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Natural Resources Wales permitting decisions

Wipak UK Limited (Buttington Cross Enterprise Park facility) Decision Document

New bespoke permit

The application number is: PAN-012973

The Applicant / Operator is: Wipak UK Limited

The Facility is located at: 3 Buttington Cross Enterprize Park, Welshpool, SY21 8SL

We have decided to grant the permit for Wipak - Buttington Cross operated by Wipak UK 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.

Structure of this document

- Table of contents
- Key issues
- Annex 1 consultation response

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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 Medium Combustion Plant Directive (MCPD) and hence is known as a Medium Combustion Plant (MCP).

We consider that, in reaching that decision, we have taken into account all relevant considerations and legal requirements and that the permit will ensure that a high level of protection is provided for the environment and human health.

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 09/08/21. 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 a claim for 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

We carried out consultation on the Application in accordance with the Environment Permitting Regulations (EPR), our statutory Public Participation Statement (PPS) and our Regulatory Guidance Note RGN6 for Determinations involving Sites of High Public Interest.

Furthermore we have also considered the Well-Being of Future Generations (Wales) Act 2015 and the Environment (Wales) Act 2016 during our assessment process.

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.

We consulted Cyngor Sir Powys – Powys County Council on the application as it concerned the permitting of a MCP plants located on a Part A2 or Part B (local authority regulated) installation. Their expertise, democratic accountability and/or local knowledge make it appropriate for us to seek their views directly.

Further details along with a summary of consultation comments and our response to the representations we received can be found in Annex 1. We have taken any relevant representations into consideration in reaching our determination.

2.3 Requests for Further Information

In order for us to be able to consider the Application duly made, we needed more information. We requested further information relating to the air quality impact assessment, and the potential impacts on protected natural habitats sites. Upon receipt of this information we were able to consider the application Duly Made.

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

3 The Legal Framework

The permit is 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 covering the MCPD
- 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.

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 of the EPR:

- One new Medium Combustion Plant aggregated to <50 MWth at a specified location

The plant is classed as a new medium combustion plant as put into operation after 20 December 2019. 'Put into operation' means the plant being fired up to its full load with its design fuel.

4.1.2 The Site

The site is located at Unit 3, Buttington Business Park, Welshpool, Powys, SY21 8SL. The area around the site is predominantly industrial estate (commercial/industrial/retail use) with the nearest domestic property located approximately 350m to the North West of the regulated facility. There are a number of disperse domestic and farm buildings to the North, and the town of Welshpool >500m to the South West. The Powys bypass (A483) is located approximately 150m to the South East and runs along the length of the business park. The site is not in a designated air quality management area (AQMA).

The disused Shropshire Union Canal (Montgomery Branch) runs across the North West of the regulated facility approximately 13m away from the site boundary and is a protected habitat. There are three protected Sites of Special Scientific Interest (SSSIs) located within 2 Km of the site (Montgomery Canal 13m, Gungrog Flash 409m, Bron-y-Buckley Wood 1.8 Km). There are two Special Areas of Conservation (SACs) within 5 Km of the site; The Montgomery Canal (designated both SAC and SSSI – 13m), and Granllyn (3 Km). There are no local wildlife sites or nature reserves within 2 Km of the site, but there are numerous disperse areas of woodland, including ancient woodland. The River Severn runs within the valley however the flood plain is located some 250 m away from the regulated facility location.

4.1.3 What the Facility does

The production facility produces printed packaging film for the food and medical industries under a local authority installation permit. They plan to install new production equipment and to increase production capacity. In order to facilitate this expansion, they will require additional heat for drying laminating substrate which is applied to packaging film. This will be provided by the 1.5 MW_{th} input MCP natural gas fired unit (serial number 32509-2021) to which this decision document applies. The existing Part A2 installation permit and new MCP permit are separate. This boiler is used to heat an oil as a heat transfer medium used in the production process (rather than for direct heating), meaning that the plant falls under the MCPD. There is no generation of electricity from the MCP. It is noted that the production facility already utilises waste heat from two regenerative thermal oxidisers (RTOs) which were fitted in 2000 and 2015 respectively, and two existing smaller boilers (0.75 MW_{th} input each)

which were fitted in 1996. None of these other plant are identified as falling within the scope/definitions of the MCPD either as “new” or “existing” plant as they are under 1 MW_{th} input. The MCP is fitted with an 15m high stack and is expected to operate for approximately 108 hours per week (Monday-Friday) 50 weeks/year, totalling 5400h/year. Firing will be modulated according to demand, and will usually provide “top up” to baseload heat provided by energy recovery from the RTOs. It will nevertheless be permitted (in line with impact modelling) to operate continuously 24/7/265 all year.

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 NO₂)
- Air quality – Carbon monoxide (CO)

These will be discussed 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 when granted; and that the Applicant will be able to operate the Facility so as to comply with the conditions included in the Permit as issued.

Relevant Convictions

NRW’s COLINS Database has been checked to ensure that all relevant convictions have been declared. No relevant convictions were found.

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 submitted a summary of the EMS with their application. The applicant has an EMS which is externally certified to ISO14001, the scope of which will include the MCP.

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 be required to have MCERTS accreditation. The applicant has acknowledged this requirement in their application (further information)

The operator has stated that they will implement the following quality assurance techniques and maintenance schedule, in order to for the plant to achieve and retain optimal performance. We are satisfied with these proposals.

- Inclusion in production facility ISO 14001 certified management system
- Day to day inspection and management; annual servicing by competent persons; 24h on-call contract for breakdown/faults.

As a new Medium Combustion Plant, the site must adhere to the following operating techniques specific for MCP:

- Each MCP must be operated in accordance with the manufacturer's instruction and records must be made and retained to demonstrate this.
- The operator must keep periods of start-up and shut down of each MCP 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.

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

5 Minimising the Facility's environmental impact

For this kind of regulated activity, the principal emissions are emissions to air. There are no permit conditions for water, land, 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 air emissions 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 stack 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 (8760h/annum) at the relevant long-term or short-term emission limit values, i.e. the maximum permitted emission rate. The modelling has included both the new MCP, and the two existing boilers and two RTOs on the Part A2 plant which is part of the overall production site. Combustion plant emissions have all been modelled at the MCP ELV, while the RTOs have been modelled at the actual measured emission rate. This approach goes beyond the minimum requirement, which would be to consider emissions from the MCP only as the other units will be

captured in “background” pollutant considerations where relevant and are not in regulatory scope of the MCP permit.

It is noted that owing to uncertainty in the capacity of boiler required, modelling was completed using emission flow rate from a higher specification 1.7 MW_{th} boiler of the same type. During determination, the applicant confirmed that a 1.5 MW_{th} boiler was sufficient. The air dispersion modelling was not revised, meaning that the modelling is a conservative over-estimate of actual emissions.

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 Permitting Service. The output from the model has then been used to inform further assessment of health impacts. The site is not located within (nor close to) an AQMA.

We do note an anomaly in the air dispersion modelling information submitted (Table 7 and page 10 of air quality assessment), which suggested that there may be an inconsistency in modelling input data (normalised versus actual mass concentration flows). This was queried with the applicant, and was fully resolved in their response to our request for further information. While the original air quality assessment summary report contained an error, it was confirmed that the correct data was used in the actual modelling.

The applicant has modelled emissions using the atmospheric dispersion model ADMS 5.2, a commonly used and widely accepted tool for this type of study. They have identified specific residential and non-residential receptors, and have calculated maximum impacts both at these locations, and the maximum value within the modelled domain. 5 years of meteorological data from 2016-2020 have been used from Lake Vyrnwy weather station, approximately 24 km from the site. Surrounding geography (general ground use cover, topography and influence of specific surrounding buildings) have been considered in the model. Where it has been necessary to consider pollutant background concentration, Defra 1 x 1 Km background mapped concentrations have been used, based on forward projections for 2021, 22, 23 from 2018 measurements

(most unfavourable year data selected). We agree that the approach is reasonable, and contains a number of conservative (worst case) assumptions, i.e. the use of ELV emission concentrations, assumed 24/7/365 operation (8760h/y cf 5400h/yr expected), the use of results from the highest of 5 years of meteorological data and 3 years background data, and modelling of the higher capacity 1.7 MW_{th} boiler rather than the 1.5 MW_{th} unit finally selected for use.

Using this approach, the applicant has calculated process contributions (PC) and predicted environmental concentrations (PEC) at all identified sensitive receptor locations, and at the maximum point in the modelled domain. PCs indicate the scale of impact from the facility, while PECs take into account existing pollutant backgrounds (from other sources) as well as the proposed emissions in order to predict the total impact on the environment as compared with relevant long-term and short-term Environmental Standards (ES). The modelling results for NO_x and CO will be discussed separately below. It is noted that the maximum pollutant concentrations “on the modelled grid” will occur close to the emission point sources on the site, and are not representative of human or ecological exposure, but illustrate the worst case emission impact. Impact assessment is considered primarily at identified receptors.

Oxides of nitrogen (NO_x)

A long term Environmental Standard of 40 µg/m³ (annual) and short term Environmental Standard of 200 µg/m³ (hourly) was identified for NO_x for the protection of human health. This is in accordance with the guidance [“air emissions risk assessment for your environmental permit”](#).

The maximum predicted long-term PC was >1 % (10.6% at commercial property, 3.9% at residential, 25.6% at maximum point on modelled grid) so could not immediately be considered insignificant against a 1% significance threshold at receptors for long term ES. The maximum long-term PEC was <70 % (28.8% at commercial property, 22.1% at residential, 43.8% at maximum point on modelled grid) of the long-term critical level. Therefore in accordance with NRW guidance the long-term impacts from NO_x can be considered as insignificant as the PEC is significantly below the ES at all modelled locations.

The maximum predicted short-term PC was >10 % within the modelled grid (15.4% at point of maximum impact) but <10% at most impacted receptors (6.3% at commercial property, 3.5% at residential) so can be considered insignificant against a 10% significance threshold at receptors for short-term ES. It is also noted that the maximum long-term PEC was 22.7% at maximum point on modelled grid of the short-term critical level, demonstrating a comfortable margin between expected pollutant levels and relevant ES, and hence an insignificant impact at all points in the modelled domain.

Carbon Monoxide (CO)

Short-term critical levels of 10 mg/m³ (8-h in 24h) and 30 mg/m³ (hourly) were used for CO in accordance with the guidance "[air emissions risk assessment for your environmental permit](#)" for assessment of protection of human health. The applicant provided information on expected emission concentration (50 mg/m³) and other characteristics (in the AQIA and accompanying spreadsheet) which enabled screening calculation of maximum impact to be calculated by NRW using the simple "H1" screening tool.

The maximum predicted ground level 8-hour PC was 0.568% of the ES, and the maximum predicted ground level 1-hour PC was 0.27% of the ES. These are well below the <10 % significance threshold for short-term critical levels. Therefore in accordance with NRW guidance the impacts from CO can be considered insignificant.

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. Influence on Special Areas of Conservation (SAC), Special Protection areas (SPA) and Ramsar sites, SSSIs and non-statutory conservation sites will each be discussed in detail below.

SAC/SPA/Ramsar sites

The following SAC/SPA/Ramsar sites (Formerly "Natura 2000", now "Emerald Network Sites") are located within 5 km screening distance of the facility:

- SAC UK0030213 Montgomery Canal
- SAC UK0030158 Granllyn

- SAC UK0014783 Tanat and Vyrnwy Bat Sites (Safleoedd Ystlumod Tanat ac Efyrnwy)

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. It has been sent to the NRW Environment Team as the appropriate statutory consultee. They have accepted the conclusions of the assessment.

Appropriate assessment:

In light of the conclusions of an appropriate assessment, it has been established that the project will not adversely affect the integrity of any SAC/SPA/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 and 5 of OGN 200 Form 1).

The Form 1 provides further detail and is available on the public register.

SSSI Assessment

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

- SSSI 32WPB Bron-y-Buckley Wood
- SSSI 32 WWW Gungrog Flash
- SSSI 32WPP Montgomery Canal

An Appendix 4 Form (CRoW Act Assessment) was completed to assess the potential to effect the SSSI sites, this is available on the public register and contains further information. The assessment concluded the installation is not likely to damage any of the features of the SSSI sites. It has been sent to the NRW Environment Team as the appropriate statutory consultee. They have accepted the conclusions of the assessment.

Non-statutory conservation sites

There are no locally designated conservation or wildlife sites within 2km screening distance of the MCP. There are a number of disperse areas of woodland, including protected ancient woodland. A long term Ecological Environmental Standard of 30

$\mu\text{g}/\text{m}^3$ (annual) and short term Environmental Standard of $75 \mu\text{g}/\text{m}^3$ (hourly) was used for NO_x. For these sites, impact is deemed insignificant if the PC is less than 100% of the ES. In this case, the maximum PC at any point in the modelled domain was 34% annual average and 41% of the hourly average. Thus the impact of emissions of NO_x are considered insignificant.

It is also necessary to consider the potential impact of emissions on Nutrient Nitrogen Deposition and Acid Deposition on relevant critical loads. Given that the PC for NO_x are substantially below 100% as illustrated, and that this is the only emitted pollutant contributing to deposition, it follows that the PC for deposition metrics must also be below 100% of the ES, given the nature of the deposition dynamics. Further detailed calculation is not required.

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 MCP Directive.

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 the MCP Directive and technical guidance note M5.

For a new Medium Combustion Plant, that is a boiler fuelled by natural gas, the monitoring requirements are as follows:

Pollutant	Type of MCP	Fuel Type	Emission Limit	Monitoring Required

			Value (mg/Nm³)	
NO _x	Other medium combustion plant (Boiler)	Natural Gas	100	Periodic – once within 4 months of permit issue, and then every 3 years
Carbon Monoxide	Other medium combustion plant (Boiler)	Natural Gas	No limit set	Periodic – once within 4 months of permit issue, and then every 3 years

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 O₂ content of 3 % for MCPs fired on natural gas such as this.

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 Charges and Subsistence Fees

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

ANNEX 1: Consultation Responses

A) Advertising and Consultation on the Application

The Application has been consulted upon as explained above. The results of our consultation and how we have taken consultation response into account in reaching our draft decision is summarised in this Annex. Copies of all consultation responses have been placed on Natural Resources Wales public register.

1) Consultation Responses from Statutory and Non-Statutory Bodies

Response Received from Powys County Council	
Brief summary of issues raised:	Summary of action taken / how this has been covered
Confirmation email 18/08/21 that the Environmental Protection department of the council " <i>do not have any concerns to raise in respect of this application</i> "	N/A – Permit determined as documented above with no need for further examination/revision.