

Natural Resources Wales permitting decisions

GP Biotec Ltd (Great Porthamel AD Plant) Decision Document

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Permit Variation

The variation number is: [EPR/AB3233DW/V006](#)

The applicant /operator is: [GP Biotec Ltd](#)

The Installation is located at: [Great Porthamel, Talgarth, Brecon, Powys, LD3 0DL](#)

We have decided to issue the variation for Great Porthamel AD Plant operated by GP Biotec Ltd.

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:

- explains how the application has been determined
- provides a record of the decision-making process
- shows how all relevant factors have been taken into account

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

Key issues of the decision

Receipt of application

Consultation

The consultation requirements were identified and implemented. The decision was taken in accordance with RGN 6 High Profile Sites, our Public Participation Statement and our Working Together Agreements. We do not normally consult on Normal Variations, and did not do so in this case.

A copy of the Application and all other documents relevant to our determination (see below) are available for the public to view. Anyone wishing to see these documents could arrange for copies to be made.

Legislation

NRW is satisfied that this decision is compatible with its general purpose of pursuing the sustainable management of natural resources in relation to Wales and applying the principles of sustainable management of natural resources

All applicable European directives have been considered in the determination of the application.

The site

The operator has provided a plan which we consider is satisfactory, showing the extent of the site of the facility.

A plan is included in the permit and the operator is required to carry on the permitted activities within the site boundary. The site boundary has not changed as a result of the variation, but the site plan has been updated to show internal layout changes which are relevant to the variation (4 ABPR waste storage tanks, 4 non-ABPR waste storage tanks, ABPR waste unloading area design, updated site drainage plan).

The Changes to Permitted Activity

This variation has been requested by the operator to:

- Increase the annual capacity of the process from 55,000 tonnes of waste per annum to 75,00 tonnes per annum
- Make associated changes to the site to accommodate capacity increase (new ABPR waste storage tanks, new non-ABPR waste storage tanks, minor changes to site plan and layout)
- Add an emission point to surface water (W1) for uncontaminated rain water collected in clean sumps/bunds
- The variation also details some other changes to the site. Some relate to ongoing expansion/commissioning of the site which are already permitted but not yet complete (e.g. addition of a further 2 digestion vessels to give 4), while others relate to wider development of the site outside the permit boundary (e.g. increase in digestate storage capacity). While these give information relevant to the permit variation, they are not part of the variation and do not require assessment as part of the variation application.

Biodiversity, Heritage, Landscape and Nature Conservation

The application is within the relevant distance criteria of a site of a number of heritage, landscape or nature conservation, and/or protected species or habitat sites .

A full assessment of the application and its potential to affect the sites/species/habitats has been carried out as part of the permitting process and in conjunction with habitats/species/ecology specialists. We consider that the application will not affect the features of the site/habitat or protected species.

Suitable operational controls have been put in place by the applicant to ensure that only uncontaminated rain water is discharged from the site (after appropriate testing). These form part of permit requirements by inclusion in table S1.2, “operating techniques”. These are not specifically mitigation to protect ecological receptors, but represent normal good practice before discharging water from sumps/bunds.

As identified in detail in the environmental risk assessment (see below), no other significant changes to process or emissions were identified as a result of the proposed variation. Therefore, the change to impact on designated habitats was also found to be negligible to insignificant.

Environmental Risk Assessment

Site Capacity Increase (Waste tonnage treated)

The site is currently permitted to accept up to 55,000 tonnes of waste per annum, and as part of that a maximum of 30 tonnes per day of wastes subject to the Animal By-Products Regulations (ABPR), which is equivalent to approximately 11,000 tonnes per year. Although already operational, the site is still undergoing construction/expansion within its original permitted design. Currently the site operates with two digester vessels, but a further two were originally permitted, and are in the process of construction/commissioning.

The permit variation seeks to increase the annual waste capacity from 55,000 tonnes per annum to 75,000 tonnes per annum, an increase of 20,000 tonnes per annum. There is no proposal to increase the amount of ABPR material permitted. The increase in annual throughput is possible within the existing permitted Anaerobic Digester vessel capacity, based on operational data. The additional biogas generated will also be handled and combusted within existing systems and engines (although upgrading and export of gas off site is also under consideration for future development, which would be subject to separate permit variation).

Therefore, the impact of the proposed capacity increase is small, with key process equipment remaining unchanged. There will, however, be a requirement for increased storage capacity for incoming waste and digestate product, and extra load placed upon site infrastructure within existing capability (e.g. increased deliveries, increased load on odour abatement equipment). In most cases, the environmental impact of increasing site treatment capacity is negligible, as the site has the permitted infrastructure to handle the proposed higher waste volume (albeit that some is still in construction). It is clear that the operator will not seek to increase site throughput until the necessary infrastructure / processing plant is operational to allow it. The potential

environmental impacts of the increase to capacity are discussed below, alongside the potential impact of other changes proposed but not directly related to the site capacity.

Air

There are no new emissions to air associated with the permit variation. Although the plant capacity (waste tonnage) is increased, and therefore more biogas may be produced, this will be combusted within the two existing engines, and within the maximum gas generation modelled during original permit application. The engines utilisation / emissions will remain within the conservative parameters assessed when granting of the original environmental permit (full load and emissions at maximum permitted limits).

The applicant has submitted an updated impact modelling study as part of the permit variation application, to include more recent available metrological data. As with the original assessment, the impacts have been assessed as insignificant. However, this new report has not been assessed by Natural Resources Wales in detail, as modelled emissions are unchanged, and the original impact assessment and conclusions remain valid.

Water

This variation permits the discharge to the river Llynfi of uncontaminated surface water from the installation. Surface water which falls in the bunded areas of the site will collect via a drainage system to a sump, which is emptied under gravity, by opening two manually actuated valves. Site operational records will be checked prior to pumping, and water will not be discharged to river if there are any indications of contamination, e.g. spillages. Before release, the collected water will be visually checked, along with testing for pH and ammonia, as markers of any contamination with process materials (AD digestate or waste materials). Surface water will only be discharged to river only if it is free of any visible contamination, ammonia is less than 0.5ppm, and pH is within normal range. Provided that these checks are passed, water will be discharged no more than daily from the sump within the installation (marked as emission point W1 on the site plan), via the double valve arrangement, into a pipeline which discharges to the river at co-ordinates 315660, 235523. Discharge will only occur when under direct operator supervision of the process. Records will be kept of

the checks of water quality. If contamination was detected, water would normally be fed back into the AD process input, or held for off-site treatment in the event of serious incident.

Based upon the information in the application (as described above) we are satisfied that the appropriate measures will be in place to prevent pollution of ground and surface water, and only permit the release of clean uncontaminated surface water to the river Llynfi, which is designated as a site of special scientific interest (SSSI), Special Area of Conservation (SAC) and Special Protection Area (SPA)

Soil and groundwater

As part of this variation, the operator is proposing the installation of two new liquid waste tanks (90m³ and 120m³) for storage of material subject to the ABPR. These are in addition to two existing tanks (60m³ each), but which a third planned and permitted 60m³ tank, which has never been installed. A total of four tanks (2 x 60m³ existing, 1 x 90m³ new and 1 x 120m³ new) will therefore be located in the existing waste pit bund. The new tanks are of suitable design and construction (glass-lined enclosed steel tanks subject to preventive maintenance programme, with odour control of top-gas via extraction and carbon filtration). The bund is an impermeable concrete pit, which provides adequate bunding for all four tanks, having a net capacity in excess of 110% of the largest container, and excess of 25% of the total storage capacity. This change is to reflect operational requirements, and is not directly associated with the proposed capacity increase, as there is no increase in ABPR materials.

The variation also permits the use of 4 existing tanks on the site (“Storth tanks”) for the storage of incoming waste (lower risk, non-ABPR materials). These tanks are of suitable design and construction (plastic-lined enclosed steel tanks subject to preventive maintenance programme), and stand on sealed hardstanding which drains to a sump. Any contaminated water collecting in the sump is fed to the AD process. These tanks were previously used for Digestate Liquor.

The proposed facility capacity increase will result in an increase in the amount of digestate generated, and therefore requiring storage capacity and Land Bank capacity

for spreading. The applicant has provided information on digestate liquor storage capacity, fibre storage capacity, and Land Bank. The application shows that there is storage capacity for over 5 months digestate liquor and fibre storage, which is required by relevant guidance (to cover periods when spreading is not possible). The application also shows that there is spreading capacity in excess of requirements in relevant guidance, at recommended application rates. The digestate meets end of waste criteria and is primarily stored outside of the permitted facility, both within the wider farm area at Great Porthamel, and at off-site locations.

An updated site plan has been provided, which in addition to these changes, shows the updated layout of the waste unloading areas (which have sealed hardstanding draining to a sump, to protect soil and groundwater). Wider site drainage is also shown, demonstrating separation of uncontaminated rainwater from operational areas.

We are therefore satisfied that the proposed variation incorporates sufficient measures to protect soil and groundwater from adverse effect.

Odour

The odour management plan and odour management techniques will not be materially affected by the proposed increase in plant capacity. The odour management plan will be factually updated to reflect the four ABPR waste tanks. The four tanks now planned for waste storage, previously used for digestate storage, have odour abatement fitted.

The only identified difference in odour management resulting from the proposed changes is an increased load on the carbon filter, which removes air extracted from the ABPR tanks. This will mean that the filter lifespan may be reduced. As the current lifespan is approximately 8 months, more frequent replacement (if required) will be appropriate.

We are therefore satisfied that the proposed variation will not have an adverse effect on odour emissions from the installation.

Noise

No changes to noise emission or impact have been identified as a result of the proposed variation. We are therefore satisfied that the changes will not have an adverse effect on noise emissions from the installation

Fugitive emissions

Based upon the information in the application we are satisfied that the appropriate measures will be in place to prevent or where that is not practicable to minimise fugitive emissions and to prevent pollution from fugitive emissions. This includes issues such as dust or noise from increased traffic within the site, arising from higher site capacity, and hence higher waste deliveries to site, and product shipping from the site. On-site infrastructure (e.g. roadways) are being finished alongside other construction work, which will gradually improve any fugitive impacts.

Monitoring

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. Daily visual monitoring of surface water has been required, in order to check that it is clear and free from visible contamination.

These monitoring requirements have been imposed in order to ensure that water discharged to the River Llynfi is clear and uncontaminated, and therefore that the receiving water body is protected. MCERTS certification or accreditation is not relevant to this in-house indicative spot monitoring of surface water.

Monitoring of emissions to air from the CHP engines is unaltered, and already requires either MCERTS certification or MCERTS accreditation as appropriate.

Reporting

We have specified reporting in the permit. New annual production/treatment, and performance parameter reporting have been specified, (e.g. annual waste treated and gas generated, electricity generated and used on site, duration of operation of the emergency flare). This is not directly associated with the proposed capacity increase; it is a standard requirement for installations of this type, but was not in their existing permit. It is, however, further justified as an increase in site capacity is to be permitted.

The information is required for standard reporting purposes, and allows us to monitor performance of the facility against permit requirements and limits.

Operating techniques

We have reviewed the techniques used by the operator and compared these with the relevant guidance notes. The main relevant guidance are the general “[How to comply with your environmental permit](#)” issued by Natural Resources Wales and sector-specific guidance [LIT 8737 for Anaerobic Digestion](#). The majority of operating techniques are unaffected by the variation.

We are satisfied that the increase in site capacity is within the capability of the plant and infrastructure (digesters, AD gas engines, waste and digestate storage, including proposed modifications).

We are satisfied that operating techniques and procedures will ensure protection of the environment for proposed site changes, as detailed above for various risk types. Where necessary, site operating procedures have or are being updated.

The proposed techniques / emission levels for priorities for control are in line with the benchmark levels contained in the TGN and we consider them to represent appropriate techniques for the facility. One emission point has been added to the permit as a result of this variation (W1), and we are satisfied that controls are in place to limit discharge to uncontaminated surface water.

We consider that the emission limits included in the permit as a result of the variation (water free from visible contamination) reflect the BAT for the installation.

The permit conditions

Updating permit conditions during consolidation

We have updated previous permit conditions to those in the new generic permit template as part of permit consolidation. The new conditions have the same meaning as those in the previous permit(s). We have made small amendments where the previous permit did not exactly follow the current standard permit format.

The operator has agreed that the new conditions are acceptable.

There are no significant changes to raw materials, waste types, except for the change in capacity (from 55,000 tonnes per annum to 75,000 tonnes per annum, with no change to tonnage of ABPR, 30 tonnes per day, authorised). There are no pre-operational conditions or improvement conditions associated with changes resulting from the variation.

Incorporating the application

We have specified that the applicant must operate the permit in accordance with descriptions in the variation application, including all additional information received as part of the determination process.

These descriptions are specified in the Operating Techniques table S1.2 in the permit.

OPRA

The OPRA score at permit issue is 72.