

Permitting decisions

Bespoke permit

We have decided to grant the permit for Kellingley CMM Site operated by Alkane Energy UK Limited.

The permit number is EPR/FB3601XR.

We consider in reaching that decision we have taken into account all relevant considerations and legal requirements and that the permit will ensure that the appropriate level of environmental protection is provided.

Purpose of this document

This decision document provides a record of the decision making process. It summarises the decision making process in the decision checklist to show how all relevant factors have been taken in to account.

This decision document provides a record of the decision making process. It:

- highlights [key issues](#) in the determination
- summarises the decision making process in the [decision checklist](#) to show how all relevant factors have been taken into account
- shows how we have considered the [consultation responses](#).

Unless the decision document specifies otherwise we have accepted the applicant's proposals.

Read the permitting decisions in conjunction with the environmental permit. The introductory note summarises what the permit covers.

Key issues of the decision

Regulatory Position Statement

Alkane Energy UK Limited have applied for a bespoke mining waste permit to operate a coal mine methane facility at Kellingley CMM Site.

Alkane will directionally drill a well into an existing abandoned coal mine, extract the methane with the aim to produce electricity if commercially viable. Once the well is constructed the gas will need flow testing to assess gas flow characteristics. Flow testing will take 4 weeks, including setting up and removing the test equipment. The actual gas flow testing will take 2 weeks of the 4 week period.

During the flow testing, the gas is allowed to flow out of the mine at a monitored rate and then shut off to allow for measurements to assess how quickly the coal mine methane pressure rises again, the gas cannot be used and so will be burned in a flare.

The flare has to be big enough to cope with gas flow rates of varying volumes. The peak capacity of the chosen flare is greater than 10 tonnes per day and so would normally need to be permitted under the IED as a waste disposal of hazardous waste operation with a capacity greater than 10 tonnes per day.

During testing the flare will operate for 23 hours per day with the well shut in for 1 hour per day to measure pressure growth. During the entire 14 days flow testing, the flare will be set to only burn 10 tonnes of gas (494m³ for 23 hours). On one day the flow rate will be increased to 1420m³ per hour but only flowed for 8 hours. On this day the flare is operating at a capacity greater than 10 tonnes per day – even though it will only actually burn 10 tonnes during the day.

We have decided that the site should not be permitted as an IED activity for the test period despite the fact that they will be using a flare with a capacity greater than 10 tonnes per day. Because the flare will only be operating for a total of 2 weeks, the 10 tonnes per day capacity will only be used for one of those days and that the flare will not actually burn greater than 10 tonnes on any day.

The Operator will do background air monitoring (covering methane, NO_x, CO and VOC's) for two weeks prior to flaring and continue monitoring during flaring to demonstrate that any emissions released as a result of the flaring will be minimised as much as possible during the short period the flare is in operation.

Mining Waste

A Waste Management Plan (WMP) has been submitted which includes a description of the processes that will generate extractive waste, the waste types, how they will be minimised and how they will be stored on site. The Operator must operate the flow testing in accordance with the WMP (ref) which forms part of the permit.

We have approved the WMP and we are satisfied that the Operator (from time to time also addressed as 'the Applicant' in this document) will operate the regulated facility accordingly, complying with the requirements of the Mining Waste Directive.

Waste Management Plan

Under the Mining Waste Directive (Article 5) an Operator of a mining waste operation must draw up a waste management plan (WMP) for the minimisation, treatment, recovery and disposal of extractive waste. We have assessed the Applicant's WMP in line with the requirements of Article 5. We have approved the plan subject to conditions in the permit. We are satisfied the permit requirements, including the WMP, will protect the environment and that the Directive requirements of Articles 4 and 5 of the MWD are met.

The WMP provides that the material inputs have been selected to minimise risk and will be restricted to the minimum amount necessary, thereby minimising the amount of waste generated as required by the MWD. It provides an estimate of the amount of each waste that will be managed. Wastes arising from the activities will be recovered where possible. It also characterises each waste type.

The WMP is incorporated into the permit by means of condition 2.3.1 and table S1.2. The WMP needs to be reviewed every 5 years but in the unlikely event that the activities give rise to pollution, condition 2.3.2 enables us to require a revision of the plan to be submitted to us for approval and thereafter implemented. Condition 2.3.3 is a standard condition and refers to an extended time period. Although the condition is used in the permit, we do not expect the mining waste operation to extend beyond two to three months.

The regulations define a mining waste operation as the management of any extractive waste that falls within the scope of the Mining Waste Directive. For Kellingley CMM site, all areas associated with the storage and handling of extractive wastes including drilling muds, drill cuttings and cement will be treated as mining waste operations.

The extractive wastes that will need to be managed on site as described in the Waste Management Plan are:

- Water based drilling muds/cuttings
- Natural/formation gas
- Suspension/spacer/produced fluid

- Gas condensate

All wastes will be disposed of to a permitted disposal or treatment site using a registered waste carrier.

The quantity of waste produced will be monitored and recorded. The data will be used to inform waste prevention and reduction strategies.

At the conclusion of the drilling operation the drilling rig will breach a roadway of the abandoned mine, at this point a quantity of drilling mud and cuttings will be lost to the roadway, it is estimated that up to 29m³ of drilling mud and up to 2m³ drill cuttings will be left in the mine. We consider that the volume of waste is so small as to not be classified as a permanent deposit of waste and therefore doesn't constitute a waste facility.

Groundwater Activity

In addition to information provided by the Applicant, we have carried out our own groundwater risk assessment.

We have evaluated whether a Groundwater Activity Permit is required. Based on the information presented, we have determined that a Groundwater Activity Permit is not required for the proposed activity which is limited to flow testing and acidisation, based on the following:

- We consider that the use of the acid to clean the well will comply with the groundwater activity exclusion under the EPR 2016 (paragraph 3.3(b) of Schedule 22) in that any discharge to groundwater that may occur would be of a quantity and concentration so small as to obviate any present or future danger of deterioration in the quality of any receiving groundwater and that a permit will therefore not be required.
- The process of acidisation added to the well testing operations will not increase any risk to groundwater. The borehole design and construction details have already been assessed as part of the original permit and we are satisfied that they comply with the standards to prevent release of fluids to underground strata. We are therefore satisfied that there is no likelihood of environmental risk from this process.

Emissions to air – volume of gas flared

Under a Regulatory Position Statement – as detailed in the section above - we have approved that gas can be flared at a volume of greater than 10 tonnes per day as a mining waste activity instead of an IED activity, as the operator/applicant has demonstrated that the impact from the produced gas will be for a reduced time period and will therefore be below the insignificance threshold for the relevant air quality standards for the potential pollutants it may contain.

The flared gas from the wellsite will pass through an enclosed flare designed to incinerate natural gas across a variable range of flow rates and pressures. Gas flaring will be limited to below 10 tonnes per day, as stipulated in the approved WMP, except for the short period when the flaring will exceed 10 tonnes per day, as detailed above.

Emissions to water

There are no point source emissions to water. The drill site area is underlain with an impermeable membrane, there will be a fall of approximately 100mm across the site, any fluids captured on site and directed to a collection sump which will be pumped out and removed from site to an appropriately permitted waste treatment facility.

The sump is connected to an interceptor. An inline penstock isolation valve will be installed on the inlet chamber to the interceptor so the flow of surface water through the interceptor can be stopped, when required.

When the site is vacant and not being used for drilling or testing operations, the penstock valve will be left open. Any surface water falling onto the borehole platform will then pass through the sump and on into the interceptor, from where it will be discharged into the ground by a series of Herringbone drains.

There is bunding around storage container areas, to contain any spillages. Management procedures are in place to inspect bunds and ensure safe handling of materials during the transfer / delivery process.

Financial competence

As per Article 14 of the Mining Waste Directive (2006/21/EC), there is no requirement for financial provision in a permit where the management of extractive waste does not involve a waste facility.

Additionally, we have carried out a financial check of the Operator. This check has not identified any reason to consider that the operator will not be financially able to comply with the permit conditions.

Decision checklist

Aspect considered	Decision
Receipt of application	
Confidential information	A claim for commercial or industrial confidentiality has not been made.
Identifying confidential information	We have not identified information provided as part of the application that we consider to be confidential.
Consultation	
Consultation	<p>The consultation requirements were identified in accordance with the Environmental Permitting Regulations and our public participation statement. The application was publicised on the GOV.UK website.</p> <p>We consulted the following organisations:</p> <ul style="list-style-type: none"> Public Health England Planning Mineral Planning Health & Safety Executive <p>The comments and our responses are summarised in the consultation section.</p>
Operator	
Control of the facility	We are satisfied that the applicant (now the operator) is the person who will have control over the operation of the facility after the grant of the permit. The decision was taken in accordance with our guidance on legal operator for environmental permits.
The facility	
The regulated facility	<p>We considered the extent and nature of the facility at the site in accordance with RGN2 'Understanding the meaning of regulated facility', Appendix 2 of RGN 2 'Defining the scope of the installation', Appendix 1 of RGN 2 'Interpretation of Schedule 1', guidance on waste recovery plans and permits.</p> <p>The extent of the facility is defined in the site plan and in the permit. The activities are defined in table S1.1 of the permit.</p>

Aspect considered	Decision
The site	
Extent of the site of the facility	The operator has provided a plan which we consider is satisfactory, showing the extent of the site of the facility. The plan is included in the permit.
Site condition report	The operator has provided a description of the condition of the site, which we consider is satisfactory. The decision was taken in accordance with our guidance on site condition reports.
Waste management plan	The operator has provided a waste management plan which we consider is satisfactory.
Biodiversity, heritage, landscape and nature conservation	The application is not within the relevant distance criteria of a site of heritage, landscape or nature conservation, and/or protected species or habitat.
Environmental risk assessment	
Environmental risk	<p>We have reviewed the operator's assessment of the environmental risk from the facility.</p> <p>The operator's risk assessment is satisfactory.</p>
Operating techniques	
General operating techniques	<p>We have reviewed the techniques used by the operator and compared these with the relevant guidance notes and we consider them to represent appropriate techniques for the facility.</p> <p>The operating techniques that the applicant must use are specified in table S1.2 in the environmental permit.</p>
Permit conditions	
Use of conditions other than those from the template	Based on the information in the application, we consider that we do not need to impose conditions other than those in our permit template.
Pre-operational conditions	<p>Based on the information in the application, we consider that we need to impose pre-operational conditions.</p> <p>The operator shall provide the Environment Agency at least 7 days advance notice of intended date to flare in accordance with the Flare Appraisal & Design document referenced in Table S1.2, plus immediate notice of any change to schedule.</p>

Aspect considered	Decision
Monitoring	<p>We have decided that monitoring should be added for the following parameters, using the methods detailed and to the frequencies specified:</p> <p>For the flare:</p> <ul style="list-style-type: none"> • Oxides of Nitrogen • Carbon monoxide • Total volatile organic compounds (VOCs) • Methane concentration in flare feed gas • Flare gas feed rate • Flare combustion temperature
Reporting	<p>We have added reporting in the permit for the parameters detailed above, to ensure that the flare is being operated in an efficient manner.</p>
Operator competence	
Management system	<p>There is no known reason to consider that the operator will not have the management system to enable it to comply with the permit conditions.</p> <p>The decision was taken in accordance with the guidance on operator competence and how to develop a management system for environmental permits.</p>
Financial competence	<p>There is no known reason to consider that the operator will not be financially able to comply with the permit conditions.</p>
Growth Duty	
Section 108 Deregulation Act 2015 – Growth duty	<p>We have considered our duty to have regard to the desirability of promoting economic growth set out in section 108(1) of the Deregulation Act 2015 and the guidance issued under section 110 of that Act in deciding whether to grant this permit.</p> <p>Paragraph 1.3 of the guidance says:</p> <p>“The primary role of regulators, in delivering regulation, is to achieve the regulatory outcomes for which they are responsible. For a number of regulators, these regulatory outcomes include an explicit reference to development or growth. The growth duty establishes economic growth as a factor that all specified regulators should have regard to, alongside the delivery of the protections set out in the relevant legislation.”</p> <p>We have addressed the legislative requirements and environmental standards to be set for this operation in the body of the decision document above. The guidance is clear at paragraph 1.5 that the growth duty does not legitimise non-compliance and its purpose is not to achieve or pursue economic growth at the expense of necessary protections.</p> <p>We consider the requirements and standards we have set in this permit are reasonable and necessary to avoid a risk of an unacceptable level of pollution. This also promotes growth amongst legitimate operators because the standards applied to the operator are consistent across businesses in this sector and have been set to achieve the required legislative standards.</p>

Consultation

The following summarises the responses to consultation with other organisations, our notice on GOV.UK for the public, and the way in which we have considered these in the determination process.

Responses from organisations listed in the consultation section

Response received from
Public Health England
Brief summary of issues raised
<p>We would ask the Environment Agency to take account of the following comments when considering appropriate permit conditions:</p> <ol style="list-style-type: none"> 1. The applicant has not considered point source emissions from e.g. diesel fuelled plant on site. The Regulator should be satisfied that the applicant has fully considered the cumulative emission impact of all operations; 2. The regulator should be satisfied that the assessment of emissions to air from the long term generation of electricity and suitable monitoring regime is in place; and 3. The regulator should be satisfied that the potential impacts on local residents from noise generated by site operations during all stages of the process have been fully assessed.
Summary of actions taken or show how this has been covered
<ol style="list-style-type: none"> 1. The operation of the diesel fuelled plant on site is not part of the activities controlled by the permit. However any emissions from the diesel fuelled plant when operational, would contribute to overall background levels which could be identified during ambient air monitoring. The existing background levels that we use for comparison are relatively low and we are satisfied that the short term operation of the diesel fuelled plant will not contribute to the background levels in a way that any air quality Health Based Standards will be breached. 2. The operation of long term generation of electricity is not part of the activities controlled by the permit. Planning conditions will be in place to regulate the production phase of the operation should it reach the point of sustainable generation of electricity to export to the national grid. 3. We carefully considered emissions from noise and vibration from the activities we regulate, during our determination and concluded that noise and vibration from the regulated activities are not likely to be an issue due the design of the flare, the rural location of the site, the distance to the nearest receptor (250 metres) and the level of background noise. We are satisfied that the environmental risk assessments contain adequate measures to manage noise and vibration from the regulated activities. This includes the construction of earth bunds around the site to provide noise attenuation and screening. Acoustic cladding of equipment will also be implemented across the site to reduce noise of plant. Condition 3.4 in the permit requires that all appropriate measures are taken to ensure that emissions from the activities likely to cause pollution from noise or vibration outside the site are prevented or where that is not possible, minimised. We have included condition 3.4.2 in the permit. This condition enables us to require the Operator to submit a specific noise and vibration management plan, should noise and vibration become a problem. Should a plan be required in the future, once we have assessed this plan as suitable, it will form part of the permit and the Operator must carry out the activity in accordance with the approved techniques.