



**ENVIRONMENT  
AGENCY**

## Variation Notice with introductory note

Pollution Prevention and Control Regulations 2000

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**Queensferry Mineral  
Fibre Works**

**KNAUF INSULATION LTD  
Chemistry Lane  
Queensferry  
Flintshire  
CH5 2DB**

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Variation Notice number

**NP3835SW**

Permit number

**BR9383**

# Introductory note

**This introductory note does not form a part of the Variation Notice.**

The following Notice is issued under Regulation 17 of The Pollution Prevention and Control (England and Wales) Regulations 2000 (S.I.2000 No. 1973 (as amended) (the Regulations) to vary the conditions of a Permit issued under the Regulations to operate an installation.

The Notice comprises Schedule 1 containing conditions to be deleted, Schedule 2 conditions to be amended and Schedule 3 conditions to be added. The Notice is subject to the express conditions set out in Schedules 1 to 3.

The Permit, as amended by this Variation Notice, contains conditions which have to be complied with. It should be noted that aspects of the operation of the installation which are not regulated by those conditions are subject to the condition implied by Regulation 12(10) of the PPC Regulations, that 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.

The main purpose of the activity at the installation is:-

The manufacture of stone wool insulation products as described in the introductory note of Permit BR9383. This Variation Notice allows the operation of new plant at the installation for the handling of raw materials; melting raw materials in a new cupola furnace; binder application and product forming; and the associated abatement, management and control systems. The new plant will provide improved performance in terms of emissions and energy used and will enable the operator to move towards achieving BAT for the installation.

#### Other PPC Permits relating to this installation

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

#### Superseded Licenses/Consents/Authorisations relating to this installation

Holder	Reference Number	Date of Issue
<i>Knauf Insulation Limited</i>	<i>IPC Authorisation AH4292 and variations AN6793, AS1797, AZ2481, AZ8102 &amp; BE1399</i>	<i>June 1993</i>

## Talking to us

If you contact the Agency about this Permit please quote the Permit Number.

The Operator should use the Emergency Hotline telephone number (0800 80 70 60) or any other number notified to it to give a notification under condition 5.1.1 of the Permit.

## Confidentiality

The Permit/Variation requires the Operator to provide information to the Agency. The Agency will place the information onto the public registers in accordance with the requirements of the PPC Regulations. If the Operator considers that any information provided is commercially confidential, it may apply to the Agency to have such information withheld from the register as provided in the PPC Regulations. To enable the Agency to determine whether the information is commercially confidential, the Operator should clearly identify the information in question and should specify clear and precise reasons.

## Variations to the permit

This Permit may be varied in the future. The Status Log within the Introductory Note to any such variation will include summary details of the 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. For the applicant to be successful, they would have to be able to demonstrate to the Agency, in accordance with Regulation 19 of the PPC Regulations, 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, a joint application to transfer the Permit has to be made by both the existing and proposed holders, in accordance with Regulation 18 of the PPC Regulations. 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 ensure compliance with the conditions of the transferred Permit. If the Permit authorises the carrying out of a specified waste management activity, then there is a further requirement that the transferee is considered to be a "fit and proper person" to carry out that activity.

## Status Log

Detail	Date	Comment
Application BR9383	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	25/06/04	
Application for variation	Received 07/12/04	
Supplementary information	Received 18/02/05	
Variation NP3835SW	Determined 22/02/05	

*End of introductory Note*

**Variation Notice**

Pollution Prevention and Control  
(England and Wales) Regulations 2000



**ENVIRONMENT  
AGENCY**

## Variation Notice

Permit number (The Permit)

**BR9383**

Variation Notice number

**NP3835SW**

The Environment Agency in exercise of its powers under Regulation 17 of the Pollution Prevention and Control (England and Wales) Regulations 2000 (S.I. 2000 No. 1973) (as amended), hereby varies the Permit issued on 25/06/04 and held by you.

Knauf Insulation Limited ("the Operator"),

Of/ whose Registered Office (or Principal Office) is

PO Box 10

Stafford Road

St Helens

Merseyside

WA10 3NS

**Company registration number 1926842**

which relates to the operation of an Installation at

**Chemistry Lane**

**Queensferry**

**Flintshire**

**CH5 2DB**

to the extent set out in Schedules 1 to 3 of this Variation Notice.

This Notice shall take effect from *23<sup>rd</sup> February 2005 at 00.01 hours.*

Signed

A rectangular box containing a handwritten signature in black ink, which appears to read "Nigel Kendrick".

**Nigel Kendrick**

Authorised to sign on behalf of the Environment Agency

Date

A rectangular box containing the handwritten date "22<sup>nd</sup> February 2005" in black ink.

**SCHEDULE 1 - CONDITIONS TO BE DELETED**

1. Table 2.2.2e of Condition 2.2.1.3 to be deleted.

## SCHEDULE 2 - CONDITIONS TO BE AMENDED

2. Condition 1.4.1 to be amended to

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 <sup>st</sup> 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 <sup>th</sup> 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 <sup>th</sup> 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 <sup>st</sup> 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 <sup>st</sup> 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 <sup>st</sup> 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 <sup>st</sup> 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 <sup>th</sup> 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 <sup>th</sup> 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 <sup>th</sup> November 2004
11	The operator shall carry out a review of activities on the installation with regard to their potential to cause odourous emissions. A report shall be submitted to the Agency detailing how odours will be minimised beyond the site boundary.	31 <sup>st</sup> 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 <sup>th</sup> April 2006
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 <sup>th</sup> December 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 <sup>th</sup> 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 <sup>th</sup> December 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 <sup>th</sup> 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 <sup>st</sup> 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 <sub>2</sub> from release point A, to meet a release level of 600mg/m <sup>3</sup> by 30 <sup>th</sup> 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 <sup>th</sup> 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 <sup>th</sup> 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 <sup>th</sup> November 2005

3. Condition 2.1.1 to be amended to

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 <sup>st</sup> 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 <sup>th</sup> March 2004	Responses to questions 7,8,9,10,11 and 12	14 <sup>th</sup> April 2004
Variation application	Responses to questions C2.1 to C2.12 of the variation application	7 <sup>th</sup> December 2004

4. Condition 2.2.1.2 to be amended to

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	Tenkay filter	Point H on plan IPPC 2002
M	Edge trim return extracted air	Point M on plan IPPC 2002 (as amended Feb 2005)
O	Materials screening dust extraction	Point O on plan on page 18 of document KIQF C2.1
P1 to P7	7 filtered release points on the bulk silos	Points P1 to P7 on plan on page 18 of document KIQF C2.1

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

4. Condition 2.2.1.3 to be amended to

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) <sup>1</sup>	Monitoring frequency	Monitoring method
Particulate Matter mg/Nm <sup>3</sup>	30 (daily average)	Continuous	Monitoring methods for all parameters as agreed in writing with the Agency
Oxides of nitrogen (expressed as NO <sub>2</sub> ) mg/Nm <sup>3</sup>	300 (daily average)	Continuous	
Oxides of Sulphur (expressed as SO <sub>2</sub> ) mg/Nm <sup>3</sup>	1500 (daily average)	Continuous	
Sulphur dioxide Kg/T product	2.2 (monthly average)	Calculated from continuous monitoring data	
Carbon monoxide mg/Nm <sup>3</sup>	80 (daily average)	Continuous	
Chlorides (expressed as Hydrogen Chloride) mg/Nm <sup>3</sup>	10	Quarterly	
Fluorides (expressed as Hydrogen Fluoride) mg/Nm <sup>3</sup>	5	Quarterly	
Hydrogen Sulphide mg/Nm <sup>3</sup>	5	Quarterly	
Metals (groups 1 & 2) mg/Nm <sup>3</sup>	5	Quarterly	
Metals (groups 1) mg/Nm <sup>3</sup>	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 24 hour period commencing at midnight shall exceed the limit by more than 50%.

5. Table 2.10.1a of Condition 2.10.2 to be amended to

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 <sup>3</sup>	Annually	To be agreed in writing with the Agency	
A – Cupola (Emissions to Air)	Particulate Matter mg/Nm <sup>3</sup>	Annually <sup>1</sup>	To be agreed in writing with the Agency	For calibration Purposes
A – Cupola (Emissions to Air)	Oxides of nitrogen mg/Nm <sup>3</sup>	Annually <sup>1</sup>	To be agreed in writing with the Agency	For calibration Purposes
A – Cupola (Emissions to Air)	Oxides of Sulphur mg/Nm <sup>3</sup>	Annually <sup>1</sup>	To be agreed in writing with the Agency	For calibration Purposes
A – Cupola (Emissions to Air)	Carbon monoxide mg/Nm <sup>3</sup>	Annually <sup>1</sup>	To be agreed in writing with the Agency	For calibration Purposes
D – Binder plant (Emissions to air)	Particulate Matter mg/Nm <sup>3</sup>	6 monthly	To be agreed in writing with the Agency	
D – Binder plant (Emissions to air)	Volatile Organic Compounds mg/Nm <sup>3</sup> as C	6 monthly	To be agreed in writing with the Agency	
D – Binder plant (Emissions to air)	Ammonia mg/Nm <sup>3</sup>	6 monthly	To be agreed in writing with the Agency	
D – Binder plant (Emissions to air)	Formaldehyde mg/Nm <sup>3</sup>	6 monthly	To be agreed in writing with the Agency	
D – Binder plant (Emissions to air)	Phenol mg/Nm <sup>3</sup>	6 monthly	To be agreed in writing with the Agency	
D – Binder plant (Emissions to air)	Amines mg/Nm <sup>3</sup>	6 monthly	To be agreed in writing with the Agency	
F – Mainline Oven Oxidiser Stack	Nitrous Oxides and Nitrogen Dioxide mg/Nm <sup>3</sup>	Quarterly	To be agreed in writing with the Agency	
Installation Boundary Point at the raw materials and handling area	Particulate Matter / Dust mg/Nm <sup>3</sup>	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 <sup>3</sup>	Every six months	To be agreed in writing with the Agency	'Upwind' and 'downwind' concentrations

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

6. Condition 4.1.3 to be amended to

The operator shall submit to the Agency a report on the performance of the Permitted Installation over the previous year by 28 February 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.

7. Condition 4.1.8 to be amended to

The operator shall submit to the Agency a report of total annual mass release (Kg per tonne of melt), 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. The operator shall notify the Agency of any changes in cupola charge composition that will change the definition of melt from that defined in the letter from Knauf Insulation Limited dated 25/08/04.

### SCHEDULE 3 - CONDITIONS TO BE ADDED

#### 1 Add Condition 2.10.12

With regard to the calibration of continuous emission monitors, at the appropriate value, the values of the 95% confidence intervals of a single measured result shall not exceed the following percentages of the emission limit values:

Carbon monoxide	10%
Sulphur dioxide	20%
Oxides of nitrogen (NO and NO <sub>2</sub> expressed as NO <sub>2</sub> )	20%
Total dust	30%

#### 2 Add Condition 2.10.13

To obtain a valid daily average value no more than five half-hourly average values in any day shall be discarded due to malfunction or maintenance of the continuous measurement system. No more than ten daily average values per year shall be discarded due to malfunction or maintenance of the continuous measurement system.

#### 3. Add Condition 2.2.2.15

For periodic measurements, compliance shall be determined from the measured value after having subtracted the uncertainty error for the selected method of sampling and analysis for each relevant pollutant.

#### 4. Add to the Improvement Programme

Reference	Requirement	Date
21	The operator shall carry out an H1 assessment having regard to the impact of SO <sub>2</sub> emissions on the River Dee cSAC to the north of the site.	30 <sup>th</sup> April 2006