

# Permitting decisions

## Variation to permit

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We have decided to issue the variation for Weston Common Gathering Centre operated by Humbly Grove Energy Limited.

The variation number is EPR/TP3638CT/V002

We have also carried out an Environment Agency initiated variation to the permit.

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.

This variation is required as the Environment Agency has a duty, under the Environmental Permitting (England and Wales) Regulations 2016, regulation 34(1), to periodically review permits. As a result of that review we have identified a number of necessary changes we must make to reflect current legislation and best practice. These changes principally relate to:

- Implementation of the Mining Waste Directive namely the addition of extractive waste management activities;
- Addition of groundwater activities;
- Oil storage activities; and
- Gas Refining activities.

The variation also aims to:

- Consolidate all previous variations to the original permit so as to bring them together into one permit so the requirements will be clearer.
- Formalise changes to monitoring requirements and compliance limits where we have agreed them in writing, for example as the result of a hydrogeological risk assessment review.
- Address site specific issues which result in a change to the current permit, for example incorporating completed improvement conditions into the permit and removing inconsistencies.

## Purpose of this document

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
- explains why we have also made an Environment Agency initiated variation

- 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.

## Radioactive Substances

### Preliminary information

The Applicant also submitted a permit application for a radioactive substances activity, which we have given the application number EPR/YB3194DQ/A001. That application is a standard rules application for a separate permit for the handling of naturally occurring radioactive materials (NORM) wastes from oil production. The decision with regards to that application is not dealt with in this document.

### Brief outline of the process

The installation comprises of two technically linked activities, an oil gathering site and gas storage facility at Weston Common and three outlying oil well sites (Humbly Grove Well Sites A, C and X). Wellsite C was abandoned in 2017 and production has ceased, but the connecting pipeline and site soakaways are still in place. The well sites are connected to the Gathering Site by underground pipelines.

Well site A is located in Humbly Grove Copse, on the outskirts of Humbly Grove Village. Well site X is located south of the village of Blounce, just off the B3349 on the edge of a small wooded area at the junction of the B3349 and an access track to well site A.

The Gathering Site receives crude oil from the well sites by underground pipeline and the oil is then stabilized by removing water and gas and then pumped by pipeline to a third party owned rail terminal at Holybourne for delivery to customers. The Gathering Site where the main processing takes place, comprises the following:

- Crude oil receipt;
- Pipelines connecting the Gas and Oil Plant to Well Sites A, C and X;
- Tanker loading and unloading (crude oil);
- Tanker loading and unloading (produced water);
- Crude oil stabilisation (three phase separation);
- Crude oil dehydration (electrostatic coalescer);
- Crude oil storage (1 tank with 79.55 tonne/ 120m<sup>3</sup> capacity);
- Produced water handling and storage;
- Energy generation through three open cycle gas turbines (15.49 MWth input each); and
- Enclosed ground flare (High pressure and low pressure systems linked to separators for emergency and disposal).

The Gas Storage facility consists of a gas plant at Weston Common, with the use of a local Well site (Well site A) for injection and withdrawal of the storage gas via wells into the Great Oolite and Rhaetic Formations. Gas is taken from the National Transmission System (NTS) and connected via a 24" 27 km pipeline to the gas plant, with a 2km 20" pipeline connecting the Gas Plant to Well site A. Fluids produced by the facility are handled and treated at the Oil Gathering site. The gas plant comprises the following:

- Gas compression for import/export of gas from/to the NTS;
- Hydrogen Sulphide (H<sub>2</sub>S) absorber for export to the NTS;

- Three adsorber towers for gas dehydration and dewpoint control for export to the NTS;
- One regeneration gas heater;
- One regeneration gas cooler;
- One regeneration gas/liquid separator;
- One regeneration liquid holding vessel;
- Fines filters; and
- Energy generation through one open cycle gas turbines.

The main atmospheric emissions from the installation are combustion gases from process heaters, ground flare and from gas turbines used to generate electrical power for the site. There is minimal material usage on the site and no process wastewater discharge to either sewer or controlled water, though rainwater run-off is discharged to soakaways. The produced water is reinjected, with condensate comingled with the crude oil for export.

Table 1 – wellsite summary

Site Name / Reference	Site Location (Grid Ref)	Description of process and activities	Emissions
Gathering Site (including underground gas storage facility)	SU 69215 44575	3 thermal input Gas turbines (3 x 15.49 MWth) High pressure oil heater (1.25MWth) Regeneration gas heater (8.32MWth) (aggregated at 56.04 MWth in total ) High pressure and low pressure emergency and disposal ground flare Crude oil stabilisation (three phase separation) and dehydration (electrostatic coalescer) Crude oil and produced water storage tanks Diesel powered emergency generator Gas refining Storage of gas underground in Great Oolite and Rhaetic Formations as groundwater activities	Oxides of Nitrogen, Carbon Monoxide, Volatile Organic Compounds, Methane Hydrogen Sulphide Site rain water run off to ground via soakaways
Well Site A	SU 70553 45290	Primary purpose is gas storage Injection of natural gas for underground storage: 4 wells into Great Oolite Formation (well A8, A9, A10 and A11) (well A5 observation well only) 2 wells into Rhaetic Formation (well A13 and A15) (well A1 observation well only) Flow inhibitor, scale inhibitor, H2S scavenger, and anti-foam injection	Natural gas injection limits: Maximum daily discharge volume and Maximum rate of discharge Site rain water run off to ground via soakaways
Well Site C	SU 69610 44871	Production ceased in 2017. 9 wellheads, all decommissioned. Pipeline to wellsite C and soakaways in place.	None but IC10 applies
Well Site X	SU 71151 44830	3 oil production wells 2 produced water injection wells (X2 and X3) via booster pump and plus one oil production well (X4) which can be used on standby to reinject produced water subject to pre operational condition PO 01 H2S scavenger injection and scale inhibitor. Scale inhibitor and anti-foam injection	Produced water reinjection limits: Maximum daily discharge volume and Maximum rate of discharge Site rain water run off to ground via soakaways

## Description of the changes introduced by the variation

This is a variation to add or change the following activities.

1. Installation Activities, oil storage and handling has been changed to a schedule 1.2 A(1)(e)(i) activity under the Industrial Emissions Directive and updated Environmental Permitting (England and Wales) Regulations 2016, as a result of renumbering of schedule 1 activities in the updated regulations. This activity was previously permitted as 1.2A(1)(h)(i) in the existing permit. The existing oil storage activities on site have not changed from those currently permitted.
2. Installation Activities, refining gas over 1000 tonnes per year under schedule 1.2 Part A(1)(a). This has been carried over from the current permit.
3. Installation Activities, burning fuel in an appliance remains a schedule 1.1 Part A(1) (a) activity for burning any fuel in an appliance over 50MW thermal input, as the gas turbines and heaters at the Gathering Station are aggregated at more than 50MW thermal input, in table 1 below.
4. Installation Activities, the flare (high and low pressure system) has been changed to a schedule 5.1 Part A(1)(a) activity for incineration of hazardous waste above 10 tonnes per day, as it includes disposal of natural gas, in addition to emergency and maintenance usage. The flare activities on site are unchanged, but its regulation has been aligned with the Environmental Permitting Regulations and our sector guidance.
5. A Mining Waste Operation, involving a Mining Waste Facility as defined by the Mining Waste Directive (2006/21/EC) and Schedule 20 of the Environmental Permitting (England and Wales) Regulations 2016, as amended, relating to the management of extractive waste from well maintenance and abandonment. The permit is being varied to include activities specified by the approved Waste Management Plan. This includes addition of a non-hazardous mining waste facility for temporary storage of produced water on site prior to offsite disposal only. This is a contingency arrangement as the produced water is typically used onsite for reinjection for production support, which does not constitute a mining waste facility. The activities generating extractive wastes include: well maintenance, well workovers and abandonment, and venting of gas from storage tanks and combustion of gas in the ground flare. Routine well maintenance includes dewaxing and descaling of tubing. Non routine maintenance includes workovers, which involve kill fluid, corrosion inhibitor, biocide and oxygen scavenger, and removal of tubing for inspection. These are not new activities, and were previously covered by the operators operating techniques in their existing permit.
6. Groundwater activities, as defined by the Groundwater Directive and Schedule 22 of the Environmental Permitting (England and Wales) Regulations 2016 as amended, for reinjection of produced water for production support, and for injection of gas into the Great Oolite and Rhaetic Formation for temporary storage, and for discharges of site surface drainage to soakaway.

## Key issues of the decision

### Site Name

The Site Name has been corrected from 'West' Common to 'Weston' Common.

### Installation activities

Oil storage and treatment activities have been changed from Schedule 1.1A(h) to schedule 1.2A(1)(e)(i) as a result of renumbering of the Environmental Permitting (England and Wales) Regulations 2016. Whilst activities haven't changed, the installation boundary has increased as a result of the underground gas storage area being defined in more precise detail on the updated site plans under this permit. We have received an updated site condition report as part of this application.

Wellsite C ceased production in 2017. All 9 Wellheads have been decommissioned and just the existing site infrastructure remains in place (pipeline to well site C and surface drainage soakaways). We have included

as site specific improvement condition (IC10) which requires the operator to ensure that there is a plan in place for future decommissioning and to ensure there are no potential pollution pathways to groundwater from this wellsite in future.

### **Emissions to air**

Emission point A4 has been removed from the existing permit under this variation as the associated low pressure Production Crude heater previously under this emission point reference is no longer in use at the site. A new emission point AR10 has been added for the oil storage tank which has an emergency vent to atmosphere. This is existing infrastructure, but not captured on the permit previously.

### **Gas Flare**

The gas flare at the Gathering Station is used for the flaring of surplus gas produced during site operations and also as an emergency flare (low pressure maximum design capacity is 27 tonnes per day and high pressure system is designed for a maximum of 182.4 tonnes per day). The LP Coanda flare takes waste gas from the 2<sup>nd</sup> stage separator that can't be utilised on site. The main HP flare (fin plate burners) only takes gas during emergencies. Both flares are contained within the same enclosure (emission points A4 and A5). The low pressure gas flare has a capacity of over 10 tonnes per day for disposal. As a result of this reclassification of the flare capacity under this permit review the gas flare will change from a directly associated activity (DAA) to a listed A1 activity under schedule 5.1A(1)(a) for incineration of hazardous waste over 10 tonnes per day in the Permit in Table S1.1 in accordance with the Industrial Emissions Directive.

### **Gas Refining**

In the variation application the Operator requested that their current gas refining listed A1 activity be removed from the permit as they believed their activities did not meet the definition of refining. We have considered this request, but we did not agree and it was rejected as their definition of refining they used was based on oil refining and not that for gas refining, making their justification void. The activities carried out on site are still classified as gas refining, as they are more than just moisture or dust removal, and still require an Installation Permit, as in the existing Permit. Therefore, this activity remains in the Permit as a Listed Activity under Permit Table S1.1. The operator has also confirmed that no gas odourisation takes place, so this has not been added as a part B activity under this permit.

### **Gas Turbines**

The burning of fuel in appliances remains an A1 activity in the current permit as there are 3 gas turbines, an oil heater and regeneration gas heater on site with an aggregated thermal input of 56.04MW, which is above the 50 MW threshold.

### **Mining Waste Activities**

#### **Mining Waste Facility - Produced Water**

The Operator routinely re-injects all produced water on site into the Great Oolite Formation for production support. However, the operator would like to retain some contingency in the permit to send produced water offsite for disposal if unable to re-inject for any reason. The intention would be to send to Palmers Wood, operated by IGas as highlighted in the waste management plan. The produced water will be stored in the produced water tank on site. As this storage of extractive waste pending disposal constitutes a non-hazardous mining waste facility this has been added to the permit as an area for accumulation of extractive waste pending disposal.

The Operator sampled and analysed the produced water at Weston Common and used the results to complete a waste classification assessment in accordance with Environment Agency Technical Guidance WM3. This shows that the produced water does not exceed the hazardous property thresholds and is classified as non-hazardous. Produced water sampling results from July 2018 gave a residual TPH result of 97.55ppm which meets the industry best practice level for separation of 100ppm oil remaining. The most appropriate EWC Code for their produced water is therefore 16 10 02. This has been confirmed in the latest waste management plan which was updated in March 2020 to reflect this.

The operator has also confirmed in the revised Waste management Plan dated 1<sup>st</sup> April 2020 and their previous response to the schedule 5 notice on 6<sup>th</sup> June 2018, there is no Cat A facility present as no hazardous mining / extractive wastes would be stored on site at the end of operations.

### **Other Mining Waste activities**

Mining waste activities include well maintenance and abandonment/decommissioning

The operator may undertake near wellbore treatments during the life time of hydrocarbon production from the wells, as part of routine maintenance activities. These will include a wax dissolver treatment and a descaling treatment which is consistent with an acid wash. The purpose of the wax dissolver treatment is to dissolve asphaltines and waxes produced by crude oils that can deposit on down hole tubulars and rod strings. The process involves circulating the wax dissolver chemical down the borehole to dissolve these deposits. The fluid then is returned in the oil phase to the surface. This process will not have significant contact with the reservoir and does not pose a risk to groundwater. We have considered the wax dissolver treatment as described in the waste management plan and concluded it meets the groundwater activity exclusion as described in Schedule 22 Paragraph 3.3(b) of the Environmental Permitting Regulations.

The purpose of the descaling treatment (acid wash) is to remove produced water scales which can deposit on rods, tubes, pumps and casing perforations. A solution of 22% formic acid is circulated down the well and across the perforated sections of the well. The acid reacts with the minerals in the formation at the perforated section of the well and is returned to the surface. We have considered the descaling treatment (acid wash) as described in the waste management plan and concluded that it meets the ground activity exclusion as described in Schedule 22 Paragraph 3.3(b) of the Environmental Permitting Regulations.

The operator is not proposing and has not applied to hydraulically fracture under this variation as part of their waste management plan, but for the avoidance of doubt we have specifically excluded any hydraulic fracturing under the permitted mining waste activities under activity AR7 of table S1.1.

### **Groundwater Activities**

A groundwater activity, in general terms, is defined in Schedule 22 of the 2016 Regulations as meaning the discharge of a pollutant that results in the direct input of that pollutant to groundwater, or a discharge of a pollutant in circumstances that might lead to an indirect input of that pollutant to groundwater or any other discharge or activity that might lead to a direct or indirect input of a pollutant to groundwater.

There are a number of groundwater activities at this site. There are two re-injection boreholes and a production borehole which can be used as a re-injection borehole which re-inject produced water into the Great Oolite Formation. The Great Oolite Formation is the producing reservoir for this site. Natural gas from the National Transmission System (NTS) is also discharged via seven boreholes into two separate formations for storage purposes.

These discharges are a direct discharge to groundwater which is prohibited under by the Water Framework Directive except under certain exemptions. Two of these exemptions are:

*The injection of water containing substances resulting from the operations for exploration and extraction of hydrocarbons or mining activities, and injection of water for technical reasons, into geological formations from which hydrocarbons or other substances have been extracted or into geological formations which for natural reasons are permanently unsuitable for other purposes, provided that the injection does not contain substances other than those resulting from the above operations.*

*The injection of natural gas or liquid petroleum gas for storage purposes into geological formations which for natural reasons are permanently unsuitable for other purposes*

We are satisfied that these activities meet the above exemptions. A permit can only be granted provided it does not compromise the achievement of any of the environmental objectives relating to groundwater in Article 4 of the Water Framework Directive. We have given detailed consideration to the proposal we are satisfied that none of the relevant environmental objectives set out in Article 4 of the Water Framework Directive will be compromised.

We have reviewed the Hydrogeological Risk Assessment (HRA) submitted with the supporting documents against our information and conceptual understanding of the location. We are satisfied that the potential risks to groundwater have been identified and addressed through mitigation measures and controls specified in this permit. This includes a requirement for a revised groundwater monitoring plan to be carried out under Improvement Condition (IC) 3 to ensure that the risk of pollution from re-injection of produced water continues to be assessed throughout the lifetime of the permit. We are also satisfied that all chemicals used are either intrinsic to the operations or meet the requirements for a de minimis exclusion and are therefore not separate groundwater activities in their own right. These include biocides and corrosion inhibitors used as detailed in the HRA.

As outlined further down in this document, the Great Oolite Formation and Rhaetic Formation are both classed as permanently unsuitable for other purposes at this location in accordance with the Environment Agency's Groundwater protection technical guidance. We are satisfied that the injection of natural gas for storage purposes only into the Great Oolite and Rhaetic Formations will not compromise any Water Framework Directive objectives for these groundwater bearing formations.

#### **Re-injection of Produced Water:**

Produced water is re-injected into the Great Oolite Formation using three existing boreholes. Boreholes X2 and X3 are re-injection boreholes and borehole X4 is a dual purpose borehole used for production and a standby for re-injection. X4 is subject to additional pre-operational conditions prior to being used for reinjection. The re-injection of produced water into the Great Oolite Formation is a groundwater activity and is included in the new Permit in Permit Table S1.1. There are no changes to the existing activities taking place on site.

#### **Injection of natural gas for storage purposes**

To satisfy the requirement of 'permanently unsuitable' referred to in the first indent of Article 11.3.(c) of the Water Framework Directive, natural gas needs to be injected for storage purposes into geological formations, which for natural reasons are permanently unsuitable for other purposes.

As part of the application, the operator has provided technical information to support a Permanently Unsuitable assessment for the Great Oolite Formation and the Rhaetic Formation. The operator discharges natural gas from the National Transmission System into two depleted oil reservoirs in the Great Oolite reservoir and Rhaetic reservoir through six injection boreholes (4 wells into Great Oolite Formation (well A8, A9, A10 and A11) (well A5 is an observation well only) and 2 wells into Rhaetic Formation (well A13 and A15) (well A1 is an observation well only).

The Great Oolite reservoir is located approximately 1000 metres (m) below sea level and is around 145m thick. The deeper Rhaetic reservoir is present approximately 1325 m below sea level and is around 40 m thick.

The two gas storage reservoirs cover a surface area of approximately 16,724 kilometres squared (km<sup>2</sup>). The lateral extent of the storage reservoirs is limited by a dome like structure and faulting. The gas will remain trapped in the reservoir in this dome like structure which has dip closure. The operator has provided evidence which shows that there is a decline in the porosity and permeability of the rock formations in down flank wells. The rock formations are also relatively incompressible and the compressibility of the gas means that it is not able to exert a large force on the relatively incompressible formation and push it deeper, down flank and out of structure. Instead the gas compresses and remains within the Humbly Grove dome structure.

At the site, the Great Oolite Formation is overlain by 100m of fine grained mudstone of the Oxford Clay which forms a barrier between the storage reservoir and shallower aquifers. The lower Rhaetic Formation is overlain by more than 200m thick silty mudstones which acts to form a barrier between this deeper storage reservoir and the Great Oolite storage reservoir.

Our conceptual understanding is that groundwater in the Great Oolite and Rhaetic Formations is very mineralised, very saline and not a quality likely to be used in the future as a source of drinking water supply. Groundwater in the Great Oolite and Rhaetic Formations is considered permanently unsuitable due to the following factors taken into account regarding these two formations covering the area of the storage reservoirs and at the discharge location. These are outlined in our Groundwater Protection Technical Guidance. In summary:

- Groundwater is present in the Great Oolite and Rhaetic Formations but it is isolated from the surface and confined by the overlying Oxford Clay. Due to the isolated nature of the groundwater, it is naturally saline and contains naturally occurring dissolved hydrocarbons. Both storage reservoirs have been exploited for hydrocarbons in the past, therefore the injection and storage of natural gas will not cause a discernible change in groundwater quality.
- The Great Oolite and Rhaetic Formations have previously been exploited for ground resources. They are not currently used for geothermal energy or ground source heating and cooling. The injection and storage of natural gas would not change the conditions of the formations so that it could not be used for geothermal energy, ground source heating or cooling or extraction of ground resources. These formations are naturally occurring hydrocarbon reservoirs and considerable volumes of hydrocarbon will remain after gas storage ceases. Due to the significant depth of these reservoirs they are unable to store usable quantities of water.
- The Great Oolite and Rhaetic Formations are isolated permeable formations of limited lateral extent. The injection of potable water is likely to result in a quality deterioration due to the presence of naturally occurring hydrocarbons and saline groundwater, therefore any stored water would be compromised as an extractable supply. Therefore due to the significant depth of these reservoirs they are unable to store useable quantities of water for future potable use.
- Groundwater is not abstracted in both formations due to isolated nature of formations at this location. Groundwater in these formations is naturally highly saline and contains naturally occurring dissolved hydrocarbons. This makes it unsuitable for abstraction for potable supply, irrigation or other industrial uses.
- Groundwater in the Great Oolite Formation and Rhaetic Formation does not support and is not capable of supporting spring flow, watercourse or a wetland and their ecosystems. The groundwater is confined by low permeability strata and does not discharge to another formation.

The extent of the formations designated as permanently unsuitable for other purposes is defined as follows:

- horizontally by a rectangular area defined by the following National Grid Reference co-ordinates: 467500 144000, 467500 146500, 474000 146500, 474000 144000; and
- vertically by approximately: -1,000 to -1,145 metres above ordnance datum (Jurassic Great Oolite) and -1325 to -1,365 metres above ordnance datum (Triassic Rhaetic)

We have included the following limits and conditions in the permit to mitigate against potential pollution of groundwater from the re-injection of produced water and injection and storage of natural gas:

- The permit includes a requirement for the operator to monitor the maximum daily discharge volume and rate of discharge of produced water and natural gas and report this to us.
- We have also inserted pre-operational conditions PO 01 to PO 03 prior to borehole X4 (which is currently an oil producing well) at Wellsite X being used for produced water reinjection. These ensure that baseline conditions are monitored and we are notified prior to commencement of the activity. The pre-operational conditions also require the reinjection activities are carried out in accordance with the approved Hydrogeological Risk Assessment which forms an operating technique under table S1.2 of the permit.



### **Site surface water soakaways (new and existing):**

The existing permit included 2 discharges of site surface water to ground via a soakaway at emission points W2 (Gathering Site bund and surface water) and W3 (Gas Plant surface water). The permit has been updated and these discharges, along with those from the other wellsites are now shown as groundwater activities under this permit. (Wellsite C is decommissioned and a separate improvement condition IC 10, covers the decommissioning of these soakaways).

The permit now includes 3 groundwater activities for the discharge of site surface water to groundwater via soakaways at each site (3 soakaways at Wellsite A, 3 soakaways at wellsite X, 2 soakaways at the Gathering Station: oil and gas plant). The discharge of site surface water to ground is an indirect discharge to groundwater and therefore a permitted groundwater activity in accordance with Schedule 22 to the Environmental Permitting Regulations 2016.

Discharge parameter limits for volume, rate, total petroleum hydrocarbons, chloride, pH and sodium and are included in Table S3.2 of the permit as a standard suite to assess any potential impact to groundwater in the underlying Chalk Principal aquifer.

As part of Improvement Condition 7 the operator will also review the interim discharge parameter limits in the permit for the soakaway discharges to clarify how the environment is being protected. The operator will need to monitor the quality of the soakaway discharge for a suite of parameters specified in Table S3.2 of the permit. The operator will also need to use the data collected to carry out a numerical risk assessment and derive site specific quality limits for the discharge that are protective of the groundwater environment and outline how these will be implemented in the Surface Water Management Plan.

Historically there have also been additional soakaways on site with separate discharge consents still held by previous Operators of the site, that have never been transferred over to the current Operator Humbly Grove Energy Limited. During determination we worked with Humbly Grove Energy Limited and the previous Operator (IGas Energy plc) to get them transferred over. This has taken place as detailed below and Humbly Grove Energy Limited have provided consent for them to be consolidated into the new permit. These additional discharges to soakaway have been reviewed and have been included in the new permit as Groundwater Activities within Permit Table S1.1

The relevant historic surface water discharge consents are:

Permit references CP334 (for 4 discharges of site runoff to soakaway at well site A) and CP340 (for 4 discharges of site runoff to soakaway at well site X) both issued in 1985 and previously held by Star Energy, (part of IGas Energy Plc). These were transferred to Humbly Grove Energy Limited on 31/08/16 (e-mail confirmation received 09/08/16). These historic permits have been superceded by the discharges to soakaway authorised under this permit. Details of these consents were provided as response to Schedule 5 notice 06/08/2018 (question 20) and original copies of consents in Appendix A in non-technical summary from application 10/07/2017.

In addition there are a number of consents in place for small discharges of sewage effluent at each wellsite. These are separate consents which do not form part of this permit review and consolidation. We have advised the operator to contact Star Energy to either revoke these if no longer used or transfer across to Humbly Grove Energy, and to ensure the necessary permissions are in place going forward as a compliance issue with the site inspector.

TH/CTWC.0331/001 (wellsite A) revoked from Star Energy 18/08/2006.

TH/CTWC.0341/001 (wellsite X) current / active under Star Energy.

TH/CTWC.0339/001 (wellsite C) current / active under Star Energy.

TH/CTWC.0335/001 (wellsite A) current / active under Star Energy.

There are no changes to the existing activities taking place on site. The permit review has just clarified the discharges to soakaway of potentially contaminated site runoff water and clean rainwater from roofs and non-operational areas of the site as per the updated site plans in schedule 7.

## Decision checklist

Aspect considered	Decision
<b>Receipt of application</b>	
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.
<b>Consultation</b>	
Consultation	<p>The consultation requirements were identified in accordance with the Environmental Permitting Regulations and our public participation statement.</p> <p>The application was publicised on the GOV.UK website.</p> <p>We consulted the following organisations:</p> <ul style="list-style-type: none"> <li>• Local Authority, Environmental Protection,</li> <li>• Food Standards Agency</li> <li>• Health and Safety Executive</li> <li>• Mineral Planning Authority,</li> </ul> <p>The comments and our responses are summarised in the <a href="#">consultation section</a>.</p>
<b>Operator</b>	
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.
<b>The facility</b>	
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 defined in the site plan and in the permit. The activities are defined in table S1.1 of the permit.</p>
<b>The site</b>	
Extent of the site of the facility	The operator has provided plans which we consider are satisfactory, showing the extent of the site of the facility including emission and discharge points. The plans are included in schedule 7 of the permit.
Site condition report	The operator has provided a description of the condition of the site. We have assessed the site condition report and concluded that it will need

Aspect considered	Decision
	<p>updating in order to comply with requirements of Article 22 of the Industrial Emissions Directive. We have therefore imposed an improvement condition IC9 requiring the operator to review and update their site condition report include at least the following:</p> <p>i) consideration of oil storage areas including oil storage vessels, bunds, loading and unloading areas and other potential sources of contamination as shown in the site location plan.</p> <p>ii) reference to any historical spillages, the chemicals involved and locations, baseline soil sample results and groundwater data. We have included an improvement condition (IC9) in the permit to review the site condition report to ensure Article 22 of the Industrial Emissions Directive is complied with.</p> <p>The decision was taken in accordance with our guidance on site condition reports and baseline reporting under the Industrial Emissions Directive.</p>
Waste management plan	The operator has provided a waste management plan which we consider is satisfactory.
Biodiversity, heritage, landscape and nature conservation	<p>The application is within the relevant distance criteria of a site of heritage, landscape or nature conservation, and/or protected species or habitat.</p> <p>A stage 1 habitats assessment has been completed and filed with this application for reference.</p> <p>One Special Protection Area (SPA) and two Special Areas of Conservation (SACs) were identified within 10 km of the site boundary</p>
<b>Environmental risk assessment</b>	
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> <p>There will be no increase in emissions as a result of this variation, and consequently no increase in environmental risk.</p> <p>The impact assessment plan received with the application on 14/07/2017 and updated on 06/06/2018 (in response to a Schedule 5 request to clarify the volumetric flow through the flare) reached the following conclusion:</p> <p><i>"The H1 assessment (Appendix A) has shown that emissions of nitrogen oxides and sulphur dioxide showed a %process contribution and %predicted environmental concentration which exceeded either the long or the short term screening criteria. Therefore these release parameters were deemed to be potentially significant for either human or environmental receptors".</i></p> <p>The outputs from the H1 screening tool (NOx and SO2) were evaluated against the ADMS air dispersion modelling undertaken at the time of the original permit application in order to determine whether the results of the ADMS modelling were still valid. The outputs of the revised H1 screen were found to be within the range of values used in the original ADMS modelling and therefore it could be concluded that emissions from the site would not lead to an off-site exceedance of an AQS or EAL and that no additional detailed modelling would be required.</p>

Aspect considered	Decision
<b>Operating techniques</b>	
<p>Operating techniques Water Quality</p>	<p>We have reviewed the Operators Hydrogeological Risk Assessment and operating techniques proposed by the operator and compared these with the relevant technical guidance and we consider them to represent appropriate techniques for the facility.</p> <p>We are satisfied that the risks to groundwater have adequately been assessed and the proposed activities are not likely to have an adverse impact on the hydrological features in this area.</p> <p>To the extent that it might lead to a discharge of pollutants to groundwater (a “groundwater activity” under the EPR 2016), the Permit is subject to the requirements of Schedule 22, which delivers the requirements of EU Directives relating to pollution of groundwater. The Permit will require the taking of all necessary measures to prevent the input of any hazardous substances to groundwater, and to limit the input of non- hazardous pollutants into groundwater so as to ensure such pollutants do not cause pollution, and satisfy the requirements of paragraph 6 of Schedule 22 and Article 6(1) Groundwater Daughter Directive. The operating techniques that the applicant must use are specified in table S1.2 in the environmental permit.</p> <p>In addition we have imposed condition 3.5.1 which requires the operator to monitor groundwater.</p> <p>IC1 requires the operator to review their site containment in order to demonstrate there is no pollution risk to surface and groundwater.</p> <p>IC3 requires the operator to review groundwater monitoring to monitor reinjection activities on site.</p> <p>IC4 requires the management procedures to be updated in ensure well integrity procedures are in place for the reinjection wells</p> <p>IC7 requires the operator to review their surface water management and implement any agreed changes.</p> <p>IC10 requires a plan for Wellsite C to prevent remaining decommissioned infrastructure posing a future groundwater risk.</p> <p>We have also inserted pre-operational conditions PO 01 to PO 03 prior to borehole X4 (which is currently an oil producing well) at Wellsite X being used for produced water reinjection. These ensure that baseline conditions are monitored and we are notified prior to commencement of the activity. The pre-operational conditions also require the reinjection activities are carried out in accordance with the approved Hydrogeological Risk Assessment which forms an operating technique under table S1.2 of the permit.</p> <p>More information on our assessment of the groundwater activities, including gas injection is provided in the key decisions section above.</p>
<p>General operating techniques Waste and installations</p>	<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>

Aspect considered	Decision
	<p>The operating techniques that the applicant must use are specified in table S1.2 in the environmental permit. This includes the requirement for the Operator to provide a waste management plan and the information required within this. The waste management plan, including associated documents, has been assessed in accordance with these requirements and is approved subject to conditions. Condition 2.3.1 ensures that the operations are limited to those described in the WMP and in table S1.2. It also ensures that the Operator follows the techniques set out and that any deviation will require our written approval. Any significant changes will require a formal variation of the permit. Where a condition imposes a specific requirement that will take precedence over anything in the plan.</p> <p>In addition we have specified additional improvement conditions (ICs 1-9) as part of the permit review to ensure these operations continue to meet the requirements of our Onshore Oil and Gas Sector Guidance, August 2016.</p>
<p>Operating techniques for emissions that screen out as insignificant</p>	<p>Emissions of Nitrogen Dioxide, Sulphur Dioxide, Carbon Monoxide and Hydrogen Sulphide and hydrocarbon components (ethane, butane, propane, methane, benzene etc.) and particulate matter (PM 10 and PM 2.5) have been screened out as insignificant, and so we agree that the applicant's proposed techniques is are BAT for the installation.</p> <p>The H1 assessment calculations were provided in this application and further clarification was provided on 06/06/18 on the volume of exhaust gas from the flare in response to the schedule 5 notice. The outputs of the revised H1 screen were found to be within the range of values used in the original ADMS modelling and therefore it could be concluded that emissions from the site would not lead to an off-site exceedance of an AQS or EAL and that no additional detailed modelling would be required.</p> <p>To ensure that gas management and utilisation on site is BAT in accordance with our sector guidance we have also included improvement conditions 2,4,5, 6 and 7 to review: leak detection, management techniques, gas management and emissions refinements and vapour recovery during unloading, in order to agree that the applicant's proposed techniques are BAT for the installation.</p> <p>We consider that the emission limits in Schedule 3 of the permit along with the ICs above reflect the BAT for the sector.</p>
<p>Odour management</p>	<p>We have considered potential odour emissions from the activity during our determination. We do not consider that the activity will give rise to significant levels of odour. The use of the proposed ground flare, with automatic control of combustion temperature will prevent significant odour emissions. Condition 3.3.1 in the permit requires that emissions from the activities shall be free from odour at levels likely to cause pollution outside the site.</p> <p>We are satisfied that appropriate measures will be in place to manage odour. However, we have included condition 3.3.2 in the permit. This standard condition enables us to require the Operator to submit a specific odour management plan, should odour become a problem. If 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.</p>

Aspect considered	Decision
Noise management	<p>We have considered emissions from noise and vibration during our determination. Condition 3.4.1 in the permit requires that emissions from the activities shall be free of noise and vibration at levels likely to cause pollution outside the site.</p> <p>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. If 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.</p>
<b>Permit conditions</b>	
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.
Updating permit conditions during consolidation	We have updated permit conditions to those in the current generic permit template as part of permit consolidation. We have also updated permit conditions to make reference to the most modern legislation. The conditions will provide the same level of protection as those in the previous permits.
Changes to the permit conditions due to an Environment Agency initiated variation	<p>We have varied the permit as stated in the variation notice.</p> <p>This variation is required as the Environment Agency has a duty, under the Environmental Permitting (England and Wales) Regulations 2016, regulation 34(1), to periodically review permits. As a result of that review we have identified a number of necessary changes we must make to your permit to reflect current legislation and best practice. These changes principally relate to the improvement programme specified in condition 2.4 of the permit</p>
Pre-operational conditions	Based on the information in the application, we consider that we need to impose pre-operational conditions PO 01 to PO 03 for borehole X4 (which is currently an oil producing well) at Wellsite X being used for produced water reinjection. These ensure that baseline conditions are monitored and we are notified prior to commencement of the activity. The pre-operational conditions also require the reinjection activities are carried out in accordance with the approved Hydrogeological Risk Assessment which forms an operating technique under table S1.2 of the permit.
Improvement programme	<p>Based on the information on the application, we consider that we need to impose an improvement programme.</p> <p>We have imposed an improvement programme (ICs 1-9) to ensure that the standards of operation for the sector are consistent and reflect those currently required by newly permitted sites (since 2013) and meet the requirements of our Onshore Oil and Gas Sector Guidance, August 2016. We have also inserted two additional site specific ICs (IC10 and 11).</p> <p>The following ICs have included in this permit to address the gap analysis responses we received from operator to demonstrate compliance with our</p>

Aspect considered	Decision
	<p>Onshore Oil and Gas Sector Guidance, August 2016. This is explained in our key issues above.</p> <p>IC1 - Secondary and Tertiary Containment Review</p> <p>Improvement condition IC1 is necessary to ensure that secondary and tertiary containment systems meet the standards required of a new oil and gas site. This will reduce the likelihood of any uncontrolled polluting discharges to the environment.</p> <p>IC2 - Leak Detection and Repair Plan</p> <p>Improvement condition IC2 is necessary because a leak detection and repair plan is needed to manage fugitive VOC emissions from potential leak points such as seals, flanges, pumps and valves. This standard technique is a method for identifying and prioritising potential sources of leaks, developing a leak detection and repair programme using the monitoring standard EN 15446 including assessing reductions in emissions resulting from the programme and estimation/calculation of any residual emissions. The EN 15446 method is described in the Refineries BREF (2015) as an available method for carrying out monitoring of fugitive emissions. Alternative but equivalent methods can be proposed.</p> <p>IC3 - Groundwater Monitoring Plan</p> <p>Improvement condition IC3 is necessary in order to review groundwater monitoring at the site to ensure the groundwater monitoring plan meets our requirements.</p> <p>Groundwater Monitoring is required at the site because the operator is undertaking a groundwater activities for reinjection of produced water and for the discharge of site surface rainwater from operational areas to ground via interceptor.</p> <p>We have included Improvement Condition IC3 which requires the operator to submit for written approval a groundwater plan. The groundwater monitoring plan, once approved, shall be incorporated into the permit as an operating technique.</p> <p>Groundwater Monitoring is necessary to help determine whether the reinjection activities are affecting the quality of groundwater and whether satisfactory measures are being undertake to prevent groundwater pollution. Groundwater monitoring is required for the purposes of requisite surveillance in accordance with the Environmental Permitting Regulations 2016. The submission of a groundwater monitoring plan will ensure that groundwater monitoring is based on the site conceptual model and hydrogeological risk assessment.</p> <p>IC4 - Environmental Management System Review</p> <p>Improvement condition IC4 is necessary to update the management system as a result of this permit review, as from the gap analysis and application information we have identified a number of procedures that do not appear to be in place.</p> <p>The specific management requirements include:</p> <ul style="list-style-type: none"> <li>(i) The procedure for identifying bund fill levels, e.g. high level alarm on unmanned sites</li> </ul>

Aspect considered	Decision
	<p>(ii) The monitoring procedures and testing in place to confirm the integrity of the re-injection well(s) for the lifetime of those wells, monitoring frequency, remediation measures (and reporting procedures) should the integrity monitoring results indicate that a well integrity failure has potentially occurred</p> <p>(iii) The procedure for notifying the Environment Agency on each occasion where natural gas is vented uncombusted to atmosphere for safety purposes. Notification to include, but not limited to: reasons for, duration of and quantity of gas vented.</p> <p>(iv) The procedure for providing emergency flare capacity in the event that primary flare / gas management processes are unavailable / if venting likely to continue for more than 24 hours.</p> <p>We have not required procedures for testing of the impermeable membrane as the operator has confirmed that there is no impermeable membrane present.</p> <p><b>IC5 - Gas management</b></p> <p>Improvement condition IC5 is necessary in order to ensure the operator is carrying out appropriate measures for the management of waste gas arising from their production of hydrocarbons.</p> <p>Gas management is required as the impact of releasing large quantities of uncombusted hydrocarbons leads to a significant environmental impact which can be readily mitigated using best available techniques.</p> <p>We have included improvement condition 5 which requires the operator to submit for written approval a plan identifying their identified methods for reducing the impact of gas emissions to atmosphere.</p> <p>Gas management is necessary to reduce the environmental and human health impacts of emitting natural gas directly to atmosphere.</p> <p><b>IC6 - Air emissions monitoring</b></p> <p>Improvement condition IC6 is necessary as the site features emissions to air with the potential to cause pollution. We have applied improvement condition 6 to require the operator to undertake appropriate emissions monitoring from each of the emission points on the site to understand the current performance of the process/equipment which gives rise to the emission. We will use the results of this monitoring to determine whether the operator's processes and equipment minimises the emission to air to as low as reasonably achievable in line with best available techniques. Where appropriate, we will use these monitoring results to set appropriate assessment levels or compliance limits for the operator to comply with in future.</p> <p>We consider this condition necessary as although the volume of each individual emission is comparatively small, the quality of combustion employed in each case can significantly alter the levels of various pollutants ultimately present within the emission. By requiring ongoing emissions monitoring, this condition will ensure that the operator achieves, and then continues to operate their processes and equipment to an acceptable standard, and commensurately reduces their environmental impact to as low a level as is reasonably practical.</p>



Aspect considered	Decision
	<p>IC7 - Vapour recovery</p> <p>Improvement condition IC7 is necessary as the operator does not appear to be currently complying with the requirement to capture and recover all hydrocarbon vapours arising from the loading and unloading of liquid hydrocarbons into vehicles.</p> <p>Vapour recovery is necessary both for safety reasons and also to reduce the environmental impacts of storing, loading, transporting and unloading hydrocarbons.</p> <p>IC8 - Surface water management</p> <p>Improvement condition IC8 is required because the operator has indicated that rainwater is not always being dealt with in accordance with requirements necessary to protect the environment from uncontrolled contaminated discharges of site surface water.</p> <p>The development of a plan to show how rainfall is managed to ensure the environment is not compromised, will clarify how the requirements are being met and how the environment is being protected.</p> <p>IC9 - Site Condition Report Review</p> <p>Improvement Condition IC9 is necessary because the operator is required to produce a Site Condition Report where there is a possibility of soil and groundwater contamination from activities that involve the use, production or release of a relevant hazardous substance, as defined in the Industrial Emissions Directive.</p> <p>The Operator has provided a Site Condition Report with the application, but this does not contain baseline data to confirm the current state of any soil and/or groundwater contamination, or confirmed that existing soil and groundwater data for the site enables a baseline to be defined for the site.</p> <p>IC10 – Wellsite C decommissioning- we have inserted a site specific improvement condition to ensure the remaining decommissioned infrastructure is reviewed to ensure it doesn't present a groundwater risk.</p> <p>IC11 – MCERTS monitoring. This Improvement condition is in addition to the standard condition 3.5.3 in the permit. From our experience of other operations we appreciate it may not be possible to apply MCERTS for the gas reinjection activities. This IC allows the operator to propose an alternative non MCERTS methodology for approval, whilst still meeting the requirements for representative monitoring.</p>
Emission limits	<p>We have decided that emission limits are required in the permit. These are for the point source emissions to air and water as specified in tables S3.1 and S3.2 in Schedule 3.</p> <p>Gas turbines: (emission limits have been reviewed and kept under existing permit)</p> <p>Nitrogen Dioxide</p> <p>Carbon Monoxide</p> <p>Sulphur Dioxide</p>

Aspect considered	Decision
	<p>High pressure crude heater: (emission limits have been reviewed and kept under existing permit)</p> <p>Oxides of Nitrogen</p> <p>Carbon Monoxide</p> <p>Flare: (no limits set in current permit).</p> <p>Oxides of Nitrogen</p> <p>Carbon Monoxide</p> <p>Total volatile organic compounds (VOCs)</p> <p>Calculation method for with numeric limits to be set in future if required following review of gas management plan under IC6</p> <p>Produced water and oil tank storage vents</p> <p>Gas vented (calculation method)</p> <p>Hydrogen Sulphide</p> <p>Regeneration Gas Heater: (emission limits have been reviewed and kept under existing permit)</p> <p>Nitrogen Dioxide</p> <p>Carbon Monoxide</p> <p>Produced water and gas reinjection</p> <p>Daily discharge volume</p> <p>Maximum rate of discharge</p> <p>Surface water discharges to ground via soakaway:</p> <p>Maximum daily discharge volume</p> <p>Maximum rate of discharge</p> <p>Total Petroleum Hydrocarbons</p> <p>Chloride</p> <p>pH</p> <p>Sodium</p>
Monitoring	<p>We have decided that monitoring should be carried out for the parameters listed in the permit, using the methods detailed and to the frequencies specified. Tables S3.5 and S3.6 set out the monitoring requirements.</p> <p>We also require monitoring of rate and volume of produced water reinjected along with concentrations and volumes of chemicals added to the produced water prior to reinjection. The soakaway discharges are also required to be monitored for Maximum daily discharge volume, Maximum rate of discharge, Chloride, pH, Sodium and Total Petroleum Hydrocarbons. In addition following approval of the groundwater monitoring and the surface</p>

Aspect considered	Decision
	<p>water management plan under IC3 and IC7, we will also require additional groundwater and surface water monitoring under S3.5 under the permit.</p> <p>The Operator will keep records of the data collected, which must be submitted to the Environment Agency on a regular basis.</p> <p>We made these decisions in accordance with the requirements of our Onshore Oil and Gas Sector Guidance, August 2016 and the Groundwater Directive and to baseline report required under the Industrial Emissions Directive.</p> <p>Based on the information in the application we are satisfied that the operator's techniques, personnel and equipment have either MCERTS certification or MCERTS accreditation as appropriate as required under 3.5.3 of the permit.</p>
Reporting	<p>We have specified reporting in the schedule 4 of the permit.</p> <p>The reports will enable information on trends to be assessed and interventions to be carried out when required.</p> <p>We made these decisions in accordance with the requirements of our Onshore Oil and Gas Sector Guidance, August 2016 and the Groundwater Directive and to baseline report required under the Industrial Emissions Directive.</p>
<b>Operator competence</b>	
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>
Financial provision	<p>The financial provision arrangements satisfy the financial provisions criteria.</p> <p>We are satisfied that the waste from the site has properly been characterised as a non-hazardous mining waste facility for extractive waste. By virtue of paragraph 9(3) of Schedule 20 to the Environmental Permitting (England and Wales) Regulations 2016 the requirements mentioned in Article 2(3) of the MWD are waived. These requirements don't include the need for a financial guarantee for non-hazardous waste, unless deposited in a Category A facility.</p>
<b>Growth Duty</b>	
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>

Aspect considered	Decision
	<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>
Further Legislation	
Schedule 22 to the EPR 2016 – Water Framework and Groundwater Daughter Directives	To the extent that it might lead to a discharge of pollutants to groundwater (a “groundwater activity” under the EPR 2016), the Permit is subject to the requirements of Schedule 22, which delivers the requirements of EU Directives relating to pollution of groundwater. The Permit will require the taking of all necessary measures to prevent the input of any hazardous substances to groundwater, and to limit the input of non- hazardous pollutants into groundwater so as to ensure such pollutants do not cause pollution, and satisfy the requirements of paragraph 6 of Schedule 22 and Article 6(1) Groundwater Daughter Directive.
Water Environment (Water Framework Directive) (England and Wales) Regulations 2003	Consideration has been given to whether any additional requirements should be imposed in terms of the Environment Agency’s duty under regulation 3 to secure compliance with the requirements of the Water Framework Directive through (inter alia) environmental permits, but we consider that existing conditions are sufficient in this regard, and no other appropriate requirements have been identified.

## Consultation

The application was publicised on the GOV.UK website because of the high levels of public interest in the onshore Oil and Gas Sector. The application itself is NOT high public interest.

We consulted the following organisations:

- Local Authority, Environmental Protection,
- Food Standards Agency
- Health and Safety Executive
- Mineral Planning Authority,

### Responses from organisations listed in the consultation section

<b>Response received from</b>
Public Health England
<b>Brief summary of issues raised</b>
Acknowledged this is a variation of an existing site. Main concerns are in relation to air emissions, odours and site management. We were asked to confirm that adequate evidence had been provided in the application and that sufficient controls are in place for these factors.
<b>Summary of actions taken or show how this has been covered</b>
These aspects have been checked as part of the permit determination process and the permit conditions ensure these aspects are satisfactorily controlled in line with our sector guidance.

No other comments or responses were received from other organisations or members of the public.