazardous entry in the List of Wastes.</p>
<b>Onshore oil and gas BAT</b>	<p>There is no single document that sets out BAT for the onshore oil and gas sector. As such, our understanding of BAT is evolving. Where BAT has been agreed this has been incorporated within the guidance.</p>

<p><b>Green completions</b></p>	<p>The guidance outlines that Operators will need to specify in their permit applications how they will minimise waste generated on site, including emissions of waste gases. During the production stage we would expect to see the deployment of reduced emissions completions (green completions).</p> <p>We have clarified in the guidance that monitoring will be required to establish the baseline, throughout the operational lifecycle of the site, and during decommissioning and post abandonment (prior to permit surrender). For operators who undertake hydraulic fracturing, we have clarified in the guidance that we would expect the Operator to produce an agreed methane monitoring strategy as part of the Emissions Monitoring Plan and implement it to establish baseline levels of methane and methane levels throughout operations on site. This should include consideration of the duration and variety of operations, sampling period, turnaround time of results and the site leak detection and repair plan in place.</p>
<p><b>Separation distances</b></p>	<p>In relation to where we have stated that 'the maximum depth for designated groundwater bodies is normally taken as 400m' this has been re-worded to</p> <p>'the depth of a designated groundwater body is determined using available local data but a default maximum of 400m is used where there is no local available data, below which groundwater is generally of poor quality and has limited connection to surface systems'.</p>
<p><b>Sub-surface information plan</b></p>	<p>Where operators cannot provide details for the sub-surface information plan when they apply for their permit, we will include it as a pre-operational condition. Refer to the section on 'Information submitted at application stage' on page 14 of this document for an explanation of how we use pre-operational conditions.</p>
<p><b>Monitoring requirements</b></p>	<p>Monitoring is site specific and will be based on a detailed conceptual site model including key sources, pathways and receptors. The conceptual site model should recognise that source-pathway-receptor linkages and associated risks may change through the lifecycle of a development as operations vary through time. This will need to be reflected in the choice of monitoring techniques and monitoring frequencies throughout the lifecycle of an oil and gas development.</p> <p>The requirements for monitoring are not prescriptive in terms of how monitoring should be carried out, recognising the need for flexibility in response to site specific and operational conditions.</p>
<p><b>Re-wording and re-formatting</b></p>	<p>These points have been considered and where appropriate amends have been made to the guidance. The guidance will be converted to GOV.UK web text.</p>

# Next steps

We will be publishing our guidance in Summer 2016.

Individuals who wish to follow up their responses in more detail are welcome to contact us at [oilandgasconsultations@environment-agency.gov.uk](mailto:oilandgasconsultations@environment-agency.gov.uk).

# Annex 1 - List of respondents

British Geological Survey  
Canal and River Trust  
Chartered Institution for Water & Environmental Management  
Cuadrilla Resources  
Environmental Group  
European Oilfield Speciality Chemicals Association  
Fish Legal  
Frack Free Lincs  
Frack Free Ryedale  
Friends of the Earth  
Halliburton  
Health & Safety Executive  
INEOS Upstream  
Institution of Mechanical Engineers  
Keep Kirford and Wisborough Green  
Lancashire County Council  
National Farmers Union  
Natural England  
Norfolk Geodiversity Partnership  
Portsmouth Water  
Public Health England  
Royal Society for the Protection of Birds  
Ryedale Liberal Party  
Severn Trent Water  
Southern Water Services  
Total E&P UK  
UK Environmental Law Association  
UK Oil & Gas Investments  
UK Onshore Oil and Gas  
United Utilities  
Waste Management Company  
Zetland Group Limited

Members of the public - 12 responses

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