



**ENVIRONMENT
AGENCY**

Permit with introductory note

Pollution Prevention and Control Regulations 2000

Queensferry Mineral Fibre Works

**Knauf Insulation Ltd
Chemistry Lane
Queensferry
Flintshire
CH5 2DB**

Permit number

BR9383

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Introductory note

This introductory note does not form a part of the Permit

The following Permit is issued under Regulation 10 of the Pollution Prevention and Control (England and Wales) Regulations 2000 (S.I.2000 No.1973), as amended, ("the PPC Regulations") to operate an installation carrying out activities covered by the description in Section 3.4 A(1)(b) in Part 1 to Schedule 1 of the PPC Regulations, to the extent authorised by the Permit:

[Section 3.4 A(1)(b) – "Unless falling within Part A(1) of Section 3.3, producing any fibre from any mineral".]

Aspects of the operation of the installation which are not regulated by conditions of the Permit are subject to the condition implied by Regulation 12(10) of the PPC Regulations, i.e. the Operator shall use the best available techniques for preventing or, where that is not practicable, reducing emissions from the installation.

Techniques include both the technology used and the way in which the installation is designed, built, maintained, operated and decommissioned.

In some sections of the Permit conditions require the Operator to use Best Available Techniques (BAT), in each of the aspects of the management of the installation, to prevent and where that is not practicable to reduce emissions. The conditions do not explain what is BAT. In determining BAT, the Operator should pay particular attention to relevant sections of the IPPC Sector guidance, appropriate Horizontal guidance (H1 to H4) and other relevant guidance.

A non-technical description of the installation is given in the Application, but the main features of the installation are as follows.

The activities covered by this permit are the manufacture of mineral wool insulation materials for use in structural, fire protection, thermal and acoustic insulation applications, as well as hydroponic growing media for the horticultural industry. The raw materials used in the furnace are:

- Coke (with a maximum sulphur content of 1% which is used as the fuel in the reducing melt furnace (cupola))
- Basalt, consisting of mainly calcium magnesium silicate and sodium aluminosilicate (though may contain significant iron and titanium bearing materials)
- Dolomite rock that consists mainly of calcium and magnesium carbonate, limestone and blast furnace slag from iron smelting (comprising calcium and aluminium silicates)
- Quartzite, comprising silica fused together by ferric oxide and calcium / magnesium silicates.
- Blast furnace slag together with steel slag

The raw materials above are stored in concrete bunkers and are loaded into the raw material handling conveyors and weighing plant by loaders. Delivery to site is in 20 to 25 tonne tipper lorries.

- Liquid oxygen. This is used to enrich the combustion (cupola) air fed to the furnace and generates temperatures greater than 2000°C to melt the stone and is stored in a pressure vessel which together with the vaporiser is sited within a lockable steel mesh fenced enclosure.

Binder Raw Materials are:

- Phenol Formaldehyde Resin - a binder mix which stored in bulk.
- Ammonia solution – used as a stabiliser that keeps the resin in solution
- Silane – a coupling agent to promote bonding between fibre and resin. A solution in water to promote chemical coupling between the binder and the surface of the stone fibre.

- Mineral Oil Emulsion for dust suppression in the trimming of the edges of the fibre mat.
- Silicone emulsion to impart water repellence for certain products.
- Wetting Agent – to make a wettable product and water as the carrier for the binder application.

The installation manufactures mineral wool (stonewool) from molten stone produced by melting blast furnace slag and natural stone together in a blast furnace, with an emergency by-pass stack. The stone, slag and coke are weighed out and fed into the furnace by long overhead conveyors. They are then weighed and blended to a discrete formulation and fed to the cupola. The heat for melting the stone is produced by burning the coke in a hot-blast furnace with oxygen enriched air. Prior to melting, the carboniferous rocks are thermally calcined and subsequent reactions between the resultant oxides and the basalt rock produce the required melt.

Molten stone flows from the cupola by means of water cooled troughs onto the forming spinner. This spinner has wheels which rotate at high speed (5000rpm). Stone melt is spun into stone wool fibre. The fibre is then projected by high-pressure air in towards the collection chamber. As the fibre is projected to the collection chamber, thermal setting resin is applied to the fibre. The furnace waste gases are filtered to remove dust then passed through an oxidiser burner.

The fibre is then collected on a moving grate which is under suction to allow the fibre to be laid down under controlled conditions into a thin blanket. The blanket is folded back upon itself on the forming belt to give the required weight, density and thickness per square metre. The waste gases are removed and passed through a wet scrubber.

The blanket passes into a heated oven for curing, allowing the stone wool to establish the required physical properties, for example for rolled products, resilience and for slab products, integrity.

After the stone wool is cured in the oven the product passes over a cooling zone that draws ambient air through the product to cool the stone wool. Oven waste gases are burnt in an oxidiser tube. The product is then trimmed by means of saws to product width requirement and is then cut to size, using cross cut sawing devices, which give the product the length requirement.

The stone wool products then pass into the packaging area where rolls are rolled and bagged and slabs are stacked and packaged ready for despatch to the customer.

Wastewater is recycled in the binder application and to be reused has to be filtered to remove stone wool.

Note that the Permit requires the submission of certain information to the Agency (see Sections 4 and 5). In addition, the Agency has the power to seek further information at any time under regulation 28 to the PPC Regulations provided that it acts reasonably.

Other PPC Permits relating to this installation

Permit holder	Permit Number	Date of Issue
<i>Not applicable</i>		

Superseded Licences/Authorisations/Consents relating to this installation

Holder	Reference Number	Date of Issue
Knauf Insulation Ltd	AH 4292 and variations AN6973, AS1797, AZ2481, AZ8102, & BE1399	June 1993

Public Registers

Considerable information relating to Permits including the Application is available on public registers in accordance with the requirements of the PPC Regulations. Certain information may be withheld from public registers where it is commercially confidential or contrary to national security.

Variations to the Permit

This Permit may be varied in the future (by the Agency serving a Variation Notice on the Operator). If the Operator itself wants any of the Conditions of the Permit to be changed, it must submit a formal Application. The Status Log within the Introductory Note to any such Variation Notice will include summary details of this Permit, variations issued up to that point in time and state whether a consolidated version of the Permit has been issued.

Surrender of the Permit

Before this Permit can be wholly or partially surrendered, an Application to surrender the Permit has to be made by the Operator. For the application to be successful, the Operator must be able to demonstrate to the Agency that there is no pollution risk and that no further steps are required to return the site to a satisfactory state.

Transfer of the Permit or part of the Permit

Before the Permit can be wholly or partially transferred to another person, an Application to transfer the Permit has to be made jointly by the existing and proposed holders. A transfer will be allowed unless the Agency considers that the proposed holder will not be the person who will have control over the operation of the installation or will not comply with the conditions of the transferred Permit. If, however, the Permit authorises the carrying out of a specified waste management activity, the transfer will only be allowed if the proposed holder is also considered to be "a fit and proper person" as required by the PPC Regulations.

Talking to us

Please quote the Permit Number if you contact the Agency about this Permit.

To give a Notification under Condition 5.1.1, the Operator should use the Incident Hotline telephone number (0800 80 70 60) or any other number notified in writing to the Operator by the Agency for that purpose.

Status Log

Detail	Date	Comment
Application BR 9383	Received 06/08/02	
Supplementary Information	Received Sept 03	Included confidential material
Supplementary Information	Received Nov 03	Included confidential material
Response to Schedule 4 Part 1 Notice	Received 14/04/04	
Permit issued	25/6/2004	

End of Introductory Note.

Permit

Pollution Prevention and Control
Regulations 2000



**ENVIRONMENT
AGENCY**

Permit

Permit number

BR9383

The Environment Agency (the Agency) in exercise of its powers under Regulation 10 of the Pollution Prevention and Control (England and Wales) Regulations (SI 2000 No 1973), hereby authorises

Knauf Insulation Ltd ("the Operator"),

Of/ whose Registered Office (or principal place of business) is

PO Box 10

Stafford Road

St Helens

Merseyside

WA10 3NS

Company registration number 1926842

to operate an Installation at

Chemistry Lane

Queensferry

Deeside


Flintshire

CH5 2DB

to the extent authorised by and subject to the conditions of this Permit.

Signed

Date

	25/6/04.
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Martin Cox

Authorised to sign on behalf of the Agency

Conditions

1 General

1.1 Permitted Activities

- 1.1.1 The Operator is authorised to carry out the activities and the associated activities specified in Table 1.1.1.

Table 1.1.1		
Activity listed in Schedule 1 of the PPC Regulations / Associated Activity	Description of specified activity	Limits of specified activity
Section 3.4 A(1)(b)	Producing any fibre from any mineral	Melting, forming and finishing stone wool products including emissions control and abatement.
Associated Activity	Raw Materials	Receipt and handling of raw materials
Associated activity	Waste handling	Collection and storage of waste prior to recovery or removal for disposal.

1.2 Site

- 1.2.1 The activities authorised under condition 1.1.1 shall not extend beyond the Site, being the land shown edged in green on the Site Plan at Schedule 5 to this Permit.

1.3 Overarching Management Condition

- 1.3.1 Without prejudice to the other conditions of this Permit, the Operator shall implement and maintain a management system, organisational structure and allocate resources that are sufficient to achieve compliance with the limits and conditions of this Permit.

1.4 Improvement Programme

- 1.4.1 The Operator shall complete the improvements specified in Table 1.4.1 by the date specified in that table, and shall send written notification of the date of completion of each requirement to the Agency within 14 days of the completion of each such requirement, where works have been carried out.

Table 1.4.1: Improvement programme

Reference	Requirement	Date
1	A report shall be submitted to and agreed in writing by the Agency outlining all of the emissions monitoring methods to be used to all media.	31 st July 2004
2	The Operator shall provide a baseline status report which describes the condition of the site in July 2002 based on groundwater monitoring. A copy of the report shall be submitted to the Agency.	30 th September 2004
3	The Operator shall submit a Groundwater Quality Monitoring Plan (Site Protection and Monitoring Plan) for ongoing monitoring. A copy of the plan shall be provided to the Agency for agreement prior to implementation.	30 th September 2004
4	The operator shall provide a report to the Agency detailing proposals to improve the handling of raw materials and the reduction of emissions from this part of the installation. The report shall include a justification of how the operator believes the proposals represent BAT.	31 st August 2004
5	The operator shall provide a report to the Agency detailing proposals of changes to the melting and wool forming plant including minimising potential emissions from this part of the installation. The report shall include a justification of how the Operator believes the proposals represent BAT.	31 st October 2004
6	The operator shall provide a report to the Agency detailing proposals of changes to the new product finishing plant including minimising potential emissions from this part of the installation. The report shall include a justification of how the Operator believes the proposals represent BAT.	31 st October 2004
7	The Operator shall write and implement an Accident Management Plan to assess the risks and identify risk reduction measures expanding on information given in the application, in accordance with the indicative BAT requirements contained within the relevant sector guidance. A copy of the plan shall be provided to the Agency for agreement prior to implementation.	31 st October 2004
8	The Operator shall provide a timetable to ensure that all emissions sample point locations are suitable for the techniques used and representative, having regard to Agency Monitoring Guidance documents M1 and M2. The timetable shall be submitted in writing and agreed in writing by the Agency	30 th November 2004
9	The operator shall provide a report to the Agency detailing an assessment of the current arrangements for the storage and handling of ammonia and provide a report to the Agency detailing all options identified as improvements to be made. The report shall be agreed in writing with the Agency prior to implementation.	30 th November 2004
10	The Operator shall submit proposals detailing arrangements to minimise by-passing the abatement equipment thus minimising the operating time with the by-pass stack open, having regard to BAT.	30 th November 2004
11	The operator shall carry out a review of activities on the installation with regard to their potential to cause odorous emissions. A report shall be submitted to the Agency detailing how odours will be minimised beyond the site boundary.	31 st March 2005
12	The operator shall carry out a study into the potential environmental impact of raw materials used on site and provide a report to the Agency.	30 th April 2005

13	The operator shall carry out an audit of water use within the process and investigate the potential for increasing the re-use of rainwater and process water, and submit a report to the Agency.	30 th June 2005
14	The operator shall investigate methods of minimising discharges of contaminated water to sewer from the process and submit a report to the Agency.	30 th June 2005
15	The operator shall carry out a review of waste produced during the process having regards to BAT. A report shall be provided to the Agency detailing options for the reduction of waste production, increasing recycling and recovery of materials and minimising disposal to landfill.	30 th June 2005
16	The operator shall carry out an assessment of the integrity of underground pipework carrying waste water around the plant and submit a report to the Agency.	30 th September 2005
17	The operator shall carry out an assessment of options to minimise emissions from the scrubber and binder plant (emission points C and D) and provide a report and timetable for implementation of any options identified as BAT.	31 st October 2005
18	The operator shall carry out a review and assessment of options, including use of raw materials, for the reduction of emissions of SO ₂ from release point A, to meet a release level of 600mg/m ³ by 30 th April 2007. A report of options having regard to BAT, shall be submitted to the Agency together with a timetable for meeting the reduced limit.	30 th April 2006
19	The operator shall carry out an assessment of dioxin emissions from point A and submit a report to the Agency. The monitoring method used shall be agreed with the Agency.	30 th April 2006
20	The Operator shall write and implement a timetabled Noise Management Plan to assess the impact of all of the noise sources identified and listed in the Application for an IPPC Permit, dated July 2002, having regard to Horizontal Guidance H3. The Plan shall include prioritised sources, mitigation and abatement measures to meet indicative BAT requirements as well as monitoring, maintenance and feedback. The Plan shall also include comparative site boundary noise measurements to take account of and monitor upgrade progression. A copy of the plan shall be provided to the Agency for agreement in writing prior to implementation.	30 th November 2005

1.4.2 Where the Operator fails to comply with any requirement by the date specified in Table 1.4.1 the Operator shall send written notification of such failure to the Agency within 14 days of such date.

1.5 Minor Operational Changes

- 1.5.1 The Operator shall seek the Agency's written agreement to any minor operational changes under condition 2.1.1 of this Permit by sending to the Agency: written notice of the details of the proposed change including an assessment of its possible effects (including waste production) on risks to the environment from the Permitted Installation; any relevant supporting assessments and drawings; and the proposed implementation date.
- 1.5.2 Any such change shall not be implemented until agreed in writing by the Agency. As from the agreed implementation date, the Operator shall operate the Permitted Installation in accordance with that change, and relevant provisions in the Application shall be deemed to be amended.
- 1.5.3 When the qualification "unless otherwise agreed in writing" is used elsewhere in this Permit, the Operator shall seek such agreement by sending to the Agency written notice of the details of the proposed method(s) or techniques.
- 1.5.4 Any such method(s) or techniques shall not be implemented until agreed in writing by the Agency. As from the agreed implementation date, the Operator shall operate the Permitted Installation using that method or technique, and relevant provisions in the Application shall be deemed to be amended.

1.6 Pre-Operational Conditions

- 1.6.1 There are no pre-operational conditions

1.7 Off-site Conditions

- 1.7.1 There are no off-site conditions

2 Operating conditions

2.1 In-Process Controls

- 2.1.1 The Permitted Installation shall, subject to the conditions of this Permit, be operated using the techniques and in the manner described in the documentation specified in Table 2.1.1, or as otherwise agreed in writing by the Agency in accordance with conditions 1.5.1 and 1.5.2 of this Permit.

Table 2.1.1: Operating techniques

Description	Parts	Date Received
Application	The response to question B2.3 given in sections B 2.3 of the application	31 st July 2002
Supplementary information	Information provided in Section 2 of the supplementary information	September 2003
Supplementary information	Information provided throughout this document	November 2003
Schedule 4 Notice issued 17 th March 2004	Responses to questions 7,8,9,10,11 and 12	14 th April 2004

2.2 Emissions

2.2.1 Emissions to Air, (including heat, but excluding Odour, Noise or Vibration) from Specified Points

- 2.2.1.1 This Part 2.2.1 of this Permit shall not apply to releases of odour, noise or vibration.
- 2.2.1.2 Emissions to air from the emission points in Table 2.2.1 shall only arise from the sources specified in that Table.

Table 2.2.1 : Emission points to air

Emission point reference or description	Source	Location of emission point
A	Cupola stack after oxidiser	Point A on plan IPPC 2002
B	Emergency stack from cupola	Point B on plan IPPC 2002
C	Mainline forming stack	Point C on plan IPPC 2002
D	Binder plant fume extraction	Point D on plan IPPC 2002
F	Mainline oven oxidiser stack	Point F on plan IPPC 2002
G	Mainline cooling zone stack	Point G on plan IPPC 2002
H	Tenkey filter	Point H on plan IPPC 2002

Note: plan IPPC 2002 refers to the plan provided in response to Question 10 of the Schedule 4 Notice dated 14/04/04.

2.2.1.3 The limits for emissions to air for the parameters and emission points set out in Table 2.2.2 shall not be exceeded.

Table 2.2.2 a: Emission limits to air and monitoring			
Emission point A - Cupola			
Parameter	Limit (including Reference Period) ¹	Monitoring frequency	Monitoring method
Particulate Matter mg/Nm ³	30 (daily average)	Continuous	Monitoring methods for all parameters as agreed in writing with the Agency
Oxides of nitrogen (expressed as NO ₂) mg/Nm ³	300 (daily average)	Continuous	
Oxides of Sulphur (expressed as SO ₂) mg/Nm ³	1500 (daily average)	Continuous	
Sulphur dioxide Kg/T product	2.0 (monthly average)	Calculated from continuous monitoring data	
Carbon monoxide mg/Nm ³	80 (daily average)	Continuous	
Chlorides (expressed as Hydrogen Chloride) mg/Nm ³	10	Quarterly	
Fluorides (expressed as Hydrogen Fluoride) mg/Nm ³	5	Quarterly	
Hydrogen Sulphide mg/Nm ³	5	Quarterly	
Metals (groups 1 & 2) mg/Nm ³	5	Quarterly	
Metals (groups 1) mg/Nm ³	1	Quarterly	

- Group 1 metals (and their compounds) : arsenic, cobalt, nickel, selenium, chromium VI.
- Group 2 metals (and their compounds) : antimony, lead, chromium III, copper, manganese, vanadium, tin.
- Continuous monitoring – the relevant monitoring methods listed within the application dated July 2002 shall apply until the replacement monitoring equipment is installed, when the emissions monitoring methods agreed in writing with the Agency as submitted as part of the improvement programme shall be used.

Where continuous monitoring is carried out:

- Not more than one half hour period during any rolling 24 hour period shall exceed the limit by more than 50%.

Table 2.2.2 b: Emission limits to air and monitoring

Emission point C – Mainline Forming Stack

Parameter	Limit	Monitoring frequency	Monitoring method
Particulate Matter mg/Nm ³	50	Quarterly	Monitoring methods for all parameters as agreed in writing with the Agency
Volatile Organic Compounds mg/Nm ³ as C	50	Quarterly	
Ammonia mg/Nm ³	50	Quarterly	
Formaldehyde mg/Nm ³	10	Quarterly	
Phenol mg/Nm ³	10	Quarterly	
Amines mg/Nm ³	20	Quarterly	

Table 2.2.2 c: Emission limits to air and monitoring

Emission Point F – Mainline Oven Oxidiser Stack

Parameter	Limit	Monitoring frequency	Monitoring method
Particulate Matter mg/Nm ³	10	Bi-annual	Monitoring methods for all parameters as agreed in writing with the Agency
Volatile Organic Compounds mg/Nm ³ as C	10	Bi-annual	
Ammonia mg/Nm ³	10	Bi-annual	
Formaldehyde mg/Nm ³	5	Bi-annual	
Phenol mg/Nm ³	5	Bi-annual	
Amines mg/Nm ³	5	Bi-annual	

Table 2.2.2 d: Emission limits to air and monitoring

Emission Point G – Mainline Cooling Zone Stack

Parameter	Limit	Monitoring frequency	Monitoring method
Particulate Matter mg/Nm ³	10	Bi-annual	Monitoring methods for all parameters as agreed in writing with the Agency.
Volatile Organic Compounds mg/Nm ³ as C	15	Bi-annual	
Ammonia mg/Nm ³	10	Bi-annual	
Formaldehyde mg/Nm ³	5	Bi-annual	
Phenol mg/Nm ³	5	Bi-annual	
Amines mg/Nm ³	5	Bi-annual	

Table 2.2.2 e: Emission limits to air and monitoring

Emission point H – Tenkay filter

Parameter	Limit	Monitoring frequency	Monitoring method
Particulate Matter mg/Nm ³	5	Bi-annual	As agreed in writing with the Agency

Note 1: See Section 6 for reference conditions

2.2.1.4 No condition applies

2.2.2 Emissions to water (other than groundwater), including heat, from specified points

2.2.2.1 This Part 2.2.2 of this Permit shall not apply to releases of odour, noise or vibration or to releases to groundwater.

Emissions to Water (other than to Sewer)

2.2.2.2 Conditions 2.2.2.3 - 2.2.2.6 shall not apply to emissions to sewer.

2.2.2.3 Emissions to water from the emission points specified in Table 2.2.4 shall only arise from the sources specified in that Table

Table 2.2.4: Emission points to water

Emission Point Reference or description	Source	Receiving Water
L1	Surface drainage from raw materials handling area in south of site, via interceptor.	Surface water boundary drain
L2	Surface drainage from road and yard at eastern end of site, via interceptor	Surface water boundary drain
L3	Roof drainage from main ADA building	Surface water boundary drain
L4	Roof and surface drainage from western end of site, via trapped gulley.	Surface water boundary drain
L5	Roof and surface drainage from mid-section of site, via gulley and interceptor.	Surface water boundary drain
L6	Yard area on southern side of site.	Surface water boundary drain

Note: Points L1 to L6 as shown on plan IPPC 2002 provided in response to Question 10 of Schedule 4 Notice dated 14-04-04

2.2.2.4 There shall be no emission into water from the Permitted Installation of any substance prescribed for water except in a concentration which is no greater than the background concentration.

2.2.2.5 There shall be no visible oil in any releases from site.

2.2.2.6 No condition applies

Emissions to sewer

2.2.2.7 Emissions to sewer from the specified emission points in Table 2.2.7 shall only arise from the source(s) specified in that Table.

Table 2.2.7 Emission points to sewer		
Emission point reference or description	Source	Sewer
Vee-notch metered discharge at eastern end of site.	Effluent recirculation system and base exchange unit.	Dwr Cymru Welsh Water

2.2.2.8 The limits for the emissions to sewer for the parameters set out in Table 2.2.8 shall not be exceeded.

Table 2.2.8 : Emission limits and monitoring frequency to sewer			
Substance	Limit	Monitoring frequency	Monitoring method
Phenol	No limits are set	Every batch of effluent from the effluent tank shall be sampled.	Monitoring methods as agreed in writing with the Agency
Total Phenolic			
Formaldehyde			
Fluoride			
Ammonia			
pH			
COD			
Suspended Solids			
Oil and grease			
flow	2m ³ /hour	Continuous whilst discharging	

2.2.2.9 No condition applies

2.2.2.10 No condition applies

2.2.3 Emissions to groundwater

2.2.3.1 No emission from the Permitted Installation shall give rise to the introduction into groundwater of any substance in List I (as defined in the Groundwater Regulations 1998 (S.I. 1998 No. 2746)).

2.2.3.2 No emission from within the Permitted Installation shall give rise to the introduction into groundwater of any substance in List II (as defined in the Groundwater Regulations 1998 (S.I. 1998 No. 2746)) so as to cause pollution (as defined in the Groundwater Regulations 1998 (S.I. 1998 No. 2746)).

2.2.3.3 For substances other than those in List I or II (as defined in the Groundwater Regulations 1998 (SI 1998 No.2746)), the Operator shall use BAT to prevent or where that is not practicable to reduce emissions to groundwater from the Permitted Installation provided always that the techniques used by the Operator shall be no less effective than those described in the Application, where relevant.

2.2.4 Fugitive emissions of substances to air

2.2.4.1 The Operator shall use BAT so as to prevent or where that is not practicable to reduce fugitive emissions of substances to air from the Permitted Installation in particular from:

- storage areas
- buildings
- pipes, valves and other transfer systems
- open surfaces

provided always that the techniques used by the Operator shall be no less effective than those described in the Application, where relevant.

2.2.4.2 The Operator shall use BAT so as to prevent or where that is not practicable to reduce emissions of litter from the Permitted Installation provided always that the techniques used by the Operator shall be no less effective than those described in the Application, where relevant.

2.2.5 Fugitive emissions of substances to water and sewer

2.2.5.1 Subject to condition 2.2.5.2 below, the Operator shall use BAT so as to prevent or where that is not practicable to reduce fugitive emissions of substances to water (other than Groundwater) and sewer from the Permitted Installation in particular from:

- all structures under or over ground
- surfacing
- bunding
- storage areas

provided always that the techniques used by the Operator shall be no less effective than those described in the Application, where relevant.

2.2.5.2 There shall be no release to water that would cause a breach of an EQS established by the UK Government to implement the Dangerous Substances Directive 76/464/EEC.

2.2.6 Odour

2.2.6.1 The Operator shall use BAT so as to prevent or where that is not practicable to reduce odorous emissions from the Permitted Installation, in particular by:

- limiting the use of odorous materials
- restricting odorous activities
- controlling the storage conditions of odorous materials

- controlling processing parameters to minimise the generation of odour
- optimising the performance of abatement systems
- timely monitoring, inspection and maintenance
- employing, where appropriate, an approved odour management plan

provided always that the techniques used by the Operator shall be no less effective than those described in the Application, where relevant.

2.2.7 Emissions to Land

- 2.2.7.1 This Part 2.2.7 of this Permit shall not apply to emissions to groundwater.
- 2.2.7.2 No emission from the Permitted installation shall be made to land.
- 2.2.7.3 No condition applies

2.2.8 Equivalent Parameters or Technical Measures

- 2.2.8.1 The Operator shall comply with the requirements specified in Table 2.2.11, which supplement or replace emission limit values in accordance with Regulation 12(8) of the PPC Regulations.

Table 2.2.11 Equivalent parameters and technical measures

Parameter or measure	Requirement or description of measure, and frequency if relevant
Sulphur content of coke	Not to exceed 1.0% by weight.

2.3 Management

- 2.3.1 A copy of this Permit and those parts of the application referred to in this Permit shall be available, at all times, for reference by all staff carrying out work subject to the requirements of the Permit.

Training

- 2.3.2 The Permitted Installation shall be supervised by staff who are suitably trained and fully conversant with the requirements of this Permit.
- 2.3.3 All staff shall be fully conversant with those aspects of the Permit conditions which are relevant to their duties and shall be provided with adequate professional technical development and training and written operating instructions to enable them to carry out their duties.
- 2.3.4 The Operator shall maintain a record of the skills and training requirements for all staff whose tasks in relation to the Permitted Installation may have an impact on the environment and shall keep records of all relevant training.

Maintenance

- 2.3.5 All plant and equipment used in operating the Permitted Installation, the failure of which could lead to an adverse impact on the environment, shall be maintained in good operating condition.
- 2.3.6 The Operator shall maintain a record of relevant plant and equipment covered by condition 2.3.5 and for such plant and equipment:
 - 2.3.6.1 a written or electronic maintenance programme; and
 - 2.3.6.2 records of its maintenance.

Incidents and Complaints

- 2.3.7 The Operator shall maintain and implement written procedures for:
 - 2.3.7.1 taking prompt remedial action, investigating and reporting actual or potential non-compliance with operating procedures or emission limits and if such event occur;
 - 2.3.7.2 investigating incidents, (including any malfunction, breakdown or failure of plant, equipment or techniques, down time, any short term and long term remedial measures and near misses) and prompt implementation of appropriate actions; and
 - 2.3.7.3 ensuring that detailed records are made of all such actions and investigations.
- 2.3.8 The Operator shall record and investigate complaints concerning the Permitted Installation's effects or alleged effects on the environment. The record shall give the date and nature of complaint, time of complaint, name of complainant (if given), a summary of any investigation and the results of such investigation and any actions taken.

2.4 Efficient use of raw materials

- 2.4.1 The Operator shall -
 - 2.4.1.1 maintain the raw materials table or description submitted in response to Section 2.2 of the Application and in particular consider on a periodic basis whether there are suitable alternative materials to reduce environmental impact;

- 2.4.1.2 carry out periodic waste minimisation audits and water use efficiency audits. If such an audit has not been carried out in the 2 years prior to the issue of this Permit, then the first such audit shall take place within 2 years of its issue. The methodology used and an action plan for increasing the efficiency of the use of raw materials or water shall be submitted to the Agency within 2 months of completion of each such audit and a review of the audit and a description of progress made against the action plan shall be submitted to the Agency at least every 4 years thereafter; and
- 2.4.1.3 ensure that incoming water use is directly measured and recorded.

2.5 Waste Storage and Handling

- 2.5.1 The Operator shall design, maintain and operate all facilities for the storage and handling of waste on site such that there are no releases to water or land during normal operation and that emissions to air and the risk of accidental release to water or land are minimised.

2.6 Waste recovery or disposal

- 2.6.1 Waste produced at the Permitted Installation shall be recycled or recovered unless technically and/or economically impossible.
- 2.6.2 The Operator shall maintain the waste recovery or disposal table or description submitted in response to Section 2.6 of the Application and in particular identify the best practicable environmental options for waste disposal.
- 2.6.3 The Operator shall maintain and implement a system which ensures that a record is made of the quantity, composition, origin, destination (including whether this is a recovery or disposal operation) and where relevant removal date of any waste that is produced at the Permitted Installation.

2.7 Energy Efficiency

- 2.7.1 The Operator shall produce a report on the energy consumed at the Permitted Installation over the previous calendar year, by 31 January each year, providing the information required by condition 4.1.2.
- 2.7.2 The Operator shall maintain and update annually an energy management system which shall include, in particular, the monitoring of energy flows and targeting of areas for improving energy efficiency.
- 2.7.3 The Operator shall design, maintain and operate the Permitted Installation so as to secure energy efficiency, taking into account relevant guidance including the Agency's Energy Efficiency Horizontal Guidance Note H2 as from time to time amended. Energy efficiency shall be secured in particular by:

- ensuring that the appropriate operating and maintenance systems are in place;
- ensuring that all plant is adequately insulated to minimise energy loss or gain;
- ensuring that all appropriate containment methods, (e.g. seals and self-closing doors) are employed and maintained to minimise energy loss;
- employing appropriate basic controls, such as simple sensors and timers, to avoid unnecessary discharge of heated water or air;
- where building services constitute more than 5% of the total energy consumption of the installation, identifying and employing the appropriate energy efficiency techniques for building services, having regard in particular to the Building services part of the Agency's Energy Efficiency Horizontal Guidance Note H2; and
- maintaining and implementing an energy efficiency plan which identifies energy saving techniques that are applicable to the activities and their associated environmental benefit and prioritises them, having regard to the appraisal method in the Agency's Energy Efficiency Horizontal Guidance Note H2.

2.8 Accident prevention and control

- 2.8.1 The Operator shall maintain and implement when necessary the accident management plan submitted or described in response to Section 2.8 of the Application. The plan shall be reviewed at least every 2 years or as soon as practicable after an accident, whichever is the earlier, and the Agency notified of the results of the review within 2 months of its completion.

2.9 Noise and Vibration

- 2.9.1 The Operator shall use BAT so as to prevent or where that is not practicable to reduce emissions of noise and vibration from the Permitted Installation, in particular by:
- equipment maintenance, eg. of fans, pumps, motors, conveyors and mobile plant;
 - use and maintenance of appropriate attenuation, eg. silencers, barriers, enclosures;
 - timing and location of noisy activities and vehicle movements;
 - periodic checking of noise emissions, either qualitatively or quantitatively; and
 - maintenance of building fabric,

provided always that the techniques used by the Operator shall be no less effective than those described in the Application, where relevant.

- 2.9.2 Emergency generators/ pumps/ alarms/ sirens/ relief valves shall only be tested between the hours of 10.00 and 17.00 Monday to Friday and not on any Public Holiday.

2.10 On-site Monitoring

- 2.10.1 The Operator shall maintain and implement an emissions monitoring programme which ensures that emissions are monitored from the specified points, for the parameters listed in and to the frequencies and methods described in Tables 2.2.1, 2.2.2a, 2.2.2b, 2.2.2c, 2.2.2d, 2.2.2e, and 2.2.8, unless otherwise agreed in writing, and that the results of such monitoring are assessed. The programme shall ensure that monitoring is carried out under an appropriate range of operating conditions.
- 2.10.2 The Operator shall carry out environmental or other specified monitoring to the frequencies and methods described in Table 2.10.

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Table 2.10.1 a : Other monitoring requirements – Air

Emission point reference or source or description of point of measurement	Substance or parameter	Monitoring frequency	Monitoring method	Other specifications
A – Cupola (Emissions to air)	Dioxins ng/Nm ³	Annually	To be agreed in writing with the Agency	
A – Cupola (Emissions to Air)	Particulate Matter mg/Nm ³	Annually ¹	To be agreed in writing with the Agency	For calibration Purposes
A – Cupola (Emissions to Air)	Oxides of nitrogen mg/Nm ³	Annually ¹	To be agreed in writing with the Agency	For calibration Purposes
A – Cupola (Emissions to Air)	Oxides of Sulphur mg/Nm ³	Annually ¹	To be agreed in writing with the Agency	For calibration Purposes
A – Cupola (Emissions to Air)	Carbon monoxide mg/Nm ³	Annually ¹	To be agreed in writing with the Agency	For calibration Purposes
D – Binder plant (Emissions to air)	Particulate Matter mg/Nm ³	Quarterly	To be agreed in writing with the Agency	
D – Binder plant (Emissions to air)	Volatile Organic Compounds mg/Nm ³ as C	Quarterly	To be agreed in writing with the Agency	
D – Binder plant (Emissions to air)	Ammonia mg/Nm ³	Quarterly	To be agreed in writing with the Agency	
D – Binder plant (Emissions to air)	Formaldehyde mg/Nm ³	Quarterly	To be agreed in writing with the Agency	
D – Binder plant (Emissions to air)	Phenol mg/Nm ³	Quarterly	To be agreed in writing with the Agency	
D – Binder plant (Emissions to air)	Amines mg/Nm ³	Quarterly	To be agreed in writing with the Agency	
F – Mainline Oven Oxidiser Stack	Nitrous Oxides and Nitrogen Dioxide mg/Nm ³	Quarterly	To be agreed in writing with the Agency	
Installation Boundary Point at the raw materials and handling area	Particulate Matter / Dust mg/Nm ³	Fortnightly	To be agreed in writing with the Agency	To include directional monitoring of weight of dust collected, obscuration and apparent deposition rate
Installation Site Boundary	Phenol, formaldehyde and ammonia mg/Nm ³	Every six months	To be agreed in writing with the Agency	'Upwind' and 'downwind' concentrations

¹ Quarterly for the first 24 months (from the date of issue of permit) and annually thereafter

Table 2.10.1 b : Other monitoring requirements – Surface Water

Emission point reference or source or description of point of measurement	Substance or parameter	Monitoring frequency	Monitoring method	Other specifications
L1	pH	Every six months	To be agreed in writing with the Agency	Sampling is to be undertaken during a period of rainfall and only when it is open for discharge during the six months
	COD	Every six months	To be agreed in writing with the Agency	Sampling is to be undertaken during a period of rainfall and only when it is open for discharge during the six months
	Total Suspended Solids	Every six months	To be agreed in writing with the Agency	Sampling is to be undertaken during a period of rainfall and only when it is open for discharge during the six months
L2	pH	Every six months	To be agreed in writing with the Agency	Sampling is to be undertaken during a period of rainfall and only when it is open for discharge during the six months
	COD	Every six months	To be agreed in writing with the Agency	Sampling is to be undertaken during a period of rainfall and only when it is open for discharge during the six months
	Total Suspended Solids	Every six months	To be agreed in writing with the Agency	Sampling is to be undertaken during a period of rainfall and only when it is open for discharge during the six months
L3	pH	Every six months	To be agreed in writing with the Agency	Sampling is to be undertaken during a period of rainfall
	COD	Every six months	To be agreed in writing with the Agency	Sampling is to be undertaken during a period of rainfall
	Total Suspended Solids	Every six months	To be agreed in writing with the Agency	Sampling is to be undertaken during a period of rainfall
L4	pH	Every six months	To be agreed in writing with the Agency	Sampling is to be undertaken during a period of rainfall

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	COD	Every six months	To be agreed in writing with the Agency	Sampling is to be undertaken during a period of rainfall
	Total Suspended Solids	Every six months	To be agreed in writing with the Agency	Sampling is to be undertaken during a period of rainfall
L5	pH	Every six months	To be agreed in writing with the Agency	Sampling is to be undertaken during a period of rainfall
	COD	Every six months	To be agreed in writing with the Agency	Sampling is to be undertaken during a period of rainfall
	Total Suspended Solids	Every six months	To be agreed in writing with the Agency	Sampling is to be undertaken during a period of rainfall
L6	pH	Every six months	To be agreed in writing with the Agency	Sampling is to be undertaken during a period of rainfall
	COD	Every six months	To be agreed in writing with the Agency	Sampling is to be undertaken during a period of rainfall
	Total Suspended Solids	Every six months	To be agreed in writing with the Agency	Sampling is to be undertaken during a period of rainfall

- Continuous monitoring – the relevant monitoring methods listed within the application dated July 2002 shall apply until the replacement monitoring equipment is installed, when the emissions monitoring methods agreed in writing with the Agency as submitted as part of the improvement programme shall be used.

- 2.10.3 No condition
- 2.10.4 No condition
- 2.10.5 The Operator shall notify the Agency at least 14 days in advance of undertaking monitoring and/ or spot sampling, where such notification has been requested in writing by the Agency.
- 2.10.6 The Operator shall maintain records of all monitoring taken or carried out (this includes records of the taking and analysis of samples instrument measurements (periodic and continual), calibrations, examinations, tests and surveys) and any assessment or evaluation made on the basis of such data.
- 2.10.7 Monitoring equipment, techniques, personnel and organisations employed for the emissions monitoring programme in condition 2.10.1 of this Permit and the environmental or other monitoring specified in condition 2.10.2 shall have either MCERTS certification or MCERTS accreditation (as appropriate) unless otherwise agreed in writing.
- 2.10.8 There shall be provided:

- 2.10.8.1 safe and permanent means of access to enable sampling/monitoring to be carried out in relation to the emission points specified in Schedule 2 to this Permit, unless otherwise specified in that Schedule; and
- 2.10.8.2 safe means of access to other sampling/monitoring points when required by the Agency.
- 2.10.9 No condition
- 2.10.10 No condition
- 2.10.11 Methods for extractive sampling and automated, continuous, measurement systems, including calibration, shall be carried out as specified by the appropriate CEN standards. If CEN standards are not available, ISO standards, national or international standards that will ensure the provision of data of an equivalent scientific quality, as agreed in writing with the Agency, shall apply. The reference measurements used shall be agreed in writing with the Agency. The results of any calibration assessment shall be submitted to the Agency, in writing, within one month of the completion of the assessment.

2.11 Closure and Decommissioning

- 2.11.1 The Operator shall maintain and operate the Permitted Installation so as to prevent or minimise any pollution risk, including the generation of waste, on closure and decommissioning in particular by:-
 - 2.11.1.1 attention to the design of new plant or equipment;
 - 2.11.1.2 the maintenance of a record of any events which have, or might have, impacted on the condition of the site along with any further investigation or remediation work carried out; and
 - 2.11.1.3 the maintenance of a site closure plan to demonstrate that the installation can be decommissioned avoiding any pollution risk and returning the site of operation to a satisfactory state.
- 2.11.2 Notwithstanding condition 2.11.1 of this Permit, the Operator shall carry out a full review of the Site Closure Plan at least every 4 years.
- 2.11.3 The site closure plan shall be implemented on final cessation or decommissioning of the Permitted activities or part thereof.
- 2.11.4 The Operator shall give at least 30 days written notice to the Agency before implementing the site closure plan.

2.12 Multiple Operator installations

- 2.12.1 This is not a multi-Operator installation

2.13 Transfer to effluent treatment plant

2.13.1 No transfers to effluent treatment plant are controlled under this part of this Permit.

3 Records

- 3.1 The Operator shall ensure that all records required to be made by this Permit and any other records made by it in relation to the operation of the Permitted Installation shall:-
- 3.1.1 be made available for inspection by the Agency at any reasonable time;
 - 3.1.2 be supplied to the Agency on demand and without charge;
 - 3.1.3 be legible;
 - 3.1.4 be made as soon as reasonably practicable;
 - 3.1.5 indicate any amendments which have been made and shall include the original record wherever possible;
 - 3.1.6 be retained at the Permitted Installation, or other location agreed by the Agency in writing, for a minimum period of 4 years from the date when the records were made, unless otherwise agreed in writing; and
 - 3.1.7 where they concern the condition of the site of the Installation or are related to the implementation of the Site Protection and Monitoring Programme, be kept at the Permitted Installation, or other location agreed by the Agency in writing, until all parts of the Permit have been surrendered.

4 Reporting

- 4.1.1 All reports and written and or oral notifications required by this Permit and notifications required by Regulation 16 of the PPC Regulations shall be made or sent to the Agency using the contact details notified in writing to the Operator by the Agency.
- 4.1.2 The Operator shall, unless otherwise agreed in writing, submit reports of the monitoring and assessment carried out in accordance with the conditions of this permit, as follows:-
 - 4.1.2.1 in respect of the parameters and emission points specified in Table S2 to Schedule 2;
 - 4.1.2.2 for the reporting periods specified in Table S2 to Schedule 2 and using the forms specified in Table S3 to Schedule 3;
 - 4.1.2.3 giving the information from such results and assessments as may be required by the forms specified in those Tables; and
 - 4.1.2.4 to the Agency within 28 days of the end of the reporting period.
- 4.1.3 The Operator shall submit to the Agency a report on the performance of the Permitted Installation over the previous year, by 31 January each year, providing the information listed in Tables S4.1 and S4.2 of Schedule 4, assessed at any frequency specified therein, and using the form specified in Table S3 to Schedule 3.
- 4.1.4 The Operator shall review fugitive emissions, having regard to the application of Best Available Techniques, on an annual basis, or such other period as shall be agreed in writing by the Agency, and a summary report on this review shall be sent to the Agency detailing such releases and the measures taken to reduce them within 3 months of the end of such period.
- 4.1.5 Where the Operator has a formal environmental management system applying to the Permitted Installation which encompasses annual improvement targets the Operator shall, not later than 31 January in each year, provide a summary report of the previous year's progress against such targets.
- 4.1.6 The Operator shall, within 6 months of receipt of written notice from the Agency, submit to the Agency a report assessing whether all appropriate preventive measures continue to be taken against pollution, in particular through the application of the best available techniques, at the installation. The report shall consider any relevant published technical guidance current at the time of the notice which is either supplied with or referred to in the notice, and shall assess the costs and benefits of applying techniques described in that guidance, or otherwise identified by the Operator, that may provide environmental improvement.
- 4.1.7 The Operator shall submit to the Agency a report of the emergency (by-pass) stack operating times assessed on a continuous basis in hours, using the form specified in Table 3 to Schedule 3.
- 4.1.8 The Operator shall submit to the Agency a report of total annual mass release (Kg/T product) and the total annual mass release (in tonnes) of substances specified in Table S4.2 to Schedule 4, using the form specified in Table 3 to Schedule 3.

5 Notifications

- 5.1.1 The Operator shall notify the Agency without delay of:-
- 5.1.1.1 the detection of an emission of any substance which exceeds any limit or criterion in this Permit specified in relation to the substance;
 - 5.1.1.2 the detection of any fugitive emission which has caused, is causing or may cause significant pollution unless the quantity emitted is so trivial that it would be incapable of causing significant pollution;
 - 5.1.1.3 the detection of any malfunction, breakdown or failure of plant or techniques which has caused, is causing or has the potential to cause significant pollution; and
 - 5.1.1.4 any accident which has caused, is causing or has the potential to cause significant pollution.
- 5.1.2 The Operator shall submit written confirmation to the Agency of any notification under condition 5.1.1, by sending:-
- 5.1.2.1 the information listed in Part A of Schedule 1 to this Permit within 24 hours of such notification; and
 - 5.1.2.2 the more detailed information listed in Part B of that Schedule as soon as practicable thereafter;
- and such information shall be in accordance with that Schedule.
- 5.1.3 The Operator shall give written notification as soon as practicable prior to any of the following:-
- 5.1.3.1 permanent cessation of the operation of part or all of the Permitted Installation;
 - 5.1.3.2 cessation of operation of part or all of the Permitted Installation for a period likely to exceed 1 year; and
 - 5.1.3.3 resumption of the operation of part or all of the Permitted Installation after a cessation notified under condition 5.1.4.2.
- 5.1.4 The Operator shall notify the Agency, as soon as reasonably practicable, of any information concerning the state of the Site which adds to that provided to the Agency as part of the Application .
- 5.1.5 The Operator shall notify the following matters to the Agency in writing within 14 days of their occurrence:-
- 5.1.5.1 where the Operator is a registered company:-
 - any change in the Operator's trading name, registered name or registered office address;
 - any change to particulars of the Operator's ultimate holding company (including details of an ultimate holding company where an Operator has become a subsidiary)
 - any steps taken with a view to the Operator going into administration, entering into a company voluntary arrangement or being wound up;
 - 5.1.5.2 where the Operator is a corporate body other than a registered company:
 - any change in the Operator's name or address;
 - any steps taken with a view to the dissolution of the Operator.
 - 5.1.5.3 In any other case: -
 - the death of any of the named Operators (where the Operator consists of more than one named individual);

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- any change in the Operator's name or address;
- any steps taken with a view to the Operator, or any one of them, going into bankruptcy, entering into a composition or arrangement with creditors, or, in the case them being in a partnership, dissolving the partnership;

5.1.6 Where the Operator has entered into a Climate Change Agreement with the Government, the Operator shall notify the Agency within one month of:-

- 5.1.6.1 a decision by the Secretary of State not to re-certify that Agreement.
- 5.1.6.2 a decision by either the Operator or the Secretary of State to terminate that agreement.
- 5.1.6.3 any subsequent decision by the Secretary of State to re-certify such an Agreement.

5.1.7 Where the Operator has entered into a Direct Participant Agreement in the Emissions Trading Scheme which covers emissions relating to the energy consumption of the activities, the Operator shall notify the Agency within one month of:-

- 5.1.7.1 a decision by the Operator to withdraw from or the Secretary of State to terminate that agreement.
- 5.1.7.2 a failure to comply with an annual target under that Agreement at the end of the trading compliance period.

6 Interpretation

6.1.1 In this Permit, the following expressions shall have the following meanings:-

"Application" means the application for this Permit, together with any response to a notice served under Schedule 4 to the PPC Regulations, as detailed in the status log in the introduction to this Permit, and any operational change agreed under the conditions of this Permit

"background concentration" means such concentration of that substance as is present in:

- water supplied to the site; or
- where more than 50% of the water used at the site is directly abstracted from ground or surface water on site, the abstracted water; or
- where the Permitted Installation uses no significant amount of supplied or abstracted water, the precipitation on to the site.

"BAT" means best available techniques means the most effective and advanced stage of development of activities and their methods of operation which indicates the practical suitability of particular techniques to prevent and where that is not practicable to reduce emissions and the impact on the environment as a whole. For these purposes: *"available techniques"* means *"those techniques which have been developed on a scale which allows implementation in the relevant industrial sector, under economically and technically viable conditions, taking into consideration the cost and advantages, whether or not the techniques are used or produced inside the United Kingdom, as long as they are reasonably accessible to the operator"*; *"best"* means *"in relation to techniques, the most effective in achieving a high general level of protection of the environment as a whole"* and *"techniques"* *"includes both the technology used and the way in which the installation is designed, built, maintained, operated and decommissioned."*. In addition, Schedule 2 of the PPC Regulations has effect in relation to the determination of BAT.

"Dioxins" means polychlorinated dibenzo-p-dioxins and polychlorinated dibenzo-p-furans.

For the determination of the toxic equivalence factor (TEQ) value stated as a release limit the mass concentrations of the following dioxins and furans have to be multiplied with their equivalence factors before summing.

Equivalence factor:

2,3,7,8 Tetrachlordibenzodioxin (TCDD)	1
1,2,3,7,8 Pentachlordibenzodioxin (PeCDD)	0.5
1,2,3,4,7,8 Hexachlordibenzodioxin (HxCDD)	0.1
1,2,3,7,8,9 Hexachlordibenzodioxin (HxCDD)	0.1
1,2,3,6,7,8 Hexachlordibenzodioxin (HxCDD)	0.1
1,2,3,4,6,7,8 Heptachlordibenzodioxin (HpCDD)	0.01
Octachlordibenzodioxin (OCDD)	0.001
2,3,7,8 Tetrachlorodibenzofuran (TCDF)	0.1
2,3,4,7,8 Pentachlorodibenzofuran (PeCDF)	0.5
1,2,3,7,8 Pentachlorodibenzofuran (PeCDF)	0.05
1,2,3,4,7,8 Hexachlorodibenzofuran (HxCDF)	0.1
1,2,3,7,8,9 Hexachlorodibenzofuran (HxCDF)	0.1
1,2,3,6,7,8 Hexachlorodibenzofuran (HxCDF)	0.1
2,3,4,6,7,8 Hexachlorodibenzofuran (HxCDF)	0.1

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1,2,3,4,6,7,8 Heptachlordibenzofuran (HpCDF)	0.01
1,2,3,4,7,8,9 Heptachlordibenzofuran (HpCDF)	0.01
Octachlordibenzofuran (OCDF)	0.001

"*Fugitive emission*" means an emission to air or water (including sewer) from the Permitted Installation which is not controlled by an emission or background concentration limit under conditions 2.2.1.3, 2.2.2.4, 2.2.2.5, 2.2.2.8 or 2.2.2.9 of this Permit.

"*Groundwater*" means all water which is below the surface of the ground in the saturation zone and in direct contact with the ground or subsoil.

"*Land Protection Guidance*" means the version of the Agency guidance note "H7 - Guidance on the Protection of Land under the PPC Regime: Application Site Report and Site Protection and Monitoring Programme", including its appended templates for data reporting, which is current at the time of issue of the Permit.

"*L_{Aeq,T}*" means the equivalent continuous A-weighted sound pressure level in dB determined over time period, T.

"*L_{A90,T}*" means the A-weighted sound pressure level in dB exceeded for 90% of the time period, T.

"*L_{AFmax}*" means the maximum A weighted sound level measurement in dB measured with a fast time weighting.

"*MCERTS*" means the Environment Agency's Monitoring Certification Scheme.

"*Monitoring*" includes the taking and analysis of samples, instrumental measurements (periodic and continual), calibrations, examinations, tests and surveys.

"*Permitted Installation*" means the activities and the limits to those activities described in Table 1.1.1 of this Permit.

"*PPC Regulations*" means the Pollution, Prevention and Control (England and Wales) Regulations SI 2000 No.1973 (as amended) and words and expressions defined in the PPC Regulations shall have the same meanings when used in this Permit save to the extent they are specifically defined in this Permit.

"*Sewer*" means sewer within the meaning of section 219(1) of the Water Industry Act 1991.

"*Staff*" includes employees, directors or other officers of the Operator, and any other person under the Operator's direct or indirect control, including contractors.

"*Year*" means calendar year ending 31 December.

- 6.1.2 Where a minimum limit is set for any emission parameter, for example pH, reference to exceeding the limit shall mean that the parameter shall not be less than that limit.
- 6.1.3 Unless otherwise stated, any references in this Permit to concentrations of substances in emissions into air means:-
 - 6.1.3.1 in relation to gases from combustion processes, the concentration in dry air at a temperature of 273K, at a pressure of 101.3 kPa and with an oxygen content of 8% dry for the cupola, 3% dry for liquid and gaseous fuels, 6% dry for solid fuels; and/or
 - 6.1.3.2 in relation to gases from non-combustion sources, the concentration at a temperature of 273K and at a pressure of 101.3 kPa, with no correction for water vapour content.

- 6.1.4 Where any condition of this Permit refers to the whole or parts of different documents, in the event of any conflict between the wording of such documents, the wording of the document(s) with the most recent date shall prevail to the extent of such conflict.

Schedule 1 - Notification of abnormal emissions

This page outlines the information that the Operator must provide to satisfy conditions 5.1.1 and 5.1.2 of this Permit.

Units of measurement used in information supplied under Part A and B requirements shall be appropriate to the circumstances of the emission. Where appropriate, a comparison should be made of actual emissions and authorised emission limits.

If any information is considered commercially confidential, it should be separated from non-confidential information, supplied on a separate sheet and accompanied by an application for commercial confidentiality under the provisions of the PPC Regulations.

Part A

Permit Number	
Name of Operator	
Location of Installation	
Location of the emission	
Time and date of the emission	

Substance(s) emitted	Media	Best estimate of the quantity or the rate of emission	Time during which the emission took place
	<i>eg air</i>		
	<i>eg groundwater</i>		

Measures taken, or intended to be taken, to stop the emission	
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Part B

Any more accurate information on the matters for notification under Part A.	
Measures taken, or intended to be taken, to prevent a recurrence of the incident	
Measures taken, or intended to be taken, to rectify, limit or prevent any pollution of the environment or harm which has been or may be caused by the emission	
The dates of any unauthorised emissions from the installation in the preceding 24 months.	

Name*	
Post	
Signature	
Date	

* authorised to sign on behalf of Knauf Insulation Ltd, Queensferry.

Schedule 2 - Reporting of monitoring data

Parameters for which reports shall be made, in accordance with conditions 4.1.2 and 4.1.3 of this Permit, are listed below.

Table S2: Reporting of monitoring data				
Parameter	Emission point	Reporting period	Period begins	
AIR				
Sulphur dioxide (expressed as SO ₂) mg Nm ⁻³	A	Every 3 months (Quarterly) for CEMS Annually for periodic	01/07/2004	<i>Point A includes continuous monitoring, calibration and mass emission (Kg/T product)</i>
Oxides of nitrogen (expressed as NO ₂) mg Nm ⁻³	A	Every 3 months (Quarterly) for CEMS Annually for periodic	01/07/2004	<i>Point A includes continuous monitoring and calibration</i>
Carbon Monoxide Mg Nm ⁻³	A	Every 3 months (Quarterly) for CEMS Annually for periodic	01/07/2004	<i>Point A includes continuous monitoring and calibration</i>
Particulate Matter mg Nm ⁻³	A, C	Every 3 months (Quarterly) for CEMS Annually for periodic	01/07/2004	<i>Point A includes continuous monitoring and calibration</i>
Particulate Matter mg Nm ⁻³	D, F, G, H	Every 6 months (Bi-annual)	01/07/2004	
VOCs mg Nm ⁻³	C,	Every 3 months (Quarterly)	01/07/2004	
VOCs mg Nm ⁻³	D, F, G	Every 6 months (Bi-annual)	01/07/2004	
Ammonia Mg Nm ⁻³	C	Every 3 months (Quarterly)	01/07/2004	
Ammonia Mg Nm ⁻³	D, F, G, upwind and downwind at installation boundary	Every 6 months (Bi-annual)	01/07/2004	
Formaldehyde Mg Nm ⁻³	C	Every 3 months (Quarterly)	01/07/2004	
Formaldehyde Mg Nm ⁻³	D, F, G, upwind and downwind at installation boundary	Every 6 months (Bi-annual)	01/07/2004	
Phenol Mg Nm ⁻³	C	Every 3 months (Quarterly)	01/07/2004	
Phenol Mg Nm ⁻³	D, F, G, upwind and downwind at installation	Every 6 months (Bi-annual)	01/07/2004	

Schedule 2 - Reporting of monitoring data

	boundary			
Amines Mg Nm ⁻³	C	Every 3 months (Quarterly)	01/07/2004	
Amines Mg Nm ⁻³	D, F, G	Every 6 months (Bi-annual)	01/07/2004	
Gaseous chlorides expressed as HCl mg Nm ⁻³	A	Every 3 months (Quarterly)	01/07/2004	
Gaseous fluorides expressed as HF mg Nm ⁻³	A	Every 3 months (Quarterly)	01/07/2004	
Hydrogen Sulphide mg/Nm ⁻³	A	Every 3 months (Quarterly)	01/07/2004	
Metals (Groups 1 & 2) mg/Nm ⁻³	A	Every 3 months (Quarterly)	01/07/2004	
Metals (Group 1) mg/Nm ⁻³	A	Every 3 months (Quarterly)	01/07/2004	
Dioxins ng/Nm ⁻³	A	Annually	01/01/2004	
Nitrous Oxides and Nitrogen Dioxide mg/ Nm ⁻³	F	Quarterly	01/07/2004	
Particulate Matter / Dust mg/Nm ⁻³	Installation Boundary Point at the raw materials and handling area	Quarterly	01/07/2004	

SURFACE WATER

pH	L1, L2	Every 6 months (Bi-annual)	01/07/2004	Sampling is to be undertaken during a period of rainfall and only when it is open for discharge during the six months
COD	L1, L2	Every 6 months (Bi-annual)	01/07/2004	Sampling is to be undertaken during a period of rainfall and only when it is open for discharge during the six months
Total Suspended Solids	L1, L2,	Every 6 months (Bi-annual)	01/07/2004	Sampling is to be undertaken during a period of rainfall and only when it is open for discharge during the six months
pH	L3, L4, L5, L6	Every 6 months (Bi-annual)	01/07/2004	Sampling is to be undertaken during a period of rainfall
COD	L3, L4, L5, L6	Every 6 months (Bi-annual)	01/07/2004	Sampling is to be undertaken during a period of rainfall
Total Suspended Solids	L3, L4, L5, L6	Every 6 months (Bi-annual)	01/07/2004	Sampling is to be undertaken during a

Schedule 2 - Reporting of monitoring data

				period of rainfall
SEWER				
pH	Vee-notch metered discharge at eastern end of site.	Every 3 months (Quarterly)	01/07/2004	
Suspended solids mg l ⁻¹	Vee-notch metered discharge at eastern end of site.	Every 3 months (Quarterly)	01/07/2004	
Phenol mg l ⁻¹	Vee-notch metered discharge at eastern end of site.	Every 3 months (Quarterly)	01/07/2004	
Formaldehyde mg l ⁻¹	Vee-notch metered discharge at eastern end of site.	Every 3 months (Quarterly)	01/07/2004	
Ammonia mg l ⁻¹	Vee-notch metered discharge at eastern end of site.	Every 3 months (Quarterly)	01/07/2004	
Fluoride mg l ⁻¹	Vee-notch metered discharge at eastern end of site.	Every 3 months (Quarterly)	01/07/2004	
COD mg l ⁻¹	Vee-notch metered discharge at eastern end of site.	Every 3 months (Quarterly)	01/07/2004	
Total Oil and Grease mg l ⁻¹	Vee-notch metered discharge at eastern end of site.	Every 3 months (Quarterly)	01/07/2004	
Flow l/sec	Vee-notch metered discharge at eastern end of site.	Every 3 months (Quarterly)	01/07/2004	
INSTALLATION				
Water usage	Installation wide	Annually	01/07/2004	
Energy usage	Installation wide	Annually	01/07/2004	
Waste disposal and/or recovery.	Installation wide	Annually	01/07/2004	

Schedule 3 - Forms to be used

Table S3: Reporting Forms		
Media / parameter	Form Number	Date of Form
Air	A1 - A6	25/06/04
Water (excluding sewer)	W1	25/06/04
Sewer	S1	25/06/04
Energy	E1, E2	25/06/04
Waste Return	WD1	25/06/04
Water usage	WU1	25/06/04
Performance indicators	PI1, PI2, PI3, PI4	25/06/04

Schedule 4 - Reporting of performance data

Data required to be recorded and reported by Condition 4.1.3. The data should be assessed at the frequency given and reported annually to the Agency.

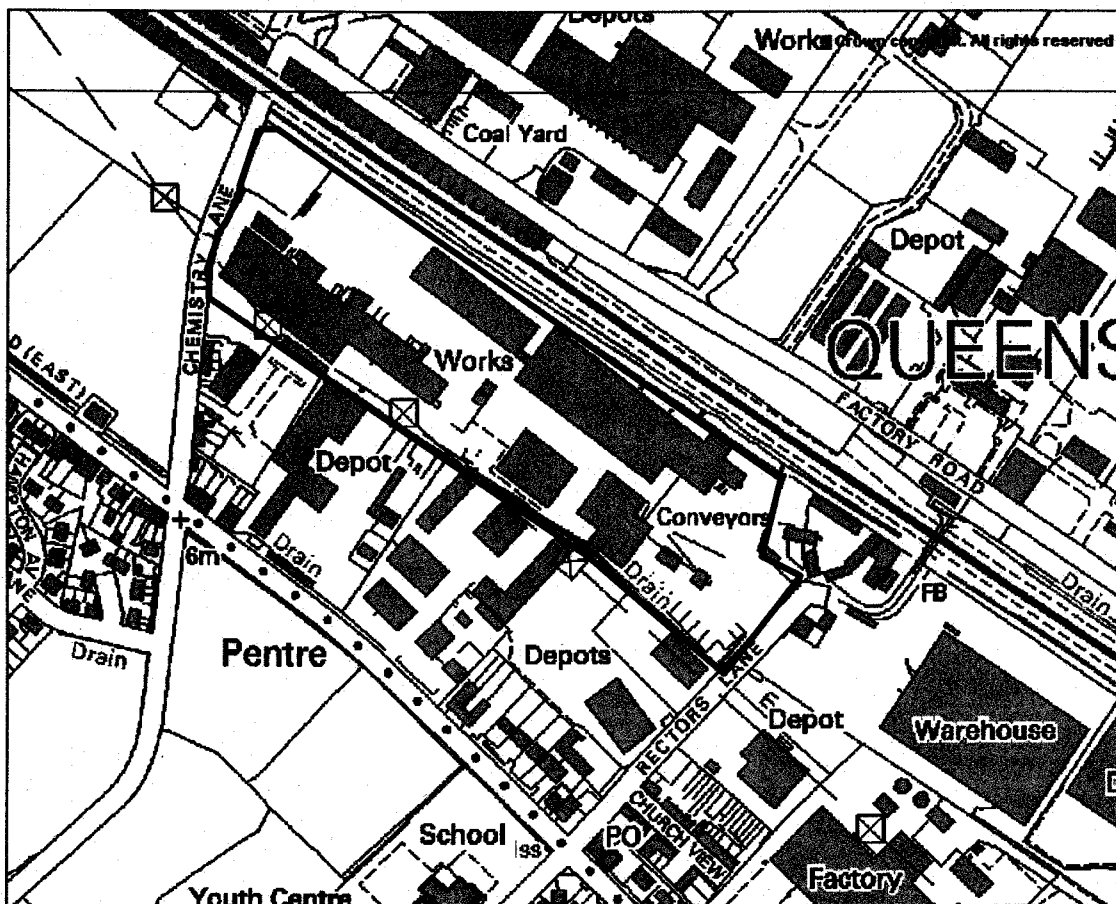
Table S4.1:

Parameter	Frequency of assessment	Performance indicator
No Condition applies		

Table S4.2: Performance parameters

Parameter	Frequency of assessment	Performance indicator
Emergency (by-pass) stack operating time	Monthly	Total Hours
Annual total mass release to air of the following substances: Oxides of Sulphur as SO ₂ , Oxides of Nitrogen as NO ₂ VOC as C Particulate Carbon dioxide Carbon monoxide Formaldehyde Phenol Fluoride as HF Chloride as HCl Amines Hydrogen sulphide Group 1 metals Group 1 & 2 metals	Monthly	(Kg/T) product
Annual mass release to air of the following substances: Oxides of Sulphur as SO ₂ , Oxides of Nitrogen as NO ₂ VOC as C Particulate Carbon dioxide Carbon monoxide Formaldehyde Phenol Fluoride as HF Chloride as HCl Amines Hydrogen sulphide Group 1 metals Group 1 & 2 metals	Monthly	Tonnes

Schedule 5 - Site Plan



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END OF PERMIT