Permitting decisions

Variation

We have decided to grant the variation for Emerald Biogas Energy Park operated by Warrens Emerald Biogas Limited.

The variation number is EPR/BP3133TC/V006

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

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 and the variation notice. The introductory note summarises what the variation covers.

Key issues of the decision

1. **Summary**

   The variation was for the following changes:

   - A second biogas upgrading unit will be installed of the same type as the existing one. The abatement equipment will be amended so that the bioscrubber will be used in combination with carbon filters for odour control on the gas upgrade units.
   - The current permit authorises the use of 4 digesters. However the 3rd and 4th will now be built in a different location which requires an extension of the installation boundary.
   - Addition of a gas re-fuelling station.
   - Increase in throughput from 102,400 to 150,000 tonnes per year.

2. **Gas upgrading and abatement changes**

Although the BAT AEL does not yet apply to this existing plant the applicant's proposals are designed to meet the BAT AEL during normal operating conditions.
The 2nd upgrading unit will be a Malmberg Compact GR14 unit. This is the same as the existing gas upgrade plant and will be operated in the same way as the existing unit.
Originally a bioscrubber treated raw biogas before burning in the CHP engines. However the scrubber is no longer needed for this purpose because hydrogen sulphide is primarily controlled with ferric sulphide dosing. The bioscrubber will now be used to control hydrogen sulphide emissions from the Malmberg units in combination with carbon filters. During commissioning two options will be tested, described as scenario 1 and 2 in the variation application.

Scenario 1: Bioscrubber can achieve sufficient removal to meet the BAT AEL. The bioscrubber will be used as the primary control, the emission point will be A7. Two carbon filters will be used as back-up abatement in the event of abnormal operation in the event that the bioscrubber is not available; emission points A4 and A8.

Scenario 2: Bioscrubber cannot achieve the BAT AEL. The bioscrubber will be used in combination with the carbon filters. Emission points A4 and A8 will emit vented air abated by the scrubber and then the carbon filters. Under abnormal conditions in the event that the carbon filters are down treated air could be vented via the bioscrubber alone via emission point A7.

Both scenarios will be tested by the operator during commissioning of the new set-up.
The variation notice gives the operator the option to use either scenario 1 or 2. Improvement condition IC12 that requires the operator (after commissioning) to submit a report to the Environment Agency, for approval, of the option that will be used.

3. Emission limits and monitoring

BAT conclusions for the waste treatment sector were published in August 2018. The operator has proposed that the changes will ensure that the BAT AEL for odour will be met on the vent from the gas upgrading equipment; testing during commissioning will confirm this.
BAT 8 requires monitoring of odour, but allows hydrogen sulphide and ammonia to be monitored instead.
The operator has chosen to monitor odour.
BAT 34 – specifies a BAT AEL of 200 – 1,000 ou_E/m^3
The operator proposes to meet the upper end of the BAT AEL.

Although the operator is putting in new gas upgrading equipment and making changes to the abatement set-up, the installation is still classed as existing because the four digesters were permitted before publication of the BAT conclusions. BAT AELs are therefore not mandatory until August 2022. We have therefore not set limits in the permit at this stage, but we have specified that limits will be set following completion of improvement condition IC12. Monitoring has been set in the permit for odour, as proposed by the operator, and this is in line with the provisions of BAT 8. Permit reviews for the waste treatment sector will take place early in 2020, and the limits and monitoring arrangements will be reviewed again at that point.

4. Re-location of tanks

The re-location of the already permitted tanks requires an extension to the Installation boundary to the west of the current boundary.

The operator stated that containment will be expanded to include the new area and would constructed to the same level as agreed through the original permit application and through improvement condition and pre-operational condition responses. The earth bund will be extended

around the new area. A site plan showed that impermeable surfacing will cover the area of the new tanks. Containment will follow the same design principles as the facility already constructed. A review of containment against CIRIA C736 was carried out in response to IC11. This response was accepted by the Environment Agency.

5. Gas refuelling station

This is designed to supply upgraded biogas to vehicles. It will comprise of a compressor, a buffer storage and a fuel dispenser.
The equipment will comply with UK safety legislation including the Dangerous Substances and Explosive Atmosphere Regulations (DSEAR) 2002.

The applicant updated their accident management plan including an assessment of the risk from vehicle movements to and from the refuelling station. The applicant's assessment was that it is low risk based on the following:

- There is only one operator vehicle refuelling daily at the plant. Although there have been trials with 3rd party vehicles refuelling there are no regular refuelling of 3rd party vehicles at the site so this can be considered negligible in terms of numbers. Overall the increase in traffic movements due to refuelling would be a maximum of 3.3% considering that there are currently between 30 and 50 deliveries per day into the plant.
- A traffic routing plan and a specific driver induction is in place.
- Traffic is routed along appropriately designed and sized and clearly demarcated roadways separated from the surrounding external process areas, containing tanks and other external equipment, by a kerbing system.
- The roadways have been designed by the operator's civil engineering contractor which has designed the roadways to take account of the type of vehicles that deliver to site and manoeuvre around site. The vehicles that will re-fuel at the CNG plant do not require a re-design of roadways as they are of the same type and size as the vehicles moving around the site at present.
- The gas storage associated with the new CNG filling plant has been located at a safe distance from the roads and has been installed as to the supplier's instructions. This is a unit designed for large scale filling stations and is designed to appropriate standards.
- There is no regular traffic passed flare emission point A5 as the road along the southern perimeter of the site is only to be used in emergency situations. There is regular traffic passed flare A6 but the flare has been located at a safe distance from the roadway/ corner and fitted with crash barriers as have other pieces of infrastructure along the roadways.

6. Increase in throughput

The operator requested an increase in permitted throughput from 102,400 to 150,000 tonnes per year. The operator stated:

- The increase is as a result of installing the already permitted tanks and does not require any additional plant to manage environmental risk.
- Waste turnaround time will not change.
- Building the 3rd digester and additional tanks will reduce bottlenecks
- At the increased capacity the full storage capacity of the current reception hall will not be reached
- No increase in environmental risk.

The operator submitted a revised H1 risk assessment for emissions to air based on monitoring results, updated flow volumes, velocity and the increased throughput. The main consideration was

the combustion emissions from the CHP engines. The assessment showed that the impacts were lower than those as previously assessed in the original application and variation in 2016.

The CHP combustion units have a combined thermal input of 5.9 MW. Based on the size of the units and AQTAG 14 the only ecological sites relevant for consideration are those within 2 km. The only ecological site within 2 km is The Snipe which is a local wildlife site (LWS). The Installation sits directly on top of the LWS, and so the main impacts on this LWS would have been from construction of the installation which would have been a planning consideration. We are satisfied that the changes proposed from this variation will not result in emissions that will have a significant effect on the LWS.

7. Odour

The operator provided an updated odour management plan (OMP). We are satisfied that the OMP along with the odour control measures proposed in this variation application will ensure that odour is controlled and that appropriate measures will be taken if odour issues were to occur.

8. Noise

The second Malmberg unit and the refuelling plant are additional noise sources. The sound pressure levels are as follows:

- Malmberg unit – 75 dBA (10m)
- Refuelling plant – 75 dBA (3m)

The nearest residential receptors are ~800 m away. The applicant provided a screening assessment that considered noise drop off with distance. This showed that there could be some increase in noise compared to the previous screening assessment. However the applicant's assessment did not take any attenuation from buildings and terrain into account.

Given the location of the new equipment, attenuation from buildings is likely to give a significant reduction in noise impacts at receptors. We also checked using our noise screening tool. This showed that a noise impact assessment and noise management plan are not required. We are satisfied that there will not be a significant impact from noise.

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/Engagement	
Consultation	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. We consulted the following organisations: • Food Standards Agency • Public Health England • Director of Public Health • Darlington Borough Council • Animal Plant Health Agency • Health & Safety Executive No responses were received.
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 site condition report to cover the extended area of the site. It contained a description of the condition of the site. We consider the report to be satisfactory. The decision was taken in accordance with our guidance on site condition reports and baseline reporting under the Industrial Emissions Directive.
Biodiversity, heritage, landscape and nature conservation	The application is within the relevant distance criteria of a site of heritage, landscape or nature conservation, and/or protected species or habitat. We have assessed the application and its potential to affect all known sites of nature conservation, landscape and heritage and/or protected species or habitats identified in the nature conservation screening report as part of the permitting process.

Aspect considered	Decision
	We consider that the application will not affect any sites of nature conservation, landscape and heritage, and/or protected species or habitats identified. See key issues for further information. We have not consulted Natural England on the application. The decision was taken in accordance with our guidance.
Environmental risk assessment	
Environmental risk	We have reviewed the operator's assessment of the environmental risk from the facility. The operator's risk assessment is satisfactory. See key issues section for further details.
Operating techniques	
Operating techniques	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. The operating techniques that the applicant must use are specified in table S1.2 in the environmental permit. We are satisfied that the techniques proposed by the applicant are BAT. See key issues for further details.
Odour management	We have reviewed the odour management plan in accordance with our guidance on odour management. We consider that the odour management plan is satisfactory.
Permit conditions	
Pre-operational conditions	A pre-operational condition for future development was set so that new tanks cannot be used until the containment measures described in the application are in place.
Improvement programme	Based on the information in the application, we consider that we need to impose an improvement programme. We have imposed improvement condition IC12 to ensure that: A report on the efficiency of the bioscrubber and carbon filters is submitted along with details on the chosen operating scenario. Where ICs have been completed they have been marked at such in the permit. ICs 4, 5 and 6 had not been completed. We set a new date of end of May 2020 for a response. The key issues section contains more details of the operating scenarios that will be tested during commissioning.

Aspect considered	Decision
Emission limits and monitoring	See key issues section.
Operator competence	
Management system	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.
Growth Duty	
Section 108 Deregulation Act 2015 – Growth duty	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. Paragraph 1.3 of the guidance says: "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." 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. 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.

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

Health & Safety Executive
Brief summary of issues raised
Replied to say no comment on the application
Summary of actions taken or show how this has been covered
No action required