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Natural Resources Wales permitting decisions

The Valspar (UK) Corporation Limited

Bespoke permit/Variation

The application number is: PAN-001257
The Applicant / Operator is: The Valspar (UK) Corporation Ltd
The Installation is located at: Deeside Packaging Coatings.

We have decided to issue the variation for Deeside Packaging Coatings operated by The Valspar (UK) Corporation Ltd. The variation number is EPR/BU7545IM/V002

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

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Key issues of the decision

Two items have been considered as part of this permit variation, firstly the addition of several new emission points to the permit, and secondly proposals to increase the capacity of the tank farm facility to include a new methyl acrylate tank and its associated bunding and pipework

Items considered when assessing the addition of emission points included the size of the emissions, the location of the emission and sensitive receptors with the potential to be harmed by the emissions. A schedule 5 additional information request was issued in May 2017 to request that the operator provide a H1 screening of the emissions to be added. This assessment concluded the point source emissions to be added to the permit would not exceed Environmental Quality Standards (EQS) for the substances being emitted. Emission points from tank vents and building ventilation were not considered in the H1, however the installation complies with the Industrial Emissions Directive (IED) requirement to submit a solvent management plan and mass balance assessment using the BCF VOC Workbook.

The additional storage for a methyl acrylate tank was assessed against CIRIA report C736. The secondary containment was deemed to be of sufficient size and construction to contain the proposed stored material. No changes to the permit have been made to accommodate this extra storage as raw materials storage for a scheduled activity is not considered a directly associated activity in itself.

1 Our decision

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.

This Application is to operate an installation which is subject principally to the Industrial Emissions Directive (IED).

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 the Environmental Permitting Regulations 2016 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.

2 How we reached our decision

2.1 Receipt of Application

The Application was accepted as duly made on 16 May 2017. This means we considered it was in the correct form and contained sufficient information for us to begin our determination, but not that it necessarily contained all the information we would need to complete that determination.

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

2.2 Consultation on the Application

This is a normal variation so no external consultation on the Application is required in accordance with the EPR, our statutory public participation statement (PPS).

2.3 Requests for Further Information

Further information was requested by way of a Schedule 5 Notice requiring

1. The H1 assessment of emissions from several release points which the applicant requested to be added to the permit
2. Clarification on the numbering of release points
3. An updated site diagram including all release points to atmosphere mentioned in the application as well releases to water and sewer.

The Schedule 5 Notice was sent on 30 May 2017 with a response date of 26 June 2017. The Applicants response to the Schedule 5 Notice was provided on 5 October 2017. The additional information supplied satisfied the requirements of the Schedule 5 notice issued on 30 May 2017.

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

3 The Legal Framework

The Permit will be granted, under Regulation 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.

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 in relation to Wales, and applying the principles of sustainable management of natural resources. 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 Installation in accordance with the permit conditions.

4 The Installation

4.1 Description of the Installation and related issues

4.1.1 The permitted activities

The Installation is subject to the EPR because it carries out an activity listed in Part 1 of Schedule 1 of the EPR:

- 4.1(a)(viii) Producing organic chemicals such as organic compounds containing oxygen (e.g. alcohols, aldehydes, ketones, carboxylic acids, esters, ethers, peroxides, phenols or epoxy resins)
- 6.5 Part B (a)(i) manufacturing or formulating any other coating material containing or involving the use of organic solvent, where the carrying out of the activity is likely to involve the use of 100 tonnes or more of organic solvents in any period of 12 months.

The solvent emission activity carried out at the installation is also regulated under Chapter V of the Industrial emissions directive, specifically those activities described in line 7 of Part 1 of Annex VII described in this permit as the manufacture of coating preparations, varnishes, inks and adhesives. At the request of Valspar UK Corporation the management of emissions from the solvent emissions activity shall be subject to a mass balance calculation in line with the methodology described in Part 7 of that

annex. Further guidance on solvent emissions activities can be found in the Solvent sector guidance 6/44 produced by DEFRA and the BCF VOC workbook.

An installation may also comprise “directly associated activities”, which at this Installation includes the supply of de-ionised water, hot water, cooling water, nitrogen, coolant, compressed air and the storage of waste.

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

4.1.2 The Site

The installation is a 9 acre facility situated in the Deeside Industrial Park in Flintshire, North Wales to the North West of Chester. The Operator has held a permit for the installation since 2007.

4.1.3 What the Installation does

The site produces resins and paints for coatings applications. The site consists of bunded storage tanks and vessels containing the raw materials and the finished products of the process, as well as a resin plant, a paint plant and warehousing. In the resin plant epoxy resin is heated and reacted to form an “epoxy upgrade”. This upgrade is then modified to become either solvent or water based epoxy resins which can be further processed to lacquers or stored in totes or bulk storage.

The resins produced in the resin plant may then be mixed with organic solvents and water and ground to reduce particle size. This is then mixed with organic solvents and may be stored in drums, totes or road tankers.

Raw materials are stored either in a dedicated warehouse, tank farm or in containers stored externally. The installation manages two water discharges, one of which is foul water and some process effluent to public sewer, and the other a clean uncontaminated surface water discharge to Shotwick Brook, a local watercourse. This variation does not affect these water discharges.

4.1.4 Key Issues in the Determination

The Operator is requesting the addition to the permit of eight atmospheric emission points. The emission points concerned discharge Local Exhaust Vents to atmosphere as well as warehouse ventilation, laboratory ventilation and pressure release vents on storage tanks.

Additionally the site proposes to add additional bund capacity for a new Methacrylic Acid storage tank. The construction of the new storage facility has been assessed and against CIRIA report C736 on containment systems for the prevention of pollution.

In a BAT gap analysis provided with the application it was noted there were acids being stored at the site in bunds not lined with acid resistant materials. Therefore a requirement to add acid resistant liners has been added as an improvement condition.

4.2 The site and its protection

4.2.1 Proposed site design: potentially polluting substances and prevention measures

An additional Methacrylic Acid (MAA) tank is to be added to the facility with a capacity of 40m³. This tank is to be constructed within a bund separate from other non-compatible materials stored at the site to safeguard in the event of a Major Accident Hazard (MAH) at the site. The tank is to be constructed of a material appropriate to the storage of MAA and will be fitted with new temperature control and emergency inhibition systems to meet current best practice guidance for reactive monomer storage.

Secondary containment for the additional storage for Methacrylic Acid is being constructed in line with current best practise guidance. All concreting work is to be conducted in line with BS EN 1992. Dimensions for secondary containment comply with the CIRIA C736 report.

Document “Valspar PPC APPLICATION (07/02/2017)” also states control measures in place during include a key to begin filling tanks, a “tankmaster” control panel to prevent overfilling, supervised coupling and disconnection, training for delivery drivers and high level alarms.

An emission point (A4) has been removed from the permit as there is no location on site corresponding to this emission point.

Several emission points which have been in operation for some time have been added to the permit. These consist of the following:

Ref	Location of Emission Point	Emission
A37	Coatings Plant – Extraction on Product Filling	Solvent & Water Vapours
A38	Resin Plant – Extraction on Product Filtration	Solvent & Water Vapours
A39	Building Ventilation system extracts fugitive emissions from workplace in Coatings Plant East	Solvent Vapours
A40	Building Ventilation system extracts fugitive emissions from workplace in Resin Plant West	Solvent Vapours
A41	Resin Plant Control Room and Laboratory Forced Ventilation Extraction system	Laboratory Chemicals Vapour
A42	Resin Plant – Miniboil solvent wash tank	(2-(2-Ethoxyethoxy)ethanol (Ethyl-di-glycol) /n-Butanol) Wash Solvents
A43	Warehouse General Ventilation West	Fugitive VOC emissions
A44	Warehouse General Ventilation South	Fugitive VOC emissions
A45	Main Tank Farm – Tank 11	Methacrylic Acid

Following a schedule 5 request for further information (received 6th October 2017) emission points A37 and A38 were assessed using the H1 screening tool provided by the Environment Agency. The ethyl acrylate emissions from these points were calculated to contribute 0.00783% and 0.0201% of the long term and short term EAL respectively. As the H1 conservative tool screens out these emissions no further modelling or impact assessment is required. Monitoring requirements and emission limits have not been applied to these emission points

The remaining additional emission points added in this variation constitute various tank vents and Local Exhaust Ventilation (LEV). Monitoring requirements and emission limits have not been applied to these emission points in line with Sector Guidance Note 4.01 on the production of Large Volume Organic Chemicals

4.3 Operation of the Installation – general issues

4.3.1 Administrative issues

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; and

that the Applicant will be able to operate the Installation so as to comply with the conditions included in the Permit.

We are satisfied that the Applicant's submitted OPRA profile is accurate. The OPRA score will be used as the basis for subsistence and other charging, in accordance with our Charging Scheme. OPRA is Natural Resources Wales method of ensuring application and subsistence fees are appropriate and proportionate for the level of regulation required.

4.3.2 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 which is certified to ISO 14001

We 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.

4.3.4 Operating techniques

The Part A activity carried on at the installation is subject to the Sector Guidance on Large Volume Organic Chemicals (4.01). The application includes a BAT gap analysis identifying some gaps not pertaining to the issues assessed in this variation. The site operates an ISO 14001 accredited environmental management system.

As the installation also operates a process under Part B of schedule 1 of the Environmental Permitting Regulations 2016 it is also subject to Process Guidance Note 6/44(11) on the manufacture of coating materials published by DEFRA. This guidance allows the Operator to choose between application of emission limits to the Part B activity emission points or a mass balance calculation of total VOC losses. The Operator has requested the mass balance approach be applied via their Solvent Management Plan (Condition 4.2.5 of the permit).

This Solvent Management Plan requires annual assessment of solvent releases across the paint plant element of the installation. The Operator submitted this management plan with the application, which has been assessed and deemed compliant with the appropriate requirements of the Industrial Emissions Directive 2010.

5 Minimising the Installation's environmental impact

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, discharges to ground or groundwater, global warming potential and generation of waste. All these factors are discussed in this and other sections of this document.

For an installation of this kind, the principal emissions are Volatile Organic Compounds as well as particulates from some process stages, noise and odour.

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 to ensure a high level of protection.

5.1 Assessment of Impact on Air Quality

The Applicant has assessed the two new emission points to air against the relevant air quality standards. The input parameters for the H1 assessment have been based on the Installation operating continuously, i.e. the maximum permitted emission rate. We are in agreement with this conservative approach.

5.2 Assessment of odour impact

The Operator has historically received odour complaints from industrial facilities nearby (although not from residential properties). The Operator has submitted their Odour Management Plan as part of their application which contains remedial actions. Condition 3.4 of the permit requires odour management work where necessary, and provides a method for enabling regulation over the implementation of any actions.

5.5 Fugitive emissions

Several points such as tank pressure release vents have been added to the permit. The installation implements measures to reduce losses from fugitive emissions, e.g. from tank filling by slow bottom filling, securely fastening lids, and minimising the number of flanges and joins in pipework.

The Operator is also required by condition 4.2.5 of the consolidated permit to conduct assessment of fugitive and point source solvent losses across the paint plant annually, in accordance with Annex VII of the Industrial Emissions Directive. This requirement includes emission points A5 and A37 as described in table 3.1. As these emission points constitute input parameters to the calculation in that annex, a standard for extractive sampling has been applied to the emission points with a corresponding reference period, however no limit has been included in Table 3.1. Emission limit values for the Part B activity are described in Table 3.4 of the permit.

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.

5.6 Noise Assessment

Complaints for Noise have not been received by the Operator at this installation. The Operator has assessed “Key components of a Noise Assessment” in accordance with H3 Guidance and concluded no further noise controls are necessary at this time. Condition 3.4 in their permit accounts for the creation of a noise management plan should it be necessary in future.

5.7 Impact on Habitats sites, SSSIs, non-statutory conservation sites etc.

Screening of the local area shows the following designated sites within the relevant distances

European Protected Sites (within 10km)

Ramsar and SAC - Dee Estuary (England) 2.9

Ramsar and SAC - Dee Estuary (Wales) 2.3 km

Deeside and Buckley Newt Sites 1.3 km
River Dee and Bala Lake (England) 8.9 km
River Dee and Bala Lake (Wales) 2.2 km

Ancient Woodland (within 2km)
1 semi natural ancient woodland. 1.3 km

FORM 1 completed to note that the emissions from the additional points to be added to the permit consist VOCs, for which there is no data on any damage that might result at the Natura 2000 sites within 10km. The form was completed and sent only to the Wrexham and Flintshire NRM team 13th October 2017 for information only.

A Habitats Regulation Assessment (HRA) is not required because there is no conceivable impact pathway to any Natura 2000/Ramsar site

5.7.1 Assessment of Likely Significant Effect:

No assessment was conducted for the reasons documented above.

5.7.2 Appropriate assessment:

No appropriate assessment conducted for the reasons documented above.

5.7.3 HRA Overall conclusion:

Habitat Risk Assessment not conducted for the reasons documented above.

6 Setting ELVs and other Permit conditions

6.1 Translating BAT into Permit conditions

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.

The Applicant provided an assessment of their operation relative to BAT in the application. Following assessment of this gap analysis an improvement condition has been included in the permit requiring action to ensure the secondary containment in the tank farm area is adequately protected from attack from any acids or stored therein.

The emission limits described in the H1 assessment sets the worst case scenario. If this shows the emissions from the site are low and that they will not cause a breach of air quality objectives in the area then we are satisfied that the emissions from the site will not adversely impact the surrounding environment or the health of the local community.

6.1.1 National and European EQSs

As detailed in section 5.1, the environmental impact of the installation has been assessed against relevant EQSs, at the level of performance required by IED. The installation will not result in the breach of any EQSs. We accept that the applicant's proposals are indicative BAT.

6.2 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. This includes the additional point sources A37 and A38 on which the Operator is currently conducting monitoring in accordance with BS EN 13649. The monitoring requirements detailed in schedule 3 have been imposed in order to demonstrate that the abatement where applicable is working in accordance with assumptions.

There are a number of locations described in table S3.1 which are known to emit class A volatile organic compounds, but for which the limit value column notes “to be established”. For all these emission points relevant VOCs are being monitored as a result of an Improvement Condition. The monitoring returns also make note of the emission rate limit of 100 g/h as described in Sector Guidance 4.01. Hence this limit and the appropriate monitoring methodology BS EN 13649 has been included in this variation for emission points A1, A2 and A3, as well as for the above mentioned new emission point A38. Emission points A5 and A37 must be monitored in line with BS EN 13649 as they are input parameters to the calculation detailed in Annex VII of the IED, however no limits have been applied to the specific emission points, rather the emissions from these points are to be considered limited by the emission total detailed in table 3.4 of schedule 3 to the permit.

Following a request received 31st October 2017 the following emission points have been incorporated into a mass balance as per Part 7 of Annex VII of the Industrial Emissions Directive:

- A5 – Paint plant Vessels
- A37 – Coatings plant extraction on product filling.

The requirement on the VOC emissions from the Part B activity are described in note 2 of table S3.4, namely that compliance is achieved if the total emission from the activity expressed as a percentage of the organic solvent input to the activity is equal or less than 3%.

As a new emission point added to the permit, A38 has been assigned an emission limit of 2000 g/h of Class B VOCs as carbon and 100 g/h of Class A VOCs expressed as individual VOCs in line with Sector Guidance on Large Organic Chemicals (SGN 4.01).

As it is already occurring, monitoring for particulates at point A6 has also been incorporated into the permit (table 3.1). The limit as described in SGN 4.01 of 20 mg/m³ has been included along with the appropriate monitoring methodology.

Furthermore, as the Operator has been monitoring and reporting Class A VOCs (measured as Ethyl Acrylate and Methyl Acrylate) emitted from a number of emission points as a result of an Improvement Condition in the existing permit, the following BAT AELs have been applied

Emission Point	Source	Parameter	Limit	Reference Period	Monitoring Frequency	Standard
A1	Resin Plant Scrubber	Total Class A VOCs as individual VOCs	100 g/hr	1 hour	Quarterly	BS EN 13649
A2	Resin Plant Reactor Dust Scrubber	Total Class A VOCs as individual VOCs	100 g/hr	1 hour	Quarterly	BS EN 13649
A3	Resin Plant Ethyl Acrylate Scrubber	Total Class A VOCs as individual VOCs	100 g/hr	1 hour	Quarterly	BS EN 13649

For emissions to air, the methods for continuous and periodic monitoring are in accordance with the Environment Agency's Guidance M2 for monitoring of stack emissions to air.

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.

6.3 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.

Several emission points have been added to the permit but of these many are diffuse or fugitive emission sources. However points A37 and A38 have also been added which are point sources. These point sources were assessed by the H1 risk screening tool and found to contribute minimal pollutants, however BAT monitoring requirements have been applied to these new points. Q2 2017 reporting from the Operator suggests

this monitoring is already being carried out, hence the requirements of BAT to monitor for Class A and B VOCs quarterly to BS EN 13649 have been added to the permit.

ANNEX 1: Improvement Conditions

All improvement conditions detailed in the permit have been completed.

One additional improvement conditions have been added to version V002 of the installation permit, namely:

IP13	The Operator shall submit a written plan to Natural Resources Wales for approval. The plan must contain proposals to achieve BAT through the installation of measures to protect secondary containment from attack by acids or any other substance stored therein, which may cause the failure of said secondary containment. The plan must contain dates for the implementation of individual measures. The Notification requirement of condition 2.4.1 will be deemed to have been complied with on submission of the plan.	31/03/2017
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