Cyfoeth Naturiol Cymru
Natural Resources Wales

Natural Resources Wales Permitting Decisions

Radnor Hill Mineral Water Company Limited (Radnor Hills) permit variation Decision Document

Application for a Normal Variation

The application number is: PAN-023318

The permit variation number is: EPR/AB3697CN/V003

The applicant / operator is: Radnor Hills Mineral Water Company limited

The Installation is located at: Radnor Hills, Heartsease, Knighton, Powys, LD7 1LU

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.

Contents

Definitions

- BAT- best available techniques (Food, Drink and Milk published 2019)
- Critical level - the concentration value of a pollutant above which damage to environment and/or human health could start to occur.
- ELV- Emission limit value
- EPR- Environmental Permitting Regulations 2016 (amended 2018)
- LPG- Liquified petroleum gas
- MCP- Medium combustion plant
- MCPD – Medium combustion plant directive
- PC- process contribution. The concentration of pollutants from the proposed activity at a location
- PEC – predicted environmental concentration – the total concentration of a pollutant at a location. This is the PC from the proposal and the background concentration.
- SSSI- Sites of Special scientific interest

1. Executive summary

1.1. Application summary

Radnor Hills Mineral Water company limited have apply for a variation to the permit for the site, Radnor Hills (permit number EPR/ AB3697CN) to add a new boiler (boiler 6) to the permit with an associated new emission point (A6).

The boiler is fuelled on liquefied petroleum gas (LPG) and has a thermal input of 4.11 MWth (A6). As such the new boiler is classified as a medium combustion plant (MCP) under the medium combustion plant directive (MCPD) and the Environmental Permitting Regulations 2016 (EPR). As a result of the installation of the new boiler (boiler 6), three of the existing boilers (boilers 2, 3 and 4 (emission points A2-A4)) will become standby boilers and will only operate when one or more of the main boilers (boiler 1, 5 and 6) are non operational due to maintenance or breakdown.

The variation also changes the boiler at emission point A5. This had been an oil fuelled boiler but was replaced in August 2017 by an LPG fired 1.20 MWth boiler (boiler 5). As this boiler had been commissioned before 20/12/2018 it is classified as an existing MCP.
We have also future dated the existing MCPs for compliance with the emission limits in MCPD by 2030 (unless otherwise notified in writing by NRW).

1.2. Our decision

We have decided to issue the variation for Radnor Hills operated by Radnor Hills Mineral Water Company 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.

2. Receipt of the application

The application was received on 20/09/2023**.** In order for us to be able to consider the application duly made, we needed more information. We requested the following:

- Information on boiler A5 to confirm if it was a new or existing MCP.
- Details on the MCP for schedule 8 of the permit
- Additional details on air quality modelling and request for a copy of the modelling files

A letter requesting this information was sent to the applicant on 11/12/2023. Upon receipt of this information, on 20/12/2023 and the recipient of full application fee on the 22/12/2023, we were able to consider the application duly made. 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.

3. Confidential information

The applicant made a claim for no claim for commercial confidentiality, and we have not received information in relation to the application that appears to be confidential in relation to any party.

4. Legislation

The variation will be issued, under Regulation 20 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:

- an *installation* as described by the IED;
- 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.
- Medium combustion plant directive (DIRECTIVE (EU) 2015/2193)

We address the legal requirements directly where relevant in the body of this document. NRW is satisfied that the decision on this application 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 issuing the variation a high level of protection will be delivered for the environment and human health through the operation of the Installation 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.

As the EPR regulator in Wales, NRW are required to determine any duly made permit application. This means that we must decide either to grant, or to refuse the variation based upon an objective assessment of the proposals against the detailed legal requirements of EPR. Our public participation statement[1] gives more information on what can, and cannot, be taken into account when making our permitting decision.

The application, and this decision document, only considers the permitting of the facility under EPR as described throughout the document. We only assess the installation and its impacts and cannot take into consideration indirect impacts which are not as a direct result of activity within the installation boundary.

Any proposed development and wider associated activities will be required to be compliant with all relevant and applicable law, for example, environmental law, health and safety law, planning law. This other legislation acts largely independently of EPR (although they may be inter-related). Such other matters are beyond both the scope of this document, and of our regulatory remit and expertise and are not relevant to our EPR permitting decision. Ensuring compliance with all other regulation and obtaining any required consents (such as planning permission) is the responsibility of those undertaking the development and is regulated by the relevant appropriate authority for each.

[1] Natural Resources Wales / Public participation: how you can take part in our permit and licence consultations

5. Consultation

No consultation has been carried out on this application because the application is for a variation to an existing permitted installation. The variation has been deemed a normal variation and as such there was no requirement for consultation to be carried out. This decision was made in accordance the Environment Permitting Regulations (EPR), our statutory Public Participation Statement[2] and our Regulatory Guidance.

6. Requests for information

Further information was requested during determination by way of a Schedule 5 Notice requiring the applicant to provide further information relating to the use of fuel on the existing boilers and impacts on air quality modelling (see section 7.2 for details).

The Schedule 5 Notice was sent on 21/02/2024 with a deadline for response of 06/03/2024.
The applicant's response to the Schedule 5 Notice was provided on 29/02/2024. The additional information supplied satisfied the requirements of the Schedule 5 Notice.

A copy of the information notices requesting further information were placed on our public register as were the responses when received.

7. The Installation

7.1. The permitted activities

The regulated facility is currently an installation which comprises the following activities listed in Part 2 of Schedule 1 to the Environmental Permitting Regulations:

- **Primary activity**: S6.8 A(1)(d)(ii) – treatment and processing, other than exclusively packaging, of the following raw materials, whether previously processed or unprocessed, intended to produce food or feed (where the weight of the finished product excludes packaging) – only vegetable materials with a finished production capacity greater than 300 tonnes per day or 600 tonnes per day where the installation

[2] Natural Resources Wales / Public participation: how you can take part in our permit and licence consultations

operated for a period of no more than 90 consecutive days in any year. (Production and bottling of water and soft drinks)

- S5.4 A(1)(a)(i) – Disposal of non-hazardous waste with a capacity exceeding 50 tonnes per day (100 tonnes per day if the waste treatment activity is anaerobic digestion) involving one or more of the following activities; (i) biological treatment (Treatment of process effluent)

An installation may also comprise "directly associated activities", which at this Installation include includes:

- Combustion plant
- Storage and handling of raw materials, chemicals, fuels and waste

Together, these listed and directly associated activities comprise the Installation.

7.2. Changes to the installation

The variation is for the addition of a new liquified petroleum gas (LPG) powered 4.11 MWth boiler to the permit. As this boiler is more than 1 MWth and commissioned after the 20/12/2018 the boiler is classified as a new medium combustion plant (MCP).

Three of the existing boilers A2, A3 and A4 will become standby boilers when A6 is commissioned and will only be used when either one or more of the other boilers (A1, A5 and A6) are non-operational.

The permit also changes the boiler at emission point A5 which had been an oil fired boiler but is now an LPG fired boiler. The applicant had stated in their not duly made response dated 20/12/2023 that the boiler at A5 was commissioned in August 2017 and therefore would be classified as an existing MCP.

The original permit and application documents had specified that the boilers A1-A4 run on natural gas. The response to the schedule 5 notice dated 29/02/2024 had stated that the boilers A1-A4 had been running on LPG since their conversion from diesel in 2017. Natural gas was used in the permit as at the time (2017) this was considered suitable for LPG, but as MCPD now defines natural gas as "*naturally*

occurring methane with no more than 20 % (by volume) of inerts and other constituents" and LPG fuel used mostly consist of propane we would list LPG under "gas fuels other than natural gas" and not natural gas.

Therefore we have updated the permit to reflect that LPG is now classed as "gas fuels other than natural gas".

There are no changes any of the primary activities or other directly associated activities.

8. Operation of the installation

8.2. Operator competence

The applicant is the sole operator of the Installation. We are satisfied that the applicant is the person who will have control over the operation of the Installation the variation is issued; and that they will be able to operate the Installation so as to comply with the conditions included in the permit. The decision was taken in accordance with EPR RGN 1 Understanding the meaning of operator[3].

8.2. Environmental Management System

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[4].

The applicant has submitted the section of their EMS that will change as a result of the variation (EMS 007 MONITORING EMISSIONS PROCEDURS). There are no other changes to the other parts of the applicants EMS.

The rest of the EMS had been reviewed in a recent BRef review of the site (25/03/2022). It had been concluded that the EMS satisfies the requirements of BAT 1 of the food, drink and milk BRef.

[3] RGN 1 Understanding the meaning of 'operator' (naturalresources.wales)
[4] Natural Resources Wales / Guidance to help you comply with your environmental permit

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

8.3. Operating techniques

Installation activities and assessment of Best Available Techniques

Other than the addition of the medium combustion plant there are no changes to the existing operations of the main installation.
There are no changes to the any of the BAT techniques which had been review in 2022 as part of the BRef review.

9. The site

9.1. Site Plan

There is no change to the site boundary as a result of the variation. The existing site plan is included in the permit and the operator will be required to carry on the permitted activities within the site boundary. We have used an updated emission point plan in the permit that shows the location of the new boiler A6.

9.2. Site Condition Report

The proposal does not include the addition of any land and so a Site Condition Report was not required to support this application.

10. Environmental Risk Assessment

Regulated activities can present different types of risk to the environment, these include odour, noise and vibration; accidents, fugitive emissions to air and water; as well as point source releases to air, water, sewer and discharges to ground or groundwater, global warming potential and generation of waste. All these factors have

been considered during are determination and the relevant risks from this proposal are discussed in this and other sections of this document.

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

In line with our guidance, the applicant has provided an environmental risk assessment with the application which identifies and the sources of key risks from the variation, possible pathways and receptors. This risk assessment and further assessments provided by the applicant and/or completed by NRW will be discussed in further detail below.

10.1. Assessment of impact on air quality

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

The applicant has assessed the Installation's potential emissions to air against the relevant air quality standards, and the potential impact upon human health in line with relevant guidance[5]. These assessments predict the potential effects on local air quality from the Installation's stack emission.

The air impact assessments, and the dispersion modelling has been based on the Installation operating continuously at the relevant long-term or short-term emission limit values, i.e., the maximum permitted emission rate.

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

[5] Air emissions risk assessment for your environmental permit - GOV.UK (www.gov.uk)

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.

The applicant has calculated process contributions (PC) and predicted environmental concentrations (PEC) at locations within the immediate vicinity and all identified sensitive receptor locations. The modelling results for each pollutant will be discussed separately below.

The applicant has assessed for maximum prediction (at point source) and at the nearest human receptors.

Oxides of nitrogen

Emissions of NO_2 were assessed against a long-term critical level of 40 µg/m3 (annual) and short term critical level of 200 µg/m3 (hourly). At sensitive receptor locations the maximum predicted long-term PC was 2 µg/m^3 or 5% of the critical level and the long-term PEC was 5.5 µg/m^3, 13.7% of the long-term critical level. The PEC is less than 70% of the long term critical load and therefore, in accordance with the relevant guidance *Air emissions risk assessment for your environmental permit - GOV.UK (www.gov.uk)* the long-term impacts from the new boiler can be considered as insignificant.

At sensitive receptor locations the maximum predicted short-term PC were below 10% of the short-term critical level (with the highest being 15.8 µg/m^3 or 7.9% of the short term critical level). Therefore, in accordance with the relevant guidance the short-term impacts from NO_2 can be considered insignificant.

Sulphur dioxide

Emission of sulphur dioxide was assessed against the short term critical level of 125 µg/m^3 for 24 hour mean and 350 µg/m^3 for 1 hour mean. The highest short term process contribution at the nearest receptors was 4.5 µg/m^3 for 24 hour mean which is 3.5% of the 24 hour mean critical level and 7.8 µg/m^3 for 1 hour mean which is 2.2% of the 1 hour mean critical level. As the highest predicted concentration at the sensitive receptors were less than 10% of the critical level the emissions from the proposal screen out as insignificant for impacts on human health.

Emission limits

We have decided that emission limits should be set for the parameters listed in the permit.

The following substances have been identified as being emitted in significant quantities and Emission Limit Values (ELVs) based on the medium combustion plant directive (MCPD) have been set for those substances.

- Oxides of nitrogen
- Sulphur dioxide

Additionally, in accordance with MCPD we have put monitoring requirements for carbon monoxide but there are no emission limits set for carbon monoxide.

It is considered that the ELVs or technical measures described above will ensure that significant pollution of the environment is prevented and a high level of protection for the environment secured.

Based upon the information in the application and the measures that will be imposed by the permit we are satisfied that the appropriate measures will be in place to protect air quality for the environment and human health.

10.2. Emission to surface water, ground water or sewer

There are no proposed changes to the discharges to surface water in the variation.

10.3. Fugitive emissions

We are satisfied that the existing appropriate measures in place will continue to prevent or where that is not practicable to minimise fugitive emissions and to prevent pollution from fugitive emissions.

Permit condition 3.2.1 requires that emissions of substances not controlled by emission limits (i.e., fugitive emissions) shall not cause pollution. Condition 3.2.2 requires that a management plan shall be developed if pollution is subsequently identified.

10.5. Assessment of odour impact

The nature of the new activity (to add a new boiler) will not lead to that will lead to any changes to risks of odour from the site.

10.6. Noise and vibration assessment

The nature of the new activity (to add a new boiler) will not lead to any changes of risks of noise or vibrations from the site.

11. Impact on National Site Network Sites, SSSIs and non-statutory sites

The applicant has used the relevant screening distance criteria to identify relevant protected conservation sites which could be at risk from the proposal. As the only addition to the permit is a new medium combustion plant a risk screening distance of 5 km for national network sites and 2 km for SSSI has been used. The screening distances are in line with our guidance on MCP Natural Resources Wales / What to do before you apply for a standalone Medium Combustion Plant (MCP) permit between 1 and less than 20 MW thermal input

We are in agreement with the screening distances used.

A full assessment of the variation application and its potential to affect the identified sites identified has been carried out as part of the permit determination process. National Site Network sites, Sites of Special Scientific Interest (SSSI) and non-statutory conservation sites will be discussed separately below.

11.1. The National Site Network

No National Site Network Sites are located within 5 km of the installation. Therefore, a Habitats Regulations Assessment (HRA) is not required because there is no conceivable impact pathway by virtue of location of the project.

11.2. Sites of Special Scientific Interest (SSSI)

The following SSSIs are located within 5 km of the installation:

- River Teme (Natural Resources Wales and Natural England)
- Brampton Bryan Park (Natural England)

As a Section 28G Authority as defined in the Countryside Rights of Way Act 2000 permitting teams within NRW has a legal duty, under Section 28I of the Wildlife and Countryside Act 2981, to consult with NRW for formal advice when permitting an activity which has been determined to be likely to damage the features of a SSSI.

To determine if consultation is required, a SSSI Assessment was completed. The assessment concluded that the proposed permission is not likely to damage any of the flora, fauna or geological or physiological features which are of special interest.
The appendix 4 was sent to Natural England for information on the Brampton Bryan Park (Natural England). Natural England agreed that there would be no impacts as long as the site was operated in accordance with the application.
The emissions screened out as insignificant on the SSSIs in Wales and consultation was not required for these sites.
A copy of the assessment and the response from Natural England is available to view on the public register.

11.3. Non-statutory conservation sites

The following relevant non-statutory sites re located within 2 km of the installation:

- 24 ancient woodland sites

For non-statutory sites, we consider emissions as insignificant if the process contribution is less than 100% of the critical level and critical loads. Although air quality modelling was not done for these sites, the air quality modelling for other sites nearby showed that the process contribution of atmospheric NOx and SO_2 was below 100% (0.7% worst case) of the critical levels of SO_2 and NO_x and the process contribution of nitrogen and acid deposition was less than 100 % of the critical loads for nitrogen deposition and acid deposition (1.2% worst case). Therefore it is highly unlikely that the process contribution from the new boilers will exceed 100% of the critical levels and critical loads at the non-statutory sites and as such emission screen out for non-statutory sits.

Based upon the information in the application we are satisfied that there will be no adverse impact to the non-statutory conservation sites identified.

12. The Permit Conditions

12.1. 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.
We have also added permit conditions for the medium combustion plants as the new boiler A6 is classified as new MCP and therefore is subject to the emission limits and monitoring set out in MCPD.

The operator has agreed that the new conditions are acceptable.

12.2. Incorporating the variation

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

These descriptions have been specified in the Operating Techniques table (Table S1.2) in the permit.

12.3. Emission Limits

Article 14(3) of IED states that BAT conclusions shall be the reference for permit conditions. Article 15(3) further requires that under normal operating conditions; emissions do not exceed the emission levels associated with the best available techniques as laid down in the decisions on BAT conclusions.

We have set the emission limits for sulphur dioxide and oxides of nitrogen (expressed as NO_2) in accordance with the medium combustion plant directive. The emission limits set are those listed for this type of MCP (gaseous fuel other than natural gas).

For the existing MCPs we have future dated the compliance with the emission limits in MCPD by 2030 (unless otherwise notified in writing by NRW). In the air quality modelling, the applicant had used emission values for the existing MCPs that where tighter than the ELV set out in MCPD. We have used the emission values as the emission limit (apart from A1 which uses the MCPD value of 250 mg/Nm^3). The emissions used were based on monitoring data and the applicant has confirmed that they are satisfied that the existing boilers can achieve these limits.

12.4. 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.
For emissions to air, the methods for continuous and/or periodic monitoring are in accordance with Monitoring stack emissions: techniques and standards for periodic monitoring - GOV.UK (www.gov.uk).

We have put in the monitoring requirements on the following substances:

- Oxides of nitrogen
- Sulphur dioxide
- Carbon monoxide

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.

For the existing MCPs we have put in future date monitoring for carbon monoxide. The existing permit already had monitoring for oxides of nitrogen, sulphur dioxide and particulate matter for the existing MCP. We have changed the monitoring frequency of the existing boilers from annual to every 3 years as this is the standard monitoring frequency for a medium combustion plant under 20MWth. We made this decision in

accordance with the medium combustion plant directive and the environmental permitting regulations. This would not lead to any backsliding in standards or change in risk of impact.

There are no changes to any other monitoring requirements.

12.5. 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 and to monitor the efficiency of material use and waste recovery at the installation.

We have included the emission point from the new boiler 6 (A6) in the reporting table (Table S4.1).

13. OPRA

The OPRA score has not been changed as a result of this variation and remains as 47. This will form the basis for ongoing subsistence fees.