

Determination of an Application for a PPC Permit under the Pollution Prevention and Control (England and Wales) Regulations 2000 (SI 2000 No.1973)

Decision Document recording the decision-making process

Note: all references to the "PPC Regulations" are to the Pollution Prevention and Control (England and Wales) Regulations 2000 (SI 2000 No.1973), as amended.

Administrative details

Application date and Agency reference ("the Permit Application") 25 January 2005

Amlwch Plastics Installation

Permit number (the "Permit")

BX6421IY

Applicant (the "Applicant")

Rehau Limited


Address/location of installation (the "Installation")]

**Rehau Limited
Llwyn Onn Industrial Estate
Amlwch
Anglesey
LL68 9BX**

Name of Account Officer

Chris Jones
Strategic Permitting Group-Warrington

Signature of Authorising Officer:

 20-7-05

Name of Authorising Officer

Roger Green
Team Leader, Strategic Permitting Group-Warrington

Signature of Authorising Officer:

 20/7/05

All relevant documents have been sent to the IPPC Public Registers

Purpose of this document

The Decision Document ("DD") explains how the Applicant's Permit Application has been determined and why the specific conditions in the Permit have been imposed. It is a record of the decision-making process to show how all relevant factors and legislative requirements have been taken into account.

Summary of the decision

A Permit for the Operator to operate the Installation has been granted by the Agency, subject to the conditions set out in the Permit. The Agency considers that in its decision to issue the Permit and in the conditions imposed, it has taken into account all relevant considerations and legal requirements and that the permit will ensure that all appropriate measures will be taken against pollution and that no significant pollution will be caused.

Description of the Permitted Installation

A non-technical description of the Permitted Installation is included in the Introductory Note to the Permit.

PART A – THE OPERATOR AND THE DECISION MAKING PROCESS

The Agency's determination procedure

A1 "Duly made" check on Application received

The Application was determined to be duly made as submitted on 25/1/05. The Application was submitted late, outside the relevant period for the listed activity between 1 October to 31 December 2004.

A2 Consultation on the Application

The Application was advertised by the Applicant according to the requirements of Part 1 of Schedule 4 to the PPC Regulations on 9/03/05 in the London Gazette and in the Anglesey and Holyhead Mail.

The Agency sent copies of the Application to the following statutory consultees in accordance with Part 2 of Schedule 4 to the PPC Regulations:

- Anglesey Local Health Board
- Isle of Anglesey County Council;
- Food Standards Agency;
- Countryside Council for Wales;
- Dwr Cymru/Welsh Water;
- Secretary of State for Wales.

A3 Consideration of consultation responses

Responses were received from the following statutory and non-statutory consultees:

- Isle of Anglesey County Council;
- Countryside Council for Wales;
- Secretary of State for Wales.

No responses were received from members of the public during the determination period.

All responses have been considered by the Agency in determining the Application. The ways in which material responses have been taken into account are summarised in the Appendix 1 to this document.

A4 Matters of commercial confidentiality or national security

The Applicant made no claim for commercial confidentiality and the Agency has not received any information in relation to this Application which appears to be confidential in relation to any party. There are no matters involving national security.

A5 Further information requirements

The Application was deemed duly made by the Agency. The Operator submitted supplementary information, following a site meeting on 18/05/05, to assist the Agency in its determination of the Application.

This information was received from the Operator on 13/06/05 and 14/06/05. This was placed on the public register and sent to those statutory consultees who had made comments and where the information was material to their considerations. The information has been taken into consideration by the Agency in making its determination.

The further information included clarification on the following issues:

- progress towards substitution of the lead based stabiliser with a calcium/zinc based system;
- identification of the dedicated extrusion lines used for lead-stabilised uPVC product manufacture;
- design detail for Mixing Plant No.1 and associated extrusion activity;
- raw materials used specifically for the lead-stabilised uPVC compounding activity;
- the potentially significant noise sources;
- waste management of the bag filter dust containing lead salts;
- design detail for the bag filter plant and its new stack, serving the lead-stabilised uPVC compounding activity;
- proposals for emission monitoring and dispersion modelling of emissions to air following the installation of the new stack;
- implementation of an Environmental Management System (EMS) to ISO 14001;
- monitoring proposals for the cooling water discharge to sewer;
- removal of the plasticiser bulk tanks [di-iso nonyl phthalate storage];
- the improved container storage arrangements and installation of proprietary storage units for drums and intermediate bulk storage containers (IBCs);
- a revised improvement programme with timescales.

Copies of the H1 document and EOPRA profile were also provided [it remains unclear whether these items were included with the original Application submission to the Agency's Warrington office].

A6 Regulation 10(3) (operator competence)

The Agency is satisfied that the Operator is the person who will have control over the operation of the Installation after the grant of the Permit, and that the Operator will be able to operate the Installation so as to comply with the conditions that have been included in the Permit.

The Operator has several years of previous experience in carrying on the manufacturing activity prior to it becoming subject to the Integrated Pollution Prevention Control regime. Experience is also likely to be shared with Blaenau Plastics Ltd, part of the Rehau Group, which has been regulated by the Agency under Integrated Pollution Control and has implemented an EMS, certified to the ISO14001 standard.

A7 Regulation 10(4) (requirements for SWMAs)

The Operator has replied to application question [B7.1] stating that the installation does not contain an SWMA and the Agency agrees with this assessment.

A8 EOPRA profile

The Agency is satisfied that the EOPRA profile submitted with the Application remains accurate following the determination of the Application, and it will be used as the basis for subsistence and other charging, and for all other relevant purposes at the commencement of the Permit. In accordance with the Agency's EOPRA Scheme however, the Operator's EOPRA profile for the installation may change over time.

PART B – THE INSTALLATION AND ITS MANAGEMENT

B1 Permit Section 1.1.1 - The permitted activities

The purpose of the "Part A1" Installation (the Installation) is the manufacture of plastic profiles from unplasticised poly vinyl chloride (uPVC), incorporating lead based stabiliser.

The Agency has determined that the Installation comprises the following activity listed in Part 1 of Schedule 1 to the PPC Regulations:

- Section 4.2 Part A(1) (d) – *"Manufacturing activity...involving the use of...lead, where the activity may result in the release into the air of any of those elements or compounds.."*.

The listed activity is considered to incorporate those activities, which are integral to the lead-stabilised uPVC profile manufacture. These include raw material receipt, handling and storage; mixing [Mixer Plant 1] operation; extrusion; bag filter plant operation; waste management and product handling and storage for dispatch. The utilities within the scope of the installation include electrical distribution to the Installation and the process cooling-water system.

Note. It was agreed with the Operator and the local authority that the existing Part B coatings activity (edgeband strip) on the site does not form part of the Part A (1) installation. This coatings activity is served by Mixer plant no.2 and there is no association with the lead-stabilised uPVC compounding activity on Mixer plant no.1. Agency Process Management Group has also reached this conclusion which has been communicated via the PIRHelp Enquiry system.

B2 Permit Section 1.2 - Site plan

The Operator has provided a plan, which the Agency considers is satisfactory for showing the site of the Installation and its extent. A plan is included in the Permit at Schedule 5, and the Operator is required to carry on the Permitted activities within the site boundary.

B3 Permit section 1.5 - Minor operational changes; (Changes allowed within the scope of this Permit)

The Permit constrains the Operator to operate the activities subject to the limits and conditions in the Permit. However the Operator may make minor changes as defined within the Application by notifying the Agency in writing under Conditions 1.5.1 -1.5.4.

B4 Site Report and Protection of the site

The Applicant has provided a Site Report as required by paragraph 1 of Part 1 of Schedule 4 to the Regulations. The Strategic Permitting Group's Land Quality Officer has carried out an assessment of the Site Report, the summary of which is reproduced below as follows:

The main elements of the Site Report are the site setting, conceptual site model, pollution history and the assessment on the likelihood of future pollution to land.

Sources of potentially polluting substances to land and their potential environmental impact associated with activities to be permitted are described in Table 1 of the report as PVC, pigments, acrylic polymers/monomers, lead based stabilisers, lubricants and gas oil. Sources of pollutants already present in the land associated to historical activities were those associated to spills described in section 6.5 of the report as diesel from a hired portable compressor during refuelling. Information from previous investigations conducted in 1997 concluded there was

localised contamination of diesel but no remedial measures were considered necessary or described to have been undertaken. The maximum total petroleum hydrocarbon concentrations in samples taken from the shallow made ground were 865.4mg/kg. There are currently no UK Soil Guideline Values for total petroleum hydrocarbons and no information on the quantity spilt or the extent of migration to assess the potential impact this spillage may have had on the environment. Other potentially polluting activities identified from historical maps were described in section 3.6 of the report as railway line and brewery (100m, north-west from 1889), pits (500m, south), chemical works (900m, north-west), engineering works (600m, west) and Associated Octel Landfill (626m, north-east). Potentially polluting substances associated with these historical activities that may have the potential to migrate onto the installation boundary had not been identified in the application site report. However, it is considered unlikely that such substances may have the potential to impact the land within the installation boundary given the low permeable nature of boulder clay.

The site is located on made ground (<0.5m) described in previous ground investigations to be of a gravel and shale composition overlying boulder clay of unknown thickness identified in the Drift Geological Map and Green Mica Schist of the Mona Complex shown on the Solid Geological Map for Anglesey. It is an area classified as low sensitivity by the Environment Agency's Groundwater Vulnerability Map (Sheet 14: Anglesey & Llyn Peninsula) as it is an area located on a non-aquifer with no surface or groundwater abstractions in the vicinity. The primary pathways for potential pollutants to migrate are described in section 6.7 of the report. These are mainly considered to be through inadequate pollution prevention measures such as cracking in external hardstanding, below ground structures of unknown condition such as the heating oil pipework, underground balancing pit and associated effluent pipework via perched groundwater in permeable made ground. The main potential environmental receptors are described to be perched groundwater and the unclassified River Goch (known to be impacted by previous mining activities upstream) which runs through the site.

The assessment on the likelihood of future pollution described in section 6.6 and Table 2 of the report identified the following substances and associated activities that pose a reasonable possibility of future pollution requiring the collection of reference data as follows:

1. Heating oil tank storage, delivery & below ground pipework – cracks in bund wall, unknown bund capacity, underground pipework of unknown integrity, hardstanding in delivery area drains to surface water drainage leading to stream, no testing and inspection of secondary pollution prevention measures and inadequate management system identified.
2. Outside Materials Storage Area (Substances as described in Table 1- RM5 to 11, 13, 14 & 16) – condition of hardstanding unknown, area known to drain to surface water drainage leading to the stream and no inspection and testing of secondary pollution prevention measures.
3. Yard Outside Mixing (plasticisers) - condition of hardstanding unknown, area known to drain to surface water drainage leading to the stream and no inspection and testing of secondary pollution prevention measures and inadequate management system identified.
4. Plasticiser Storage Tank & Deliveries – inadequate bunding, condition of hardstanding poor, area known to drain to surface water drainage leading to the stream and no inspection and testing of primary and secondary pollution prevention measures and inadequate management system identified.
5. Effluent Pit – no testing and inspection of the pit and inadequate management system identified.
6. Diesel Tank Storage and filling – inadequate bunding, hardstanding in poor condition, inadequate testing and inspection of pollution prevention measures and management system.
7. Empty Drum Storage – no secondary containment, inadequate testing and inspection of pollution prevention measures and management system.

The assessment on the likelihood of future pollution described in section 6.6 and Table 2 of the report identified the following substances and associated activities that pose little likelihood of future pollution as follows:

8. *Mixing & Material Storage Area*
9. *Compound Storage Area*
10. *Electrical transformers*
11. *Compressor House*
12. *Diesel tank deliveries*
13. *Water Treatment Chemicals*
14. *Pigment Store & Mixing*
15. *Goods Inward*

The condition of external hardstanding in some of these areas (10, 11 & 12) are unknown and there are no testing and inspection of hardstanding identified to justify "little likelihood" of future pollution to land as required by the indicative measures to control emissions to land described in Box 5 and section 4.5 of the H7 Guidance.

Adequate information to enable the Agency to determine the Application has been provided in the Application Site Report, however certain data gaps do exist and further information, as described below, will need to be submitted with the SPMP Design report and through the Improvement Programme:

Additional information considered to be required with the SPMP Design report, to address the data gaps in the application site report are:

- *Site zoning plan identifying areas required for the collection of reference data as described in Box 3 of the H7 Guidance and based on the following considerations :*
 - *Location of potential contaminant emission points as identified in Table 2.*
 - *Properties of the ground and the potential contaminants.*
- *Assessment of the likelihood of future pollution in areas 10, 11 and 12 identified above to determine whether the hardstanding complies with the indicative measures to control emissions to land as described in Box 5 and section 4.5 of the H7 Guidance.*

Relevant information required to be submitted as part of the Improvement Programme, reference items 3, 6, 9, 10 and 11, should be incorporated into future updates to the SPMP.

- SPG Technical (Land Quality) Officer

To ensure the continued effectiveness of pollution prevention measures to protect the land the Operator is required to implement and operate under a Site Protection and Monitoring Programme, (Conditions 2.1.2 and 2.10.9), the design of which must be reported to the Agency within two months from the date of permit issue, Condition 4.1.7.

The Application indicates that there is a "reasonable possibility" of future pollution of the land and therefore reference conditions must be established. Collection of reference data is required (Conditions 2.10.10a and b) and the data must be reported to the Agency within six months from the date of permit issue.

B5 Permit Section 2.12 - Multiple Operator installations

This is not a multi-Operator installation.

Management

Management techniques are one of the available techniques for emission prevention and control and are therefore part of the determination of BAT [see also Part C ahead] for the installation. The permit contains standard conditions at 1.3 and 2.3, which are designed to deliver the requirements in most cases.

B6 Permit Section 1.3 - Overarching Management Condition

The Agency is satisfied that subject to completion of improvement programme reference 9 appropriate management systems and management structures shall be in place for this Installation, and that sufficient financial, technical and manpower resource is available to the Operator to ensure compliance with all the Permit conditions. Standard condition 1.3.1 will ensure that the Operator maintains this position.

The Rehau Group has a certified EMS to the ISO14001 standard. The Operator is currently implementing an EMS based on this standard for the Amlwch site and has proposed pursuing formal certification in due course. Improvement reference 9 of the permit seeks to formalise this position.

B7 Permit Section 2.3 - Management

B7.1 Permit Section 2.3.2-4 Staffing and Training

The information provided in response to Questions in Section 2.3 of the Application indicates that the installation will be operated by an adequate number of staff, who are suitably trained and supervised. Appropriate written operating instructions will be available, and a system will be in place for the recording of staff training. Standard conditions 2.3.1 to 2.3.4 will ensure that the operator maintains this position (see B6 above).

B7.2 Permit Section 2.3.5-6 Operation and Maintenance

The information provided in response to Questions in Section 2.3 of the Application indicates that the installation will be operated and maintained in compliance with the Conditions in the Permit. Standard conditions 2.3.5 and 2.3.6 will ensure that the operator maintains this position (see B6 above).

B7.3 Permit Section 2.3.7-8 Incidents and Complaints

The information provided in response to Questions in Section 2.3 of the Application indicates that there will be a suitable incident/complaint logging and response system in place. Standard conditions 2.3.7 and 2.3.8 will ensure that the operator maintains this position (see B6 above).

B7.4 Permit Section 2.3.9 Fit and Proper

The referenced section is not applicable to this Operator.

PART C: DETERMINATION OF PERMIT CONDITIONS

C1. The legal requirements relating to permit conditions.

Regulation 11 of the PPC Regulations requires that certain general principles are taken into account in the determination of permit conditions for PPC installations. These include that installations should be operated so as to ensure that (a) all appropriate preventative measures are taken against pollution, in particular through the application of BAT, and (b) no significant pollution is caused. Additional general principles include pursuance of the waste strategy objectives of the Waste Framework Directive, using energy efficiently, preventing accidents and returning sites to a satisfactory state on definitive cessation.

Regulation 12 requires the permit to include such conditions as the regulator considers appropriate to comply with a range of requirements including the following:

- ensuring a high level of protection of the environment;
- setting emission limit values (ELVs) for pollutants likely to be emitted from the installation in significant quantities, having regard to their nature and potential to transfer pollution from one environmental medium to another;
- that these ELVs shall be based on BAT for the description of installation but shall take account of its technical characteristics, geographical location and the local environmental conditions;
- that the ELVs may, where appropriate, be supplemented or replaced by equivalent parameters or technical measures;
- that, where an EQS requires stricter ELVs, these shall be set;
- that conditions should aim to minimise long distance and transboundary pollution; ensure protection of the soil and groundwater and management of waste generated; relate to periods of abnormal operation, start up, stoppages etc; set steps to be taken prior to and after definitive cessation of operations; and set suitable emission monitoring, reporting and notification requirements.

Regulation 3 contains the definition of BAT and this is supplemented by a number of other considerations set out in Schedule 2.

There are also a number of other regulatory requirements beyond those in the PPC Regulations described above, which may affect the operating conditions that are required to be included in the permit. These are generally dealt with in Part C5 ahead.

C2. The Agency's general approach to the determination / condition setting.

The Agency has produced technical guidance for most sectors subject to PPC. Together with cross-sectoral technical guidance, these include indicative standards that the Agency considers likely to deliver the various requirements set out above, having regard to any corresponding BREF Note. The indicative standards are divided into sections that correspond to each of the relevant requirements described in Section C1 above. The operator's application should include information about how it is proposed to operate the installation so as to meet these indicative standards or justify why other standards should apply instead. The Agency will assess the operator's proposals and if it is satisfied will apply specific as well as standard permit conditions designed to ensure the approved standards of operation of the installation will be maintained.

Where there is no specific technical guidance for the activities that make up the installation there will be other related technical guidance that can be used to identify the technologies and techniques employed and the standards that can be obtained. There is also other technical literature that the Agency may use to support its analysis of the installation.

C3. Conditions relating to point source emissions.

The indicative BAT techniques relevant to this installation are set out in Sector Guidance Note [SGN] IPPC S4.03 that has been developed having regard to the related BREF Notes concerning the Inorganic Chemicals Industry. The Agency has assessed the operator's BAT proposals as set out in relevant sections of the application including the supplementary information and compared them against the indicative standards applying to this sector as described in the SGN. When taken with the requirements of the Improvement Programme of the Permit, the activities carried on by the Operator at the Permitted Installation shall be in accordance with the relevant measures described in the SGN.

The Agency has also reviewed the Operator's assessment of the environmental impact of emissions from the installation. The Operator has carried out an impact assessment of emissions to air for lead and particulate matter using the Agency "H1" Impact assessment tool, which indicated the need for more detailed assessment through air dispersion modelling. The basis for the source data used for the H1 assessment originates from a report detailing emissions monitoring carried out by consultants on 18/8/03. Following examination of the report the Agency considers the monitoring data unreliable and unsuitable for use in the impact assessment. The report indicates the use of inappropriate standard methods and flow data, insufficient sampling times, and insufficient sample mass collected.

The Agency has carried out air dispersion modelling with the Agency AQMAU screening tool using Aermid Prime as the dispersion model. Source terms for the model were based on design flow rate data for the fabric-filter abatement plant and assuming emissions at the benchmark values of 10mg/m^3 for particulates and 2mg/m^3 for lead. This approach is likely to be conservative as lower emission levels are expected to be achieved from the fabric-filter abatement plant. The modelling, based on these conservative assumptions, indicates a predicted maximum ground level concentration (process contribution) of 36% of the Air Quality Standard (AQS) for lead [0.5ug/m^3 as an annual average] and less than 5% of any of the AQS values for PM_{10} particulate matter. The maximum impact is predicted to occur less than 50m from the emission source. It should be noted that the modelling assumed, again conservatively, that the emissions are continuous in nature. The permitted activity however, is carried out as a batch operation in Mixer 1 and carried on for period representing less than 60% of the year. The Air Quality standards for lead and PM_{10} are not considered under threat even with background levels (of which this activity already contributes) added in. The local authority has indicated it has no local background monitoring data for lead though referenced the Air Quality Strategy 2000 document, which gives an UK rural background concentration of between $0.004\text{-}0.029\text{ug/m}^3$.

Parys Mountain, the closest SSSI at about 2km from the installation, has been included as a discrete receptor in the model. The impacts on the SSSI from lead and particulate emissions are predicted from the modelling to be insignificant, irrespective of background levels relative to the AQS values. The nearest Natura 2000 site is over 8km away from the installation. Impacts from the permitted installation on this site are also predicted to be insignificant.

The Operator has proposed further monitoring using MCERT accredited contractors and to use the emissions data for dispersion modelling with ADMS3.2 following the installation of the new 11m-high stack for emission point A1 [stack installed 4/06/05]. The modelling is to include an assessment to confirm predicted maximum ground level concentrations for lead and particulate matter against the relevant Air Quality Standards; the maximum rate of deposition for lead against the relevant deposition standard and an impact assessment on the Parys Mountain SSSI. These proposals have been incorporated into the Improvement Programme within the permit.

The benchmark BAT values for lead and particulate matter of 2mg/m^3 and 10mg/m^3 respectively are considered achievable and have been set as emission limit values (ELVs) in the permit.

These limits will be reviewed taking into consideration stricter limits when sufficient monitoring data characterising the emissions are available.

An Improvement Programme item has been incorporated into the permit to secure appropriate monitoring and performance of the fabric-filter abatement plant.

There are no direct emissions to water from the installation.

The only discharge to sewer is the purge from the process cooling water system, which is subject to trade effluent discharge consent issued by Dwr Cymru. No ELVs or reporting requirement has been set for this emission. However an improvement programme item has been incorporated into the permit requiring implementation of a monitoring programme for the emission which is considered suitable and sufficient.

The Agency accepts the operator's proposals for BAT relating to the environmentally insignificant emissions but has reviewed the proposals relating to emissions identified as priorities for control. The proposed techniques / emission levels for priorities for control are in line with the benchmark levels contained in the SGN and the Agency therefore considers them to represent BAT for the installation.

Together the ELVs set in permit condition 2.2.1, the equivalent parameters / technical measures secured under conditions 2.1 and the improvement conditions contained in condition 1.4 secure that the approved position based on BAT and the other requirements of the Regulations for point source emission control described above will be maintained by the operator.

It is considered that the ELVs/ equivalent parameters 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.

C4. Conditions relating to fugitive emissions.

Various requirements in regulations 11 and 12 mean that control of fugitive emissions should, if appropriate, be secured by permit conditions. The Agency has assessed the operator's proposals for control of fugitive emissions and considers that when taken with the Improvement Programme item they will meet the regulatory requirements. Agency considers standard conditions 2.2.4 and 2.2.5 will ensure that the operator maintains this position. Further discussion on the Improvement Programme is provided in Appendix 2.

C5. Conditions relating to raw materials and water.

The use of raw materials and water are some of the available techniques for emission prevention and control and are therefore part of the determination of BAT for the installation. In addition "the consumption and nature of raw materials (including water) used in the process" is one of the factors to be considered in determining which of the other available techniques are BAT (see Schedule 2 of the PPC Regulations). The Agency has assessed the proposals set out in the Application in response to question B2.4 including the supplementary information provided by the Applicant. Subject to the following requirements, they are considered satisfactory and consistent with the use of BAT:

- Condition 4.1.8 of the permit requires the Operator to review on an annual basis, progress towards substitution of the lead-based stabiliser with an alternative, less hazardous stabiliser system. Under the Vinyl 2010 Agreement (a voluntary commitment of the PVC industry), complete substitution of lead stabilisers is to be achieved by 2014. The Operator is currently undertaking trials with a calcium/zinc-based system as a replacement stabiliser.

- An improvement programme item has been incorporated into the permit for water consumption, primarily related to the cooling water system, to be monitored and recorded.

Standard Condition 2.4.1 will ensure that the Operator maintains this BAT position.

C6. Conditions relating to waste handling and storage.

Waste handling and storage techniques are some of the available techniques for emission prevention and control and are therefore part of determination of BAT for the installation. Regulation 12(9)(b) also requires consideration of appropriate measures for the management of waste generated by the installation. Subject to completion of the relevant Improvement Programme items of the Permit (further discussion provided in Appendix 2), the Agency considers that the Applicant will have appropriate measures in place for the storage and handling of waste to prevent releases during normal operations and to minimise the potential for accidental releases. The standard Permit Condition 2.5.1 will ensure that the operator maintains this position.

C7. Conditions relating to Odour

On consideration of the Application including the further information provided by the Applicant, the Agency considers that the activities carried out at the installation are inherently non-odorous and the Agency therefore considers that the standard Condition 2.2.6.1 is appropriate and sufficient.

C8. Conditions relating to Noise (and vibration)

On consideration of the Application including further information provided by the Applicant, the Agency considers that the activities carried out at the installation do not inherently generate much vibration but do have the potential to cause noise nuisance beyond the installation boundary. The nearest residential property is within 25 metres from the site boundary fence and is close to the cooling water chiller unit fans. A qualitative assessment by the Agency on site indicated this source might cause noise disturbance particularly at night. The Application indicates that no noise complaints have been received in relation to the site in the past seven years. The local authority also reported no noise complaint history with the site, at least in the last three years.

The Agency considered insufficient demonstration has been provided in the Application in respect of the noise control measures and therefore has incorporated an Improvement Programme item in the Permit to address this issue. In particular this embraces proposals in the Application to review the risk of noise nuisance from the chiller units. Further discussion on this item is provided in Appendix 2.

When taken with the Improvement Programme item, Agency considers that the standard condition 2.9.1 is appropriate and sufficient to secure BAT in respect of noise and vibration control at this stage.

C9. Conditions relating to pre-operation

Regulation 12(9)(d) allows the imposition of conditions in respect of "steps to be taken prior to the operation of the installation. The Agency considers that the circumstances do not require the imposition of any pre-operational Conditions.

C10. Conditions relating to Off-site (including Off-site monitoring)

Regulation 12(12) allows the imposition of off-site conditions, subject to compensation in accordance with the Regulations. The Agency considers that it is not necessary to impose any off-site Conditions at this stage. This position shall be reviewed following completion of the air dispersion modelling by the Operator as required by the Improvement Programme within the permit.

C11. Conditions relating to Waste Recovery or Disposal

Regulation 11(3)(a) requires a consideration of appropriate conditions to ensure that "waste production is avoided in accordance with Council Directive 75/442/EEC on waste; and where waste is produced, it is recovered or, where that is technically and economically impossible, it is disposed of while avoiding or reducing any impact on the environment". The Agency has considered the proposals in the Application for the avoidance of waste production and, in respect of such waste as is produced, its potential recovery or subsequent disposal (see Section 2.6 of the Application and supplementary information dated 7/06/05). The Agency is satisfied that, subject to the requirements of the related Improvement Programme item (discussed in Appendix 2), waste production will be avoided as far as possible, and where waste is produced it will be recovered unless technically and economically impossible. The Agency is further satisfied that the Operators justification for their proposed waste disposal option will show that such waste that does arise from the installation that can not be recovered will be disposed of using a disposal method that avoids or reduces any impact on the environment. Standard Conditions 2.6.1 will ensure that this position is maintained.

C12. Conditions relating to Energy Efficiency

Some aspects of energy efficiency form part of the consideration of BAT above. Regulation 11(3)(b) also requires appropriate conditions to be imposed in order to secure that "energy is used efficiently". The Agency has considered the information in the Application in respect of energy efficiency. The Agency considers that it is appropriate to include energy efficiency related requirements in the Improvement Programme (further discussion provided in Appendix 2) in addition to the Standard Conditions 2.7.1-2.7.3.

In respect of Condition 2.7.1, the Operator is required to report on an annual basis, the energy consumption of the permitted installation. This incorporates electricity and gas oil usage. The electricity demand of the permitted installation is met by supply from the National Grid system. Gas oil is used at the installation for forklift truck activity and for space heating. It is not considered sensible to report associated carbon dioxide emissions per unit production due to difficulties in apportioning related energy from gas oil usage to the permitted installation. Therefore no reporting requirement has been included in this respect.

C13. Conditions relating to Accident Prevention and Control

Regulation 11(3)(c) requires the consideration of appropriate conditions to secure "the necessary measures are taken to prevent accidents and limit their consequences."

The Agency has considered the Applicant's response to Section 2.8 of the Application and the supplementary information provided. The Agency considers that in addition to the standard requirements of Condition 2.8.1, the Operator shall through the Improvement Programme review measures for identifying, assessing and minimising environmental risk related to the Installation and implement an accident management plan. A related improvement item has also been incorporated into the Permit to review measures to reduce the risk of fugitive emissions to water and to sewer from the storage of hazardous substances. Further discussion on the Improvement Programme is provided in Appendix 2.

The accident management plan is to be incorporated into the ISO 14001 based EMS, for which the Operator pursuing formal certification. When taken together, the above requirements are

considered sufficient to ensure that the necessary measures will be taken to prevent accidents and to limit their consequences.

C14. Conditions relating to Closure and Decommissioning

Regulation 11(3) provides that “upon definitive cessation of activities the necessary measures are taken to avoid any pollution risk and to return the site of the installation to a satisfactory state”. Regulation 12(9)(d) also requires that there be appropriate conditions in terms of steps to be taken after the definitive cessation of operations.

The Agency has considered the application response submitted by the Operator and through the Improvement Programme set a requirement to incorporate a documented site closure plan into the EMS having due regard to Agency Sector Guidance Note IPPC S4.03. This shall ensure the measures for closure and decommissioning are satisfactory. Standard conditions 2.11 will ensure that the operator maintains this position.

C15. Conditions relating to On-site monitoring

Regulation 12(9)(f) requires consideration of appropriate conditions to address “emission monitoring requirements specifying measurement methodology, frequency, and evaluation procedure”. The Agency has decided that emissions monitoring should be carried out for the parameters listed in Table 2.2.2, using the methods and to the frequencies it has specified in that Table (See Condition 2.10.1.). These monitoring requirements have been incorporated in order to ensure appropriate protection of the environment.

The Operator’s monitoring proposals for emissions to air are considered satisfactory except for the proposed standard method for monitoring emissions of lead. Condition 2.2.1.3 of the permit specifies the relevant standard to be used, which is based on the Agency M2 Monitoring Guidance Note. The monitoring is to be carried out by a contracted stack-testing organisation accredited to the MCERT standard.

There are no direct emissions to water.

The only discharge to sewer is the purge from the process cooling water system, which is subject to trade effluent discharge consent issued by Dwr Cymru. No ELVs or reporting requirement has been set for this emission. However an improvement programme item has been incorporated into the permit requiring implementation of a monitoring programme for the emission which is considered suitable and sufficient (see Appendix 2). Measurement for total organic carbon is considered more appropriate than chemical oxygen demand as a suitable indicator of organic load, when taking into consideration the nature of the emission and sensitivity of the methods.

Environmental monitoring beyond the installation boundary for lead is not considered merited at this stage. This position shall be reviewed following completion of the air dispersion modelling by the Operator, as a requirement within the Improvement Programme.

Condition 2.10.8 requires the use of permanent access for sampling unless otherwise specified in Schedule 2 of the permit. The exception to this requirement has been allowed and a statement to this effect is made in Schedule 2.

C16. Conditions relating to Records

Effective record keeping is considered to be one of the management techniques for emission prevention and control. It is considered that the standard condition requirements are appropriate for this Installation.

C17. Conditions relating to Reporting

Regulation 12(9)(f) requires consideration of appropriate conditions in respect of the reporting of monitoring results. It is considered that the standard condition requirements are appropriate for this installation.

In respect of Condition 4.1.2, it is considered that biannual reporting is suitable for lead and particulate emissions to air; annual reporting is considered suitable for energy consumption.

In respect of Condition 4.1.3, Table S4.2 requires reporting of the annual use of lead stabiliser per unit production (uPVC) (tonnes/tonne of product, on an annual basis), which should provide an indication for lead substitution as an alternative, less hazardous, system is pursued.

Standard conditions 4.1.4 to 4.1.7 are considered appropriate.

Condition 4.1.8 provides for an on-going review for the substitution of lead based stabiliser having regard to BAT.

C18. Conditions relating to Notifications

Regulation 12(9)(f) requires consideration of appropriate conditions for notification of incidents or accidents, which may cause significant pollution. It is considered that the standard condition requirements are appropriate for this installation.

C19. Other legal requirements relevant to the determination of the Application and to the setting of permit conditions

Industry Specific

C19.1 Relevant Secretary of State Directions

There are no Secretary of State Directions made under the Pollution Prevention and Control (England and Wales) Regulations 2000, as amended, which are relevant to the determination of this Application.

C19.2 Regulation 12A – implementation of the Solvent Emissions Directive (SED) (1999/13/EC)

The Installation does not include any activity listed in Annex I of the Directive or activity which, whilst listed in Annex I, is above the relevant threshold in Annex IIA. Therefore no provisions of the SED apply.

Air

C19.3 Environment Act 1995 – Section 81 (National Air Quality Strategy)

In determining the conditions for this Permit, the Agency has had regard to the National Air Quality Strategy. The Agency considers that it has taken its decision in compliance with the NAQS, and that there are no additional conditions that should be included in this Permit at this stage.

Water

C19.4 Groundwater Regulations 1998

The installation does not give rise to the direct or indirect discharge of List I or List II substances to groundwater. The conditions at section 2.2.3 secure these and other requirements of the Groundwater Regulations.

C19.5 Water Framework Directive Regulations 2003

Consideration has been given to whether any additional requirements should be imposed in terms of the Agency's duty under regulation 3 to secure the objectives of the Water Framework Directive through (inter alia) PPC permits, but it is felt that existing conditions are sufficient in this regard and no other appropriate requirements have been identified.

Waste

C19.6 Waste Management Licensing Regulations (WMLR 1994) - (pursuit of the relevant objectives where there is the disposal or recovery of waste)

The installation includes no activities for the disposal or recovery of waste.

C19.7 Waste Oils Directive

The installation does not contain waste disposal or recovery activities involving waste oils to which the Directive applies.

C19.8 Hazardous Waste Directive

The installation does not contain hazardous waste disposal or recovery activities to which the Directive applies.

Conservation

C19.9 The Conservation (Natural Habitats etc) Regulations 1994

There are two European sites located within the Agency's stage 1 screening distance criterion of 10km of the installation. These are Y Fenai a Bae Conwy (Menai Strait And Conwy Bay) cSAC and Corsydd Mon (Anglesey Fens) cSAC, which are located at about 8km and 9km away respectively from the installation.

The installation is not subject to the scope of AQTAG03v6 paper for screening "relevant permissions". This paper applies only to existing IPC Authorised chemical processes. The Agency therefore carried out air dispersion modelling as part of the stage 2-risk screening assessment, using the Environment Agency's AQMAU screening tool (Aermod Prime selected).

A conservative approach has been taken in the modelling, which assumed the emissions to air from the installation are continuous. In practice, PVC compounding using lead stabilisers is on a batch basis and is campaigned on the relevant mixer for less than 60% of the year.

The assessment considered lead (Pb) and particulate matter. Both parameters have statutory Air Quality Standards (AQS): $0.5\mu\text{g}/\text{m}^3$ ($0.25\mu\text{g}/\text{m}^3$ by 2008) lead, as an annual mean; and $50\mu\text{g}/\text{m}^3$ (as PM_{10}) particulate, max 35 exceedences per year as a 24-hour mean, and $40\mu\text{g}/\text{m}^3$ as an annual mean ($20\mu\text{g}/\text{m}^3$ by 2010).

Maximum ground level concentrations are predicted within 50m of the installation. Mynydd Parys (Parys Mountain), the closest SSSI (about 2km) from the installation was included as a receptor for the model. Maximum predicted process contributions within the footprint of the SSSI are much less than 0.1% of the respective AQS values. On this basis, the maximum process contributions for ground level concentrations of lead and particulates (as PM₁₀) at the more distant European sites above are predicted to be insignificant irrespective of background levels.

Based on the above data, the deposition rates for process contributed-lead at the above European sites are also considered insignificant in comparison with the respective maximum deposition rate standard for lead of 1.1mg.m².d⁻¹.

The installation is not considered likely to have a "significant adverse effect on any European site".

The conservation agency, CCW, have been consulted on the above assessment, set out in the completed HR01 form, and have confirmed that they are in agreement with this conclusion.

C19.10 Countryside and Rights of Way Act 2000 (CROW 2000)

Section 85 duty concerning Areas of Outstanding Natural Beauty (AONB)

There is an AONB located about 1km to the north west of the installation, along the north coast of Anglesey. Consideration has been given as to whether any additional requirements should be imposed in terms of the Agency's duty to have regard to conserving and enhancing the natural beauty of the AONB under s85 CROW 2000, but it is felt that existing requirements are sufficient in this regard and no other appropriate requirements have been identified.

Section 28G Wildlife and Countryside Act 1981 (WCA 1981) duty concerning SSSIs

The Mynydd Parys (Parys Mountain) SSSI, the closest SSSI, is located at about 2km from the installation. Consideration has been given as to whether any additional requirements should be imposed in terms of the Agency's duty under section 28G WCA 1981 (as amended by Schedule 9 of CROW 2000) to take reasonable steps to further the conservation and enhancement of the SSSI but it is felt that existing requirements are sufficient in this regard and no other appropriate requirements have been identified.

Section 28 I WCA 1981 duty to consult English Nature/CCW

Consideration has been given to the above duty. It is considered that because the activities of the installation are outside any SSSI and the activities are not likely to adversely affect any SSSI (see C3 above), the criteria to consult with CCW on this matter have not been met and consultation is not required. It is considered that existing requirements are sufficient in this regard and no other appropriate requirements have been identified.

C19.11 Environment Act 1995 – Section 7 (Pursuit of Conservation Objectives)

Consideration has been given to whether any additional requirements should be imposed in terms of the Agency's duty to have regard to the various conservation objectives set out in s 7 EA 1995, but it is felt that existing requirements are sufficient in this regard and no other appropriate requirements have been identified.

General

C19.12 Environment Act 1995 – Section 4 (Pursuit of Sustainable Development)

By section 4 of the EA 1995, the Agency has a duty to contribute towards achieving sustainable development as considered appropriate by Ministers and set out in guidance issued to it. The relevant statutory guidance issued to the Agency by the Secretary of State for Environment, Food and Rural Affairs is *The Environment Agency's Objectives and Contribution to Sustainable Development: Statutory Guidance (December 2002)*. It is noted that this document:

"provides guidance to the Agency on such matters as the formulation of approaches that the Agency should take to its work, decisions about priorities for the Agency and the allocation of resources. It is not directly applicable to individual regulatory decisions of the Agency".

In respect of regulation of industrial pollution through the PPC Regulations, the Guidance refers in particular to the objective of setting permit conditions *"in a consistent and proportionate fashion based on Best Available Techniques and taking into account all relevant matters..."*. The Agency considers that it has pursued the objectives set out in the Government's guidance, where relevant, and that there are no additional conditions that should be included in this Permit to take account of the section 4 EA 1995 duty.

C19.13 PPC Regulations - Schedule 4, Part 2. para 13 (EIA Directive information)

No information concerning any Environmental Impact Assessment for the installation was supplied by the Applicant [in response to Question B5.1 in the PPC Application Form]. The installation is not relevant in relation to the Directive.

C19.14 Human Rights Act 1998 (HRA 1998)

The Agency has considered potential interference with Convention rights in reaching its decision and considers that its decision is compatible with its duties under the Human Rights Act 1998. The Agency does not accept that Convention rights are engaged in the present case.

APPENDIX 1 – Consultee responses

Summary of consultation responses received and the way in which they have been taken in to account in the determination process:

Response received from	Brief summary of issues raised	Summary of actions taken or show how this has been covered
Isle of Anglesey County Council (Local Authority)	<ul style="list-style-type: none"> No quantitative noise assessment provided with the Application and recommended noise monitoring to be carried out with a view to setting numerical noise limits. There was no H1 assessment for lead and particulate emissions to air provided with the Application 	<p>The Agency considered insufficient demonstration has been provided in the Application in respect of noise control measures and therefore has incorporated an Improvement Programme item in the Permit to address this issue. In particular this embraces proposals in the Application to review the risk of noise nuisance from the chiller units.</p> <p>The local authority reported no noise complaint history with the site in the last three years.</p> <p>The issue of numerical noise limits will be reviewed in due course following completion of the Improvement Programme item.</p> <p>The H1 assessment, which includes lead and particulate emissions to air, was included with supplementary information as part of the Application and sent out to the consultee. However, The basis for the source data used for the H1 assessment originates from a report detailing emissions monitoring carried out by consultants on 18/8/03. Following examination of the report the Agency considers the monitoring data unreliable and unsuitable for use in the impact assessment. The report indicates the use of inappropriate standard methods and flow data, insufficient sampling times, and insufficient sample mass collected.</p> <p>The Agency carried out air dispersion modelling with the AQMAU screening tool using Aermid Prime as the dispersion model to assess predicted impacts. Source terms for the model were based on design flow rate data for the fabric-filter abatement plant and assuming, conservatively, emissions at the benchmark values of 10mg/m³ for particulates and 2mg/m³ for lead.</p>
Countryside Council of Wales (CCW)	<ul style="list-style-type: none"> Identified two European Sites and one SSSI which they wished to be included in the environmental impact assessment 	<p>All three conservation sites were included in the Agency's environmental impact (screening) assessment. The Agency has incorporated the operator's proposal to carry out detailed modelling, based on MCERT emissions monitoring, into the Improvement Programme.</p>
Welsh Assembly Government c/o Secretary of State for Wales	<ul style="list-style-type: none"> There was no H1 assessment for lead and particulate emissions provided with the Application Concerns on the poor quality of containment measures evident from the photographs used in the Site Report. In particular concerns in relation to the plasticiser bulk tanks and its bund 	<p>See relevant comments above for the Local Authority and for CCW.</p> <p>Containment measures have improved since the Site Report was written, evident in the supplementary information to the Application, which has been sent out to the consultee. The plasticiser bulk storage tanks although not considered part of the Part A1 installation, have been decommissioned and removed off site. Hazardous liquids in drums and IBCs are stored in new proprietary storage cabinets with integral bunds.</p> <p>In addition, an Improvement Programme item requires a review of the measures to reduce the risk of fugitive emissions to water and to sewer from the storage of hazardous substances across the installation.</p>

APPENDIX 2 – Detailed Discussion on Improvement Programme items

Item 1

This item requires implementation of a monitoring programme, as proposed by the Operator, for the treated cooling water purge to sewer. The parameters to be included in the programme have been specified through this item. The process cooling water system has on-line turbidity monitoring and control. A specialist third party contractor provides the chemical dosing service for the cooling water. When taken together the monitoring programme is considered sufficient for this emission without emission limit values and reporting requirements. Implementation of the programme should be audited through inspection in due course (see also section C16).

Item 2

This item requires reporting of the air emissions (MCERT) monitoring carried out on 10/6/05, following the installation of the new 11-metre stack serving the fabric filter abatement plant (see also section C3). The emissions data is to be used as the basis for the Operator's air dispersion modelling (see Item 5).

Item 3

No suitable drainage plan was provide with the application. This item incorporates the Operator's proposal to carry out a proper drainage survey and submit the revised drainage plan drawing to the Agency.

Item 4

There is currently no sub-metering of the energy consumption for the Part A1 installation. The Application did not provide suitable and sufficient demonstrations in relation energy efficiency measures.

Item 5

This item incorporates the Operator's proposal in the Application for air dispersion modelling based on the "MCERTs" emissions data (see item 2).

Item 6

This item seeks to address deficiencies in the Operator's management system relating to accident prevention, control and mitigation. The Operator is currently implementing an EMS based on the ISO 14001 model, which should incorporate the accident management plan.

Item 7

This is primarily targeted at monitoring use by the cooling water system.

Item 8

No site closure plan was submitted with the application. Implementation of the plan should be audited through inspection in due course.

Item 9

This item incorporates the Operator's proposal in the Application to implement the EMS. Part b of the item requires a progress review of the proposed formal third party certification of the EMS to the ISO14001 standard.

Item 10

This item seeks to address insufficient demonstrations in relation to containment measures and the control of potentially contaminated firewater run off.

Item 11

This item is related to item 10 above and seeks to address insufficient demonstrations in relation to the management system for inspection and maintenance of containment measures.

Item 12

This item seeks to address insufficient demonstrations in relation to noise control measures and in particular seeks to address the cooling water chiller units as potentially significant noise sources. The operator has specifically proposed to review noise control measures for these plant items.

Item 13

This item seeks to address deficiencies in the demonstration of best environmental options for the recovery or disposal of the waste arisings.

Item 14

The fabric filter abatement plant currently is serviced on an annual basis and the filter bags replaced every three years. However, there are no manual or instrumented systems for monitoring performance of the filters, filter failure or bypass within the service interval. This item seeks to address these issues.

Appendix 3 – Detailed Discussion on the Schedules

Schedule 2

Lead and particulates to air – reported every 6 months

Energy usage – sub metering is to be provided to monitor electrical consumption of the installation. For gas oil, a substantial proportion of the energy source, there are issues with apportioning energy consumption. The forklift trucks are used across the site not just the installation and energy consumption by the boilers is for site-wide space heating. For this reason it is not considered sensible to report the consumption/tonne of product ratio when taken with the year to year fluctuation in production.

Schedule 4

No reporting requirement has been set for annual production quantity (see discussion on Schedule 2 above). The quantity of lead stabiliser usage per unit production (uPVC) on an annual basis is considered a more useful performance indicator, which should reflect progress towards lead stabiliser substitution.

