Natural Resources Wales Permitting Decisions

Dow Silicones UK Ltd (V011 – Normal variation application: Installation of silica storage silos and unloading facility)

Decision Document

Application for a Normal Variation

The application number is: PAN-026441

The permit variation number is: EPR/BR9685IX/V011

The applicant / operator is: Dow Silicones UK Ltd

The Installation is located at: Barry Plant, Cardiff Road, Barry, Vale of Glamorgan, CF63 2YL

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

Glossary

Acronym	
BAT	Best Available Techniques
LEV	Local Exhaust Ventilation
DAA	Directly Associated Activity
EPR	Environmental Permitting Regulations
IED	Industrial Emissions Directive
MCP	Medium Combustion Plant
NRW	Natural Resources Wales
CMR	Carcinogenic, Mutagenic, Reprotoxic Substances
EMS	Environmental Management System
COMAH	Control of Major Accident Hazards Regulations
CWWWG	Common Waste Water and Waste Gas Treatment/Management Systems in the Chemical Sector
WGC	Waste Gas Management and Treatment Systems in the Chemical Sector
AEL	Associated Emission Levels
CHP	Combined Heat and Power
WFD	Waste Framework Directive
ELV	Emission Limit Values
SSSI	Site of Special Scientific Interest
HRA	Habitat Risk Assessment
RGN	Regulatory Guidance Note

1. Executive summary

1.1. Application summary

The current permit held by Dow Silicones UK Ltd is for an installation – Barry Plant. The primary function of Barry Plant is the manufacture of silicone and silicone intermediates.

The application is for a normal permit variation to include the installation of 4 silica storage silos including silica container offloading to feed into the W115 production facility via existing infrastructure. There will be new Authorised release points on the top of each of the silos (A126, A127, A128, A129) which will have a filtration unit designed to meet BAT requirements.

Furthermore, the application also includes the installation of an upgraded LEV in W115. It is being installed to protect workers in the area from potential exposure to small amounts of crystalline silica powder. The LEV will vent to atmosphere via a stack, authorised release point A130.

1.2. Our decision

We have decided to issue the variation for Barry Plant operated by Dow Silicones.

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 16/05/2025, with a resubmitted C3 form and accompanying updates appendices received 21/08/2025**.** In order for us to be able to consider the application duly made, we needed more information. We requested the following:

- A request for additional payment of £7,294. This is because the application included the variation as a DAA rather than a variation to a S4.7 A(1)(a) activity.
- Clarification regarding the designation of the installation as “low impact”
- An updated non-technical summary
- An updated site plan
- An updated BAT assessment
- A summary of changes to the management system
- A resubmitted H1 assessment including release point A130 and amended effective height of release for release points A126, A127, A128, A129
- An updated risk assessment

A letter requesting this information was sent to the applicant on 16/09/2025. Upon receipt of this information, on 23/11/2025, 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

A claim for commercial or industrial confidentiality was originally made. After discussion with the applicant in the determination period, this confidentiality claim was withdrawn, with a revised, non confidential application submitted 11/12/2025. As such, we have not received information in relation to the revised 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.

- Schedule 25A of EPR which covers Medium Combustion Plant (MCP)

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 for Part A1 installations in Wales, NRW are required to determine any duly made Part A1 permit applications. 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

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

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.

5. Consultation

No consultation has been carried out on this application because the proposed permit variation does not entail a substantial change nor is deemed to pose a significant risk to the environment. 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 withdrawal of previously supplied H1 assessment and redacted environmental permit variation application report. In their place an updated H1 was requested and an updated unredacted environmental permit variation application report. The Schedule 5 Notice was sent on 11/12/2025 with a deadline for response of 18/12/2025.

The applicant's response to the Schedule 5 Notice was provided on 11/12/2025. The additional information supplied satisfied the requirements of the Schedule 5 Notice.

Several informal information requests were also made via email. These related to:

- A clarification on the number of times per year in scenario 1 of the H1 assessment a road tanker unloaded into the silica silos (see section 10). This initially stated 24 times per year in the application but was clarified to be 12 times per year.
- A clarification on whether scenarios 1-4 of the H1 assessment are mutually exclusive (see section 10).
- A clarification on whether W115 mixing plant does fit in S4.7 A(I)(a).

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

- A clarification regarding the number of MCP present on site and future plans for MCP installation at the site.
- A clarification regarding the application of BS EN 13284 to W115 in terms of emissions monitoring.
- A clarification regarding the CMR status of silica in W115 mixing plant compared to within W351 silos.
- A clarification of the intention of the application of BAT conclusions regarding emissions to air (see section 8.3 of this document).

A copy of the information notice(s) and e-mails 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:

- S4.2 A(1)(a)(i) – Producing inorganic chemicals such as – gases (for example ammonia, hydrogen chloride, hydrogen fluoride, hydrogen cyanide, hydrogen sulphide, oxides of carbon, sulphur compounds, oxides of nitrogen, hydrogen, oxides of sulphur, phosgene).
- S3.1 B(c) – Slaking lime for the purpose of making calcium hydroxide or calcium magnesium hydroxide.
- S4.1 A(1)(a)(vi) – Producing organic chemicals such as – organic compounds containing halogens (for example halocarbons, halogenated aromatic compounds and acid halides).
- S4.2 A(1)(a)(iv) – Producing inorganic chemicals such as – salts (for example ammonium chloride, potassium chlorate, potassium carbonate, sodium carbonate, perborate, silver nitrate, cupric acetate, ammonium phosphomolybdate).
- S4.2 A(1)(a)(v) – Producing inorganic chemicals such as - non-metals, metal oxides, metal carbonyls or other inorganic compounds (for example calcium carbide, silicon, silicon carbide, titanium dioxide).

- S4.7 A(1)(a) - Any activity for the manufacture of a chemical which may result in the release of ammonia into the air, other than an activity in which ammonia is only used as a refrigerant.
- S5.1 A(1)(c) – The incineration, other than incidentally in the course of burning landfill gas or solid or liquid waste, of any gaseous compound containing halogens.
- S5.4 A(1)(a)(i) – Disposal of non-hazardous waste with a capacity exceeding 50 tonnes per day (or 100 tonnes per day if the only waste treatment facility is anaerobic digestion) involving one or more of the following activities, and excluding activities covered by Council Directive 91/271/EEC concerning urban waste-water treatment – biological treatment.

An installation may also comprise “directly associated activities”, which at this Installation includes:

- W424 and W940 Silicon grinders
- W948, W420 and W322 Hot oil heaters <20MW thermal input
- W404, W406, W408, W414, W708, W801, W802, W810 Tank farms
- W911, W342 Cooling towers
- W413 and W411 Storm water collection sump and river water filtration unit
- W1205, W1206 and W805 Quench process and Medusa process
- W946 Chlorosilane recovery unit
- W709 Absorber and fridge
- W945 Basics refrigeration unit
- W707, W717, W941 Distillation process

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

7.2. Changes to the installation

The operator is proposing to install 4 silica storage silos including silica container offloading to feed into the W115 production facility via existing infrastructure. There

will be new Authorised release points on the top of each of the silos (A126, A127, A128, A129) which will have a filtration unit designed to meet BAT requirements.

Furthermore, the application also includes the installation of an upgraded LEV in W115. It is being installed to protect workers in the area from potential exposure to small amounts of crystalline silica powder. The LEV will vent to atmosphere via a stack, authorised release point A130.

This will affect the existing activity S4.7 A(1)(a) under schedule 1 Table S1.1 in the EPR permit EPR/BR9685IX.

MCP

There is one MCP on the site that has a rated thermal input between 5 and <50 MW on your site. This will cease operation in June next year. This means 2 units <5 MW will remain on site. There will be a future permit variation to install new boilers which will be covered by MCP also.

In light of the imminent ceasing of existing MCP operation on site, coupled with the fact that a new variation is planned in the near future for new MCP's on site, NRW deemed that in this instance it is more appropriate to not incorporate the existing MCP as part of the variation at this time.

8. Operation of the installation

8.1. 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 after 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].

[3] RGN 1 Understanding the meaning of 'operator' (naturalresources.wales)

Relevant Convictions

The applicant has declared they have no relevant convictions. NRW's COLINS Database has been checked to confirm there are no relevant convictions. No relevant convictions were found.

Financial Provision

The applicant has declared they have no current or past bankruptcy or insolvency proceeding against them.

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.

8.2. Environmental Management System

The applicant has stated in the application that they have implemented an Environmental Management System (EMS) that meets the requirements for an EMS in our "How to comply with your environmental permit" guidance[4].

The applicant has a Operating Discipline Management System (ODMS) in place. The ODMS is based on, and fully meets the requirements of ISO:14001 (2015), as detailed in the summary documentation provided by the applicant.

The ODMS has also been assessed by LRQA, who concluded that the ODMS satisfies the requirements of the ISO:14001 standard.

The applicant has submitted a summary of the EMS with their application.

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.

[4] Natural Resources Wales / Guidance to help you comply with your environmental permit

Accident management

The applicant has confirmed that where deemed necessary, new items will be added to the COMAH report or accident management plan.

8.3. Operating techniques

Installation activities and assessment of Best Available Techniques

The applicant has described the proposed equipment and operating techniques and compared these against the relevant guidance notes / Best Available Techniques conclusions (BATc) which for an installation of this type is Common Waste Water and Waste Gas Treatment/Management Systems in the Chemical Sector (CWWWG) published 30th May 2016. The applicant had also considered the BATc for Common Waste Gas Management and Treatment Systems in the Chemical Sector (WGC) (published 6th December 2022). Following the UK's exit from the European Union, EU BAT/BREFs set the basis for permit conditions within the UK up to 1st January 2021, after which a transition period for the UK's departure from the process was completed. Existing EU BAT conclusions continue to have effect in the UK through the EU Withdrawal Act 2018, however the UK no longer needs to meet the requirements of any new EU BAT Conclusions published after 1st January 2021. This includes the EU WGC BAT conclusions which were published in 2022. The UK Government and devolved nations have been given the power to define UK-wide BAT under the EU Withdrawal Act and Environment and Wildlife Regulations and this work is on-going. While we are not legislatively bound to the EU WGC BAT conclusions, in the absence of UK BAT for this sector we still consider them to represent best practice until UK BAT has been determined and consider them relevant for the determination of this permit variation application. We have reviewed the techniques proposed and consider them in line with them to represent BAT at this installation. Specifically, BAT 8 and 14 apply to this variation.

BAT 8 states that for all sources of dust emitted to atmosphere, any stack with dust flow < 3 kg/h must be measured annually in accordance with standard EN 13284-1.

BAT 14 states the acceptable BAT methods for the reduction of emissions of dust to air, which consist of the following techniques; absolute filters, absorption, fabric filters, high efficiency air filters, cyclones and electrostatic precipitators. BAT-AELs are also stated for dust, Lead and Nickel.

BAT 8

The applicant has stated that the monitoring requirements for particulate (dust) containing vents, as taken from BAT 8 of WGC would be annual using method BS EN 13284-1 as the four silo vents all have a dust flow rate of less than 3 kg/hr. The dust flow from W351 silica silos will be a maximum of 3.7 g/hr when at the maximum flow scenario.

The dust flow from W115 LEV will be a maximum of 5 g/hr, which is less than 3 kg/hr, and hence will also be monitored annually via BS EN 13284-1.

BAT 14

Technology Selection

Both items in the variation application include addition of authorised air release points on particulate containing streams, with filtration units. They have both been selected in line with BAT 14 of WGC.

The filtration units on the W351 silica silo filters are fabric filters: – pulse jet filters, with a reverse pulse jet for cleaning and differential pressure measurement to monitor condition and cleanliness.

The filtration unit on the W115 LEV unit is an absolute filter: a HEPA 13 filter with an efficiency of 99.95% particulate removal.

We have reviewed the techniques proposed and consider them in line with them to represent BAT at this installation.

BAT-ELV

Table 4.3 of BAT 14 from WGC contains note 2 – which states “The BAT-AEL does not apply when the dust mass flow is below 50 g/h if no CMR substances are identified as relevant in the dust based on the inventory given in BAT 2.

In the case of the W351 silica silos, the dust mass flow is below 50 g/hr and no CMR substances are identified as relevant based on the inventory given in BAT 2, hence BAT-AEL does not apply to emission points A126, A127, A128, A129.

In the case of W115 LEV, the dust mass flow is below 50 g/hr, however, this may contain crystalline silica which is a CMR1 material. As CMR substances are relevant, BAT-AEL does apply. BAT 14 for dust emissions states a BAT-AEL range of 1-5 mg/Nm^3. However, note 4 states that Dust emissions are expected to be towards the lower end of the BAT-AEL range (e.g. below 2.5 mg/Nm^3) when the presence of substances classified as CMR 1A or 1B, or CMR 2 in the dust is identified as relevant. Hence, a BAT-AEL limit of 2.5 mg/Nm^3 will be applied to emission point A130.

We have specified that the applicant must operate the permit in accordance with descriptions in the application. See section 12.3 of this document for more information on how we have incorporated the application/variation into the permit and how emission limit values have been set.

Efficient use of raw materials, water and energy

Having considered the information submitted in the application, we are satisfied that the applicant will ensure that raw materials, water and energy is used as efficiently as possible.
The applicant has stated that:

- Air driven pumps to be used
- Energy efficient lighting to be installed
- Electricity supplied by onsite CHP
- No change in raw materials

The operator will be required to report energy usage under condition 4.2 and Schedule 4 of the permit. The following parameters are required to be reported, as is the case in the existing permit:

- Water usage
- Energy usage
- Total raw materials used
- Unit recovery unit

This will enable us to monitor energy recovery efficiency at the Installation.

Avoidance, recovery or disposal of wastes produced by the activities

Details on how waste production will be avoided and how any waste produced will be recovered or disposed are explained below:

- Periodic filter changes from the filtration units on top of the silos which will either go to landfill or be sent for energy recovery. These units have been designed with a back pulse. A back pulse in a filter is a short, high-pressure burst of compressed air, that is directed from the clean side of the filter to the dirty side to dislodge accumulated dust or foulants from the filter media, thereby regenerating it and extending its life and thus reducing waste.
- Residual powder from connection and disconnection of the bags – this will be included in the existing powder waste stream and go for incineration. The process for connection and disconnection is being designed to create as little waste as possible and the operational procedures will be written to further minimise this by fully blowing clear the lines prior to disconnection.
- The bags used inside the sea containers for the transportation of silica are intended to be multi use and where possible will be returned to the supplier for refilling once emptied.
- Periodic filter changes from the filtration units on the LEV in W115. These are expected to have an extended life due to being self-cleaning.
- Powder waste from the LEV filtration unit - this will be included in the existing powder waste stream and go for incineration

Having considered the information submitted in the application, we are satisfied that the waste hierarchy referred to in Article 4 of the WFD will be applied to the generation of waste and that any waste generated will be treated in accordance with this Article.

We are satisfied that waste from the Installation that cannot be recovered will be disposed of offsite using a method that minimises any impact on the environment. Permit condition 1.4.1 of the permit will ensure that this position is maintained.

9. The site

The Installation is located at Barry Plant, Cardiff Road, Barry, Vale of Glamorgan, CF63 2YL. The installation consists of four sites that are linked technically. These are operated by Dow Silicones UK Limited, Navigator Terminal and Cabot Carbon Limited. The permit to which this variation applies relates to the Dow Silicones site. The site incorporates a large number of chemical processes that are highly Integrated.

9.1. Site Plan

The applicant has provided an updated plan which we consider is satisfactory, showing the extent of the site of the facility and its existing emission points, with the new emission points A126, A127, A128, A129, and A130 also clearly located.

The updated plan will be included in the permit, and the operator will be required to carry on the permitted activities within the site boundary.

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.

There are no anticipated impacts on the following emission types:

- Odour – the applicant has identified no sources of odour within their environmental risk assessment
- Noise and vibration – The new LEV unit at W115 has a silencer installed to ensure the noise levels are below 80dB. The unit will also be installed 100m from the fenceline and behind a building which will provide a shielding. This is not considered to be a risk from a noise point of view. The W351 silica silos are being installed 200m from the fenceline. At W351 the filter units on the top of the four silos are lined with noise insulation material to ensure the noise levels are below 80dB. Noise monitoring will be carried out during commissioning to confirm that noise levels are acceptable.
- Emissions to ground and surface water – There are no emissions to land or groundwater generated or affected by this variation
- Emissions to sewer – There are no emissions to water generated or affected by this variation.
- Fugitive emissions – the variation is low risk with risk scenarios and mitigation outlined in an environmental risk assessment, which NRW deems acceptable
- Global warming potential – the variation does not involve the release of GHG compounds. A climate change agreement has been supplied as part of the application.

10.1. Assessment of impact on 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]. The applicant has conducted their assessment via the use of the H1 risk assessment tool. This assessment predicts the potential effects on local air quality from the Installation's emission points.

- The application requests permission to install and operate four new silos which will accept milled silica.
- Each will be fitted with a particle filter that has a filtration capacity of 5mg/m^3. Volume flowrates between the four silos are very varied, ranging from 37.6m^3/hr to 724 m^3/hr.
- The silos will be filled using four operating scenarios, of varying duration and frequency. They will be filled individually and independently from each other, and not at the same time. In addition, the applicant has provided an "averaged" scenario which attempts to combine the impact of all four on an annual basis. The five operating scenarios are as such:
    - Scenario 1 – 724 m^3/hr - 1 time per month for 45 minutes (unloading a road tanker) – 45 minutes 12 times per year – this equates to 0.1% online time across the 4 release points (0.026% per silo)
    - Scenario 2 – 373.3 m^3/hr - 2 times per day for 4 hours (unloading a sea bulk container) – 8 hours per day to one of the four silos – equates to 8.33% online time per silo.
    - Scenario 3 – 207.6 m^3/hr – 12 times per day for 30 minutes (transferring out of the silo to W115), equates to 6.25% online time per silo.
    - Scenario 4 – 37.6 m^3/hr – silo in idle operation with a depad airflow to prevent nozzle blockages – this is on 85.39% of the time.
    - Scenario 5 – 76.38 m^3/hr - taking into account all the flows and online times .
- The applicant has provided a H1 assessment for each of the five scenarios. These assessments consider the impact from releases of PM_{10} and $PM_{2.5}$
- Despite advice to use an effective stack height of 0m, the applicant has used an effective stack height of 25m in all five assessments
- The H1 assessments 'pass' all tests.

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

To ensure the H1 assessment accurately reflects the relevant guidance[5] the assessments have been replicated, using the same parameters, but changing the effective stack height to 0m. This has resulted in the short-term (daily average) PM_{10} for Scenario 1 failing Tests 1 and 2:

- Daily average PC = 9.256ug/m^3 (>10%)
- Background = 11.42ug/m^3
- Test 2 calculation:
    - $PC_{short\text{-}term}$ > 20% (AQS – 2 * $background_{long\text{-}term}$)
    - 9.256ug/m^3 > 5.432ug/m^3

After looking at this in more detail, it is the view of NRW that we do not need to ask the applicant to carry out detailed dispersion modelling for the following reasons:

- The operating scenarios are mutually exclusive and therefore the impacts from them are not cumulative
- Scenario 1 has a high volume flowrate, which is contributing to its elevated potential impact on daily average PM_{10}. However, this operating scenario is infrequent (45mins per fill, max. 12 times per year) which is reflected in the very low predicted annual average PM_{10} PC of 1.55 x 10^{-4} ug/m^3
- The daily average AQS for PM_{10} is only breached if the limit is exceeded on 35 or more occasions in a year
- Scenario 5 represents an annualised average of all 4 scenarios and passes both tests
- The silos will utilise a 5mg/m^3 filter, which is precautionary
- We have completed our own H1 assessments based on an effective stack height of 0m, which again, is precautionary

Based on the above, some measures to consider including in the permit via this variation to control emissions of particulate from the silos could include:

- An Improvement Condition to confirm the quoted volume flowrates, emission rates and filtration capacity of the filters

- A restriction in the ‘limits of specified activity’ section of Table S1.1 to prevent coincident operation of silo filling

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 BAT have been set for those substances.

- Dust - a BAT-AEL limit of 2.5 mg/Nm^3 will be applied to emission point A130

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.

10.4. Fugitive emissions

The applicant has identified the following potential fugitive emissions in their environmental risk assessment:

- Dust – emitted fugitively due to filter failure or accidentally in the process of offloading

The application details measures which will be in place for preventing and minimising fugitive emissions in their environmental risk assessment, submitted as part of the application.

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.

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.

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

The applicant has used the H1 risk assessment tool to screen out the air quality impact of the variation.

A full assessment of the variation application and its potential to affect nearby sites 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

The following National Site Network sites are located within 10 km of the installation:

- The Severn Estuary

A Habitats Regulations Assessment (HRA) is not required because there is no conceivable impact pathway to the National Site Network site identified by virtue of the scale or location or nature of the project.

This is because the variation does not pose any risk to the identified site, owing to the fact that the impact of air emissions has been screened out by virtue of a H1 assessment. Furthermore, the application does not list any odour, noise, emission to surface water or sewer, nor any fugitive emission to the environment.

11.2. Sites of Special Scientific Interest (SSSI)

The following SSSIs are located within 2 km of the installation:

- Coedydd y Barri / Barry Woodlands
- Cog Moors
- Hayes Point to Bendrick Rock

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. Therefore, no consultation with NRW's protected sites advisors is required.

A copy of the assessment is available to view on the public register

11.3. Non-statutory conservation sites

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

- SINC No. 294
- SINC No. 337
- SINC No. 338
- SINC No. 339
- Ancient semi-natural woodland
- Restored ancient woodland site
- Restored ancient woodland site

The applicant has provided a satisfactory risk assessment which uses the source-pathway-receptor model to assess impacts offsite. The calculated residual risk is low for all potential impacts.

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(s).

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 in the permit.

12.3. Emission Limits

We have decided that emission limits should be set for dust from the W115 LEV (emission point A130). This limit has been derived from the EU BAT conclusions for CWG. As discussed in section 8.3, we consider this to represent best practice in the absence of a UK equivalent.

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.

BAT conclusions set out specific limits that the operator must comply with. Modelling has been used to demonstrate that the operator will be able to comply with the emission limits described as BAT.

A BAT-AEL limit of 2.5 mg/Nm^3 will be applied to emission point A130. All existing emission limits in the existing permit also remain in place.

12.4. Monitoring

For this variation, the applicant has stated that the monitoring requirements for particulate (dust) containing vents, as taken from BAT 8 of WGC would be annual using method BS EN 13284-1 for the four silo vents (emission points A126, A127, A128, A129).

The dust flow from W115 LEV (emission point A130) will also be monitored annually via BS EN 13284-1.

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.

12.6. Improvement conditions

Based on the information on the application, we consider that we need to impose improvement conditions. Details of the improvement conditions used can be found at Annex 1.

As outlined in Section 10.1, the improvement condition is to confirm the quoted volume flowrates, emission rates and filtration capacity of the filters. This is to ensure that the assumptions made in the course of the H1 assessment are correct impacts and no more than what was outlined in the H1 assessment.

Furthermore, a restriction in the 'limits of specified activity' section of Table S1.1 to prevent coincident operation of silo filling will be applied. This is to ensure quoted volume flowrates and emission rates are not exceeded and that the filtration capacity of the filters is not exceeded.

13. OPRA

The OPRA score has not been changed as a result of this variation and remains as 366. This will form the basis for ongoing subsistence fee's.

ANNEX 1: Improvement Conditions

Table S1.3 Improvement programme requirements

Reference	Requirement	Date
IC1	The operator shall submit for approval to Natural Resources Wales a report confirming the quoted volume flowrates for each of the 5 filling scenarios described in application reference PAN-026441, emission rates of PM_{10} and $PM_{2.5}$ for each of the emission points A126, A127, A128, A129, and the filtration capacity of the 5mg/m^3 filters in place on each of the four fumed silica silos	Within 12 months of issue of variation V011 or as otherwise agreed in writing by Natural Resources Wales