Bartley Power Limited
Decision Document

New bespoke permit

The application number is PAN-023536

The permit number is*:* EPR/DB3196ZM

The Applicant / Operator is: Bartley Power Limited

The Facility is located at: Bartley Power, Plas Bennion Road, Ruabon, LL14 1TP

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We have decided to grant the permit for Bartley Power operated by Bartley Power Limited.

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
- justifies the specific conditions in the permit other than those in our generic permit template.

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

Bartley Power Limited applied for a bespoke specified generator (SG) permit which comprises of 10 x medium combustion plants (MCP) in the form of 10 containerised Caterpillar gas engines, (4.7 MWth each) which aggregate to a total site capacity of 47 MWth. The MCPs/SGs are classified as existing as they were brought into service before 20th December 2018.

The gas engines are spark ignition and will use natural gas as fuel. The total thermal input is above 20 MWth however the site does not fall under any of the Section 1.1 Part B activities of Schedule 1 in the environmental permitting regulations as the engines do not burn fuel in a boiler, furnace, gas turbine or compression ignition.

Structure of this document

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Key issues of the decision

1 Our decision

This Application is to operate a regulated facility which is subject principally to the Environmental Permitting Regulations 2016 (EPR), Medium Combustion Plant Directive (MCPD) and Specified Generator (SG) Regulations.

The permit contains many conditions taken from our standard Environmental Permit template including the relevant Annexes. We developed these conditions in consultation with industry, having regard to the legal requirements of EPR and other relevant legislation. This document does not therefore include an explanation for these standard conditions. Where they are included in the permit, we have considered the Application and accepted the details are sufficient and satisfactory to make the standard conditions appropriate. This document should be read in conjunction with the application and supporting information and permit.

2 How we reached our decision

2.1 Receipt of Application

The Application was accepted as duly made on **12/12/2023.** This means we considered it was in the correct form and contained sufficient information for us to begin our determination, but not that it necessarily contained all the information we would need to complete that determination.

The Applicant made **no claim for commercial confidentiality**. We **have not** received information in relation to the Application that appears to be confidential in relation to any party.

2.2 Consultation on the Application

In line with our Public Participation Statement (PPS) we only consult on medium combustion plant only where we believe the operation may have significant negative effects on human beings or the environment. We also consult on MCP/SG applications if the site is located either in an air quality management area (AQMA) or in an area

identified in the clean air plan. As this site is in neither of the designated area and the emissions have not been identified as significant, no consultation was required.

2.3 Requests for Further Information

Request more information at duly making

In order for us to be able to consider the Application duly made, we needed more information. We requested further information relating to the following

- A summary of your environment management system (EMS) or/and a copy of ISO 14001 accreditation certificates for environmental management.
- Confirm if the information supplied in the document on combined heat and power relates to the justification on not requiring a cost benefit analysis under Schedule 24.
- More information on the backup diesel generator and if it meets the threshold for being a medium combustion plant.
- Supply isopleths for the air quality modelling.

Upon receipt of this information we were able to consider the application Duly Made.

Schedule 5 Notices

Further information was also requested by way of a Schedule 5 Notice requiring. The information requested was on the following:

- Confirmation on the start date of when the MCP/SG became operational. Application form B3 stated 23/11/2018 but the statement on schedule 24 (energy efficiency) stated a start date of March 2020.
- Explanation on how the exhaust parameters were derived including oxygen and moisture corrections;
- Explanation why an emission of 500 mg/Nm^3 was used in the modelling instead of the MCPD limit of 190 mg/Nm^3 .
- Confirmation if the specified generators were Tranche A or Tranche B

The Schedule 5 Notice was sent on 21/04/2024 with a response date of 08/03/2024. The Applicants response to the Schedule 5 Notice was provided on 04/03/2024 with

an additional response on the 14/03/2024. The additional information supplied satisfied the requirements of the Schedule 5 notice issued on 14/03/2024.

A copy of the information notice and e-mails requesting further information were placed on our public register as were the responses when received.

3 The Legal Framework

The permit will be granted, under Regulation 13 of the EPR. The Environmental Permitting regime is a legal vehicle which delivers most of the relevant legal requirements for activities falling within its scope. In particular, the regulated facility is:

- plant as described by Schedule 25A and Schedule 25B covering the Medium Combustion Plant Directive (MCPD) and Specified Generator (SG) regulations respectively;
- subject to aspects of the Well-Being of Future Generations (Wales) Act 2015 and the Environment (Wales) Act 2016 which also have to be addressed.

We address the legal requirements directly where relevant in the body of this document. NRW is satisfied that this decision is consistent with its general purpose of pursuing the sustainable management of natural resources (SMNR) in relation to Wales, and applying the principles of SMNR. In particular, NRW acknowledges that it is a principle of sustainable management to take action to prevent significant damage to ecosystems. We consider that, in granting the Permit a high level of protection will be delivered for the environment and human health through the operation of the Facility in accordance with the permit conditions. 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.

Environment Wales Act 2016 – Biodiversity and resilience of ecosystems duty

Section 6 of the Environment Wales Act 2016 requires that we seek to maintain and enhance biodiversity in the exercise of our functions, and in so doing promote the resilience of ecosystems, in a manner that is consistent with the proper exercise of our functions. NRW is satisfied that in this case we have taken into account and had due regard to this duty in so far as it is consistent with the function of determining an application for an EPR permit.

4 The Facility

4.1 Description of the Facility and related issues

4.1.1 The permitted activities

The Facility is subject to the EPR because it carries out an activity as described in Schedule 25A and Schedule 25B of the EPR as well as an activity listed in Part 2 of Schedule 1 of the EPR:

- One combined Tranche A Specified Generator/existing Medium Combustion Plant aggregated to <50MWth at a specified location.

A Generator means any combustion plant generating electricity. The regulations use the term ‘specified generator’ to encompass both individual generators and multiple generators at the same location or site, operated by the same Operator and for the same purpose. The “same purpose” means that having a different function does not stop individual generators being treated as part of a specified generator, e.g. generators with a capacity market agreement or providing a balancing service whether they are under the same contract or not would be classed as operating for the “same purpose” as they generate electricity. Similarly generators with different fuels or technologies are also classed as operating for the “same purpose”.

The specified generator permit will apply to the site, rather than its constituent individual generators. All specified generators equal to or more than 1 MWth will also be Medium Combustion Plant (MCP) and must also meet the requirements of the MCP Directive

Specified Generators are also divided into Tranche A and Tranche B sites, which will determine the relevant permitting date. A site is a Tranche A site if it meets the following criteria:

- It came into operation before 1 December 2016, or
- It is the subject of a capacity agreement arising from the 2014 or 2015 capacity auctions

A generator with a rated thermal input of less than 1MWth will be classed as Tranche A if:

- It is the subject of a capacity agreement arising from the 2014, 2015 or 2016 capacity auctions, or

- A FiT preliminary accreditation application was received by OfGEM before 1 December 2017, or
- Is the subject of an agreement to provide balancing services entered into before 31 October 2017.

Tranche B generators are all those that are not Tranche A.

Each of the individual plants are classed as an existing medium combustion plant as put into operation prior to 20th December 2018. As these are less than 5 MWth, the existing MCPs are not subject to the medium combustion plant directive or Schedule 25A of EPR until 1st January 2030 but as the site is classed as one 47 MWth Specified Generator, the site is subject to Schedule 25B of EPR.

4.1.2 The Site

The site is located of Plas Bennion road west of Ruabon at grid reference (NGR) SJ 29112 43751. The site is located in a semi-rural area. The nearest residential areas are Plas Madoc approximately 130 meters south west of the facility and Pont Adem Crescent in Ruabon approximately 350 meters east of the site.

There are several designated habitats located near the facility. These are discussed in more detail in the section on habitats (section 5.2)

4.1.3 What the Facility does

The site, Bartley Power, consists of 10 spark ignition engines fuelled by natural gas. Each engine has a thermal input of 4.7 MWth giving the site's total thermal input of 47 MWth.
The site is therefore classed as a 47 MWth specified generator that comprise of 10x 4.7 MWth MCPs. The MCPs on the site are classified as existing as they were in operation before the 20th December 2018.
The site also has a backup diesel generator but as this generator is below 1 MWth input it is therefore not subject to the MCPD regulations.

4.1.4 Key Issues in the Determination

Our decision includes but is not limited to the following:

- Air quality – Oxides of Nitrogen (NO and NO2 expressed as NO_2)

This will be discussed separately in this decision document.

4.2 Operation of the Facility – general issues

4.2.1 Administrative issues

The Applicant is the sole Operator of the Facility. We are satisfied that the Applicant is the person who will have control over the operation of the Facility if the Permit were to be granted; and that the Applicant will be able to operate the Facility so as to comply with the conditions included in the Permit, if issued.

Relevant Convictions

NRW's COLINS Database has been checked to ensure that all relevant convictions have been declared. No relevant convictions were found.
The operator satisfies the criteria in RGN 5 on Operator Competence.

Financial Provision

There is no known reason to consider that the operator will not be financially able to comply with the permit. The decision was taken in accordance with RGN 5 on Operator Competence.

4.2.2 Management

The Applicant has stated in the Application that they will implement an Environmental Management System (EMS) that will meet the requirements for an EMS in our "*How to comply with your environmental permit guidance*". The applicant has an EMS which is externally certified to ISO14001.

We are satisfied that appropriate management systems and management structures will be in place for this Facility, and that sufficient resources are available to the Operator to ensure compliance with all the Permit conditions.

4.2.3 Operating techniques

We have reviewed the operating techniques used by the Operator and compared these with the relevant guidance notes. The relevant guidance notes for this plant are:

- Technical Guidance Note (TGN) M5: Monitoring of stack emissions from medium combustion plants and specified generators

Monitoring of point source emissions to air will be carried out in line with the monitoring requirements contained within TGN M5 and will have MCERTS accreditation.

The operator has stated that they will implement the following quality assurance techniques and maintenance schedule, in order to for the generators to achieve and retain optimal performance. In order to enable each generator and the power plant in general to achieve and retain optimal performance in both efficiency and emissions, the plant will engage in the following best available operational management techniques:

- Each generator is equipped with sophisticated control systems. These monitor the operational parameters of the generator within strict operating conditions and can make adjustments during other than normal operating conditions (OTNOC) to ensure ELVs are maintained.
- Routine scheduled maintenance
- Emission monitoring taken place as part of the annual maintenance. Monitoring is done in accordance with TGN M5

As a Specified Generator, the operator must adhere to the following operating techniques specific for Specified Generator:

- Each generator must be operated in accordance with the manufacturer's instructions and records must be made and retained to demonstrate this.
- The operator must keep periods of start-up and shut down of the generators as short as possible.
- There must be no persistent emission of 'dark smoke' as defined in section 3(1) of the Clean Air Act 1993.
- within 20 minutes when the generator was a Tranche A and is now a Tranche B generator.
- The stack must be vertical and unimpeded by cowls or caps.

We have specified the operating techniques and the operator must use the operating techniques specified (Table S1.2B) in the permit.

4.2.4 Energy efficiency

Although the site is above 20 MWth, the MCP/SGs are existing (commissioned before the 20th December 2018) and therefore in line with the guidance, assessment of the site's energy efficiency is not required in this instance.

5 Minimising the Facility's environmental impact

For this kind of regulated activity, the principal emissions are to air. There are no permit conditions for water, land, energy efficiency odour or noise and BAT does not apply.

The next sections of this document explain how we have approached the critical issue of assessing the likely impact of air emissions from the Facility on human health and the environment and what measures we are requiring to ensure a high level of protection.

We will discuss the operators risk assessment in more detail as follows:

5.1 Assessment of Impact on Air Quality

This section of the decision document deals primarily with the dispersion modelling of emissions to air from the stacks and its impact on local air quality.

The Applicant has assessed the Facility's potential emissions to air against the relevant air quality standards, and the potential impact upon human health. These assessments predict the potential effects on local air quality from the Facility's stack emissions.

The air impact assessments, and the dispersion modelling has been based on the plant operating continuously at the relevant long-term or short-term emission limit values, i.e. the maximum permitted emission rate for the whole year (8760 hours per year).

We are in agreement with this approach. The assumptions underpinning the model have been checked and are reasonably precautionary. The way in which the Applicant

used dispersion models, its selection of input data, use of background data and the assumptions it made have been reviewed by Natural Resources Wales modelling specialists to establish the robustness of the Applicant's air impact assessment. The output from the model has then been used to inform further assessment of health impacts.

Oxides of nitrogen (NOx)

A long term critical level of 40 µg/m^3 (annual) and short term critical level of 200 µg/m^3 (hourly) was assumed for NOx. At sensitive receptor locations the maximum predicted long-term process contribution (PC) for long term emissions was above 1 % (the maximum predicted process contribution being 12.7 µg/m^3 or 31.75% of the critical level) but the long-term predicted environmental concentration (PEC) (process contribution and background level) was <70 % of the long-term critical level (the maximum PEC being 19.1 µg/m^3 or 47.1% of the critical level). Therefore, in accordance with NRW guidance the long-term impacts from NOx can be considered as insignificant.

At sensitive receptor locations the maximum predicted short-term PC (99.79th percentile) was >10 % of the short-term critical level of 200 µg/m^3 (being 98.2 µg/m^3 or 49.2% of the crucial level). The maximum predicted environmental concentration was 111.2 µg/m^3 or 55.6% of the critical level. As the PEC is less than 70% in accordance with NRW guidance the short-term impacts from NOx can be considered insignificant.

As the emissions screen out (less than 70%) at the PEC stage for both short term and long term emissions, we are satisfied that the emissions from the site will not cause significant impact to human health.

5.2 Impact on Habitats sites, SSSIs, non-statutory conservation sites

The Facility is within the relevant screening distance criteria for protected conservation sites. A full assessment of the application and its potential to affect any of the sites has been carried out as part of the permit determination process. Natura 2000/Ramsar

sites, SSSIs and non-statutory conservation sites will be discussed in detail separately below.

5.3 Natura 2000/Ramsar sites

The following Natura 2000/Ramsar sites are located within 5 km of the installation:

- Johnstown Newt Sites (UK0030173)
- River Dee and Bala Lake/Afon Dyfrdwy a Llyn Tegid SAC
- Berwyn a Mynyddoedd De Clwyd / Berwyn and South Clwyd Mountains (UK0012926)

An OGN 200 Form 1 (Habitats Regulation Assessment) was completed to assess the potential to affect the Natura 2000/Ramsar sites, this is available on the public register.

Appropriate assessment:

In light of the conclusions of an appropriate assessment, and taking account of the advice received from protected sites advisors, it has been established that the project will not adversely affect the integrity of any Natura 2000/Ramsar site, taking into account any conditions or restrictions as applicable, either alone or in-combination with other plans and projects. (As documented in section 4 of OGN 200 form 1, and section 5 if applicable)

HRA Overall conclusion:

In light of the conclusions of the appropriate assessment, it has been ascertained that the project will not adversely affect the integrity of any Natura 2000/Ramsar site, as documented in section 4 of OGN 200 form 1, and section 5 is applicable.

The form 1 has been sent to the local environment team who are the nature conservation body.

5.4 SSSI Assessment

The following Sites of Special Scientific Interest (SSSI) are located within 2 km of the combustion plant site:

- Stryt Las a'r Hafod (1.9 km North)
- Afon Dyfrdwy (River Dee) (1.6 km South)

An assessment on the SSSI was carried out (referred to an Appendix 4 assessment) for the SSSI and concluded no mechanism of damage. The Appendix 4 assessment was sent to the conservation teams for information and is available on the online public portal.

6 Setting ELVs and other Permit conditions

We have decided that emission limits should be set for the parameters listed in the permit. Emissions Limit Values (ELVs) are in line with those set out in the Regulations (EPR schedule 25B) and is what has been assessed within the modelling.

6.1 Monitoring

We have decided that monitoring should be carried out for the parameters listed in Schedule 3 of the permit using the methods and to the frequencies specified in those tables. These monitoring requirements have been imposed in order to demonstrate compliance with the emissions limits in the permit, as per the ELV and monitoring frequency requirements specified within EPR Schedule 25B Regulations.

For a Specified Generator that is an engine fuelled on natural gas, the monitoring requirements are as follows:

Pollutant	**Type of Specified Generator**	**Fuel Type**	**Emission Limit Value (mg/Nm^3)**	**Monitoring Required**
NOx	Spark Ignition Engine	Natural Gas	190*	Periodic – every 3 years

*380 mg/Nm3 for dual fuel engines in gas mode.

Emission limit values are defined at a temperature of 273.15 K, a pressure of 101.3 kPa and after correction for the water vapour content of the waste gases and at a standardised O_2 content of 15 % for engines and gas turbines.

For emissions to air, the methods for continuous and periodic monitoring are in accordance with the Environment Agency's Technical Guidance Note M5 for

monitoring of stack gas emissions from medium combustion plants and specified generators.

Based on the information in the Application and the requirements set in the conditions of the permit we are satisfied that the monitoring techniques, personnel and equipment employed by the Operator will have either MCERTS certification or MCERTS accreditation as appropriate.

6.2 Reporting

We have specified the reporting requirements in Schedule 4 of the Permit to ensure data is reported to enable timely review by Natural Resources Wales to ensure compliance with permit conditions.

7 MCPD/SG Charges and Subsistence Fees

The type of application regarding MCPD and SG will have an associated charge. The MCPD/SG application type and number of plants will also form the basis for ongoing subsistence fees. More information on this can be found in our charging scheme on our website.