

# Notice of variation and consolidation with introductory note

The Environmental Permitting (England & Wales) Regulations 2010

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Unifrax Ltd  
HTIW Factory  
Mill Lane  
Rainford  
St Helens  
Merseyside  
WA11 8LP

**Variation application number**

EPR/BR8352IN/V003

**Permit number**

EPR/BR8352IN

# HTIW Factory

## Permit number EPR/BR8352IN

### Introductory note

#### **This introductory note does not form a part of the notice.**

The following notice gives notice of the variation and consolidation of an environmental permit.

This permit controls the activity of manufacturing of high temperature insulation wool using an electric furnace. The relevant listed activity from Schedule 1 to the Environmental Permitting Regulations is Section 3.4 Part A(1)(a).

This variation is to consolidate various previous variations to the permit EPR/BR8352IN and incorporates changes implemented by the Industrial Emissions Directive issued in 2010 including the BAT narrative and emission limits from the BAT Conclusions published in March 2012.

A Notice under Regulation 60 of the Environmental Permitting Regulations 2010 (EPR) was issued to the Operator on 19<sup>th</sup> December 2013 seeking their confirmation of how the requirements of that BAT Conclusions document will be implemented in their facility. Their responses, dated 30<sup>th</sup> May 2014, 16<sup>th</sup> October 2014, 22<sup>nd</sup> October 2014 and 18<sup>th</sup> December 2014 are incorporated into the permit by schedule 1, table S1.2

The permit included 2 sets of emission limits: the existing AEL and the IED AEL which will become effective from 8<sup>th</sup> March 2016.

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

The manufacture of mineral fibres and associated products, which are used primarily for heat insulation purposes. This is achieved by the melting of powdered minerals, such as silica, alumina, calcium and magnesium silicates, in two submerged electrode furnaces (known as SEF1 and SEF3). A molten stream falls from the furnace and is disintegrated into fibrous floss inside a chamber either by compressed air or by a spinning wheel system. The fibre is collected and processed into a number of products.

Downstream processing for baled bulk, blanket and chopped fibre may include chopping, needling, oven treatment and packing for the bulk, blanket or chopped fibres. Downstream processing for sheets (paper, felt and boards), shapes and coatings may include mixing fibre with binders, web forming (for sheets), and packing. Raw materials handling includes offloading of bulk powders into silos, weighing and mixing of batches prior to charging to furnaces. Smaller quantities of materials are handled and stored in containers as appropriate.

Reverse or pulse-jet bag filter systems are the main abatement technique used to control emissions of particulates, including fibres, to air from various parts of the installation. There are some volatile organic compound (VOC) and combustion product emissions to air due to the use of lubricant, binders and gas drying ovens.

All liquid effluent from the process passes to sewer. For the web forming process, flocculent is added prior to the moving membrane filter to minimise suspended solids to sewer. Uncontaminated surface water drainage from the installation runs to Rainford Brook. Other wastes from the process include reject fibres, dusts, furnace slags and effluent treatment sludge's. A number of waste streams are returned to the process where possible. Solid waste is disposed of off-site to appropriate landfill or to recycling facilities where possible.

Variation (V002) added a heated press as an additional process step to the existing wet processing line. This will involve the processing of "green" sheet material manufactured on the existing Wet Line for sale as a new product for the installation. Within the reprocessing step (taking place within an existing building), a heated compression machine will be used to create a stable flexible bonded mat.

The variation also removed the emission points relating to the vacuum forming plant which had been decommissioned. The schedules specify the changes made to the permit.

The status log of a permit sets out the permitting history, including any changes to the permit reference number.

<b>Status log of the permit</b>		
<b>Description</b>	<b>Date</b>	<b>Comments</b>
Application BR8352 (EPR/BR8352IN/A001)	Received 17/07/02	Application for a 3.4 A(1) (a) scheduled activity
Additional information request	Response 24/07/02	Modified Installation Plan
Response to notice dated 19/12/02 requiring further information	Response 24/04/03	
Additional information request	Response 28/03/03	
Response to notice dated 04/04/03 requiring further information	Response 05/06/03	
Permit BR8352 determined (EPR/BR8352IN)	20/08/03	
Variation EPR/BR8352IN/V002	Duly made 20/11/2014	
Variation determined EPR/BR8352IN/V002 (Billing Reference WP3538WX)	28/11/2014	
Regulation 60 notice issued	18/12/ 2013	
Reply to Regulation 60 notice	30 /05/2014	
Additional Response to Regulation 60 Notice	16/10/ 2014, 22/10 2014 and 18/12/ 2014	
Agency Initiated Variation EPR/BR8352IN/V003 determined	30/03/2015	Varied and consolidated permit issued in modern condition format. EPR/BR8352IN

End of introductory note

# Notice of variation and consolidation

## The Environmental Permitting (England and Wales) Regulations 2010

The Environment Agency in exercise of its powers under regulation 20 of the Environmental Permitting (England and Wales) Regulations 2010 varies and consolidates

### Permit number

**EPR/BR8352IN**

### Issued to

**Unifrax Ltd** (“the operator”)

whose registered office is

**Mill Lane  
Rainford  
St Helens  
Merseyside  
WA11 8LP**

company registration number 04007148

to operate a regulated facility at

HTIW Factory

**Mill Lane  
Rainford  
St Helens  
Merseyside  
WA11 8LP**

to the extent set out in the schedules.

The notice shall take effect from 30/03/2015

<b>Name</b>	<b>Date</b>
<b>Anne Nightingale</b>	<b>30/03/2015</b>

Authorised on behalf of the Environment Agency

## **Schedule 1**

All conditions have been varied by the consolidated permit as a result of an Environment Agency initiated variation.

## **Schedule 2 – consolidated permit**

Consolidated permit issued as a separate document.

# Permit

## The Environmental Permitting (England and Wales) Regulations 2010

### Permit number

**EPR/BR8352IN**

This is the consolidated permit referred to in the variation and consolidation notice for application EPR/BR8352IN/V003 authorising,

**Unifrax Ltd** (“the operator”),

whose registered office is

**Mill Lane  
Rainford  
St Helens  
Merseyside  
WA11 8LP**

company registration number 04007148

to operate an installation at

HTIW Factory

**Mill Lane  
Rainford  
St Helens  
Merseyside  
WA11 8LP**

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

<b>Name</b>	<b>Date</b>
<b>Anne Nightingale</b>	<b>30/03/2015</b>

Authorised on behalf of the Environment Agency

# Conditions

## 1 Management

### 1.1 General management

1.1.1 The operator shall manage and operate the activities:

- (a) in accordance with a written management system that identifies and minimises risks of pollution, including those arising from operations, maintenance, accidents, incidents, non-conformances, closure and those drawn to the attention of the operator as a result of complaints; and
- (b) using sufficient competent persons and resources.

1.1.2 Records demonstrating compliance with condition 1.1.1 shall be maintained.

1.1.3 Any person having duties that are or may be affected by the matters set out in this permit shall have convenient access to a copy of it kept at or near the place where those duties are carried out.

### 1.2 Energy efficiency

1.2.1 The operator shall:

- (a) take appropriate measures to ensure that energy is used efficiently in the activities;
- (b) review and record at least every four years whether there are suitable opportunities to improve the energy efficiency of the activities; and
- (c) take any further appropriate measures identified by a review.

### 1.3 Efficient use of raw materials

1.3.1 The operator shall:

- (a) take appropriate measures to ensure that raw materials and water are used efficiently in the activities;
- (b) maintain records of raw materials and water used in the activities;
- (c) review and record at least every four years whether there are suitable alternative materials that could reduce environmental impact or opportunities to improve the efficiency of raw material and water use; and
- (d) take any further appropriate measures identified by a review.

### 1.4 Avoidance, recovery and disposal of wastes produced by the activities

1.4.1 The operator shall take appropriate measures to ensure that:

- (a) the waste hierarchy referred to in Article 4 of the Waste Framework Directive is applied to the generation of waste by the activities; and
- (b) any waste generated by the activities is treated in accordance with the waste hierarchy referred to in Article 4 of the Waste Framework Directive; and
- (c) where disposal is necessary, this is undertaken in a manner which minimises its impact on the environment.

1.4.2 The operator shall review and record at least every four years whether changes to those measures should be made and take any further appropriate measures identified by a review.

## **2 Operations**

### **2.1 Permitted activities**

2.1.1 The operator is only authorised to carry out the activities specified in schedule 1 table S1.1 (the “activities”).

### **2.2 The site**

2.2.1 The activities shall not extend beyond the site, being the land shown edged in green on the site plan at schedule 7 to this permit.

### **2.3 Operating techniques**

2.3.1 The activities shall, subject to the conditions of this permit, be operated using the techniques and in the manner described in the documentation specified in schedule 1, table S1.2, unless otherwise agreed in writing by the Environment Agency.

2.3.2 If notified by the Environment Agency that the activities are giving rise to pollution, the operator shall submit to the Environment Agency for approval within the period specified, a revision of any plan or other documentation (“plan”) specified in schedule 1, table S1.2 or otherwise required under this permit which identifies and minimises the risks of pollution relevant to that plan, and shall implement the approved revised plan in place of the original from the date of approval, unless otherwise agreed in writing by the Environment Agency.

2.3.3 Any raw materials or fuels listed in schedule 2 table S2.1 shall conform to the specifications set out in that table.

### **2.4 Improvement programme**

2.4.1 The operator shall complete the improvements specified in schedule 1 table S1.3 by the date specified in that table unless otherwise agreed in writing by the Environment Agency.

2.4.2 Except in the case of an improvement which consists only of a submission to the Environment Agency, the operator shall notify the Environment Agency within 14 days of completion of each improvement.

## **3 Emissions and monitoring**

### **3.1 Emissions to water, air or land**

3.1.1 There shall be no point source emissions to water, air or land except from the sources and emission points listed in schedule 3 tables S3.1 and S3.2.

3.1.2 The limits given in schedule 3 shall not be exceeded.

3.1.3 For the following activities referenced in schedule 1, table S1.1 (A1 to A4) where a substance is specified in schedule 3 tables S3.2 but no limit is set for it, the concentration of such substance in emissions to water from the relevant emission point shall be no greater than the background concentration.

3.1.4 Periodic monitoring shall be carried out at least once every 5 years for groundwater and 10 years for soil, unless such monitoring is based on a systematic appraisal of the risk of contamination.



## **3.2 Emissions of substances not controlled by emission limits**

3.2.1 Emissions of substances not controlled by emission limits (excluding odour) shall not cause pollution. The operator shall not be taken to have breached this condition if appropriate measures, including, but not limited to, those specified in any approved emissions management plan, have been taken to prevent or where that is not practicable, to minimise, those emissions.

3.2.2 The operator shall:

- (a) if notified by the Environment Agency that the activities are giving rise to pollution, submit to the Environment Agency for approval within the period specified, an emissions management plan which identifies and minimises the risks of pollution from emissions of substances not controlled by emission limits;
- (b) implement the approved emissions management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

3.2.3 All liquids in containers, whose emission to water or land could cause pollution, shall be provided with secondary containment, unless the operator has used other appropriate measures to prevent or where that is not practicable, to minimise, leakage and spillage from the primary container.

## **3.3 Odour**

3.3.1 Emissions from the activities shall be free from odour at levels likely to cause pollution outside the site, as perceived by an authorised officer of the Environment Agency, unless the operator has used appropriate measures, including, but not limited to, those specified in any approved odour management plan, to prevent or where that is not practicable to minimise the odour.

3.3.2 The operator shall:

- (a) if notified by the Environment Agency that the activities are giving rise to pollution outside the site due to odour, submit to the Environment Agency for approval within the period specified, an odour management plan which identifies and minimises the risks of pollution from odour;
- (b) implement the approved odour management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

## **3.4 Noise and vibration**

3.4.1 Emissions from the activities shall be free from noise and vibration at levels likely to cause pollution outside the site, as perceived by an authorised officer of the Environment Agency, unless the operator has used appropriate measures, including, but not limited to, those specified in any approved noise and vibration management plan to prevent or where that is not practicable to minimise the noise and vibration.

3.4.2 The operator shall:

- (a) if notified by the Environment Agency that the activities are giving rise to pollution outside the site due to noise and vibration, submit to the Environment Agency for approval within the period specified, a noise and vibration management plan which identifies and minimises the risks of pollution from noise and vibration;
- (b) implement the approved noise and vibration management plan, from the date of approval, unless otherwise agreed in writing by the Environment Agency.

## **3.5 Monitoring**

3.5.1 The operator shall, unless otherwise agreed in writing by the Environment Agency, undertake the monitoring specified in the following tables in schedule 3 to this permit:

- (a) point source emissions specified in tables S3.1, and S3.2;

- 3.5.2 The operator shall maintain records of all monitoring required by this permit including 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.
- 3.5.3 Monitoring equipment, techniques, personnel and organisations employed for the emissions monitoring programme and the environmental or other monitoring specified in condition 3.5.1 shall have either MCERTS certification or MCERTS accreditation (as appropriate), where available, unless otherwise agreed in writing by the Environment Agency.
- 3.5.4 Where Continuous Emission Monitors are installed to comply with the monitoring requirements in schedule 3 table S3.1; the Continuous Emission Monitors shall be used such that;
- (a) the values of the 95% confidence intervals of a single measured result at the daily emission limit value shall not exceed the following percentages:
 

• Carbon monoxide	10%
• Sulphur dioxide	20%
• Oxides of nitrogen (NO & NO <sub>2</sub> expressed as NO <sub>2</sub> )	20%
• Particulate matter	30%
• Total organic carbon (TOC)	30%
• Hydrogen chloride	40%
  - (b) valid half-hourly average values shall be determined within the effective operating time (excluding the start-up and shut-down periods) from the measured values after having subtracted the value of the confidence intervals in condition 3.5.4(a);
  - (c) where it is necessary to calibrate or maintain the monitor and this means that data are not available for a complete half-hour period, the half-hourly average shall in any case be considered valid if measurements are available for a minimum of 20 minutes during the half-hour period. The number of half-hourly averages so validated shall not exceed 5 per day;
  - (d) daily average values shall be determined as the average of all the valid half-hourly average values within a calendar day. The daily average value shall be considered valid if no more than five half-hourly average values in any day have been determined not to be valid;
  - (e) no more than ten daily average values per year shall be determined not to be valid.
- 3.5.5 Permanent means of access shall be provided to enable sampling/monitoring to be carried out in relation to the emission points specified in schedule 3 tables S3.1, and S3.2 unless otherwise agreed in writing by the Environment Agency.

## 4 Information

### 4.1 Records

- 4.1.1 All records required to be made by this permit shall:
- (a) be legible;
  - (b) be made as soon as reasonably practicable;
  - (c) if amended, be amended in such a way that the original and any subsequent amendments remain legible, or are capable of retrieval; and
  - (d) be retained, unless otherwise agreed in writing by the Environment Agency, for at least 6 years from the date when the records were made, or in the case of the following records until permit surrender:
    - (i) off-site environmental effects; and

(ii) matters which affect the condition of the land and groundwater.

4.1.2 The operator shall keep on site all records, plans and the management system required to be maintained by this permit, unless otherwise agreed in writing by the Environment Agency.

## 4.2 Reporting

4.2.1 The operator shall send all reports and notifications required by the permit to the Environment Agency using the contact details supplied in writing by the Environment Agency.

4.2.2 For the following activities referenced in schedule 1, table S1.1 (A1, A2, A3 and A4). A report or reports on the performance of the activities over the previous year shall be submitted to the Environment Agency by 31 January (or other date agreed in writing by the Environment Agency) each year. The reports shall include as a minimum:

- (a) a review of the results of the monitoring and assessment carried out in accordance with the permit including an interpretive review of that data;
- (b) the performance parameters set out in schedule 4 table S4.2 using the forms specified in table S4.3 of that schedule.

4.2.3 Within 28 days of the end of the reporting period the operator shall, unless otherwise agreed in writing by the Environment Agency, submit reports of the monitoring and assessment carried out in accordance with the conditions of this permit, as follows:

- (a) in respect of the parameters and emission points specified in schedule 4 table S4.1;
- (b) for the reporting periods specified in schedule 4 table S4.1 and using the forms specified in schedule 4 table S4.3 ; and
- (c) giving the information from such results and assessments as may be required by the forms specified in those tables.

4.2.4 The operator shall, unless notice under this condition has been served within the preceding four years, submit to the Environment Agency, within six months of receipt of a written notice, a report assessing whether there are other appropriate measures that could be taken to prevent, or where that is not practicable, to minimise pollution.

## 4.3 Notifications

4.3.1 In the event:

- (a) that the operation of the activities gives rise to an incident or accident which significantly affects or may significantly affect the environment, the operator must immediately—
  - (i) inform the Environment Agency,
  - (ii) take the measures necessary to limit the environmental consequences of such an incident or accident, and
  - (iii) take the measures necessary to prevent further possible incidents or accidents;
- (b) of a breach of any permit condition the operator must immediately—
  - (i) inform the Environment Agency, and
  - (ii) take the measures necessary to ensure that compliance is restored within the shortest possible time;
- (c) of a breach of permit condition which poses an immediate danger to human health or threatens to cause an immediate significant adverse effect on the environment, the operator must immediately suspend the operation of the activities or the relevant part of it until compliance with the permit conditions has been restored.

- 4.3.2 Any information provided under condition 4.3.1 (a)(i), or 4.3.1 (b)(i) where the information relates to the breach of a limit specified in the permit, shall be confirmed by sending the information listed in schedule 5 to this permit within the time period specified in that schedule.
- 4.3.3 Where the Environment Agency has requested in writing that it shall be notified when the operator is to undertake monitoring and/or spot sampling, the operator shall inform the Environment Agency when the relevant monitoring and/or spot sampling is to take place. The operator shall provide this information to the Environment Agency at least 14 days before the date the monitoring is to be undertaken.
- 4.3.4 The Environment Agency shall be notified within 14 days of the occurrence of the following matters, except where such disclosure is prohibited by Stock Exchange rules:
- Where the operator is a registered company:
- (a) any change in the operator's trading name, registered name or registered office address; and
  - (b) any steps taken with a view to the operator going into administration, entering into a company voluntary arrangement or being wound up.
- Where the operator is a corporate body other than a registered company:
- (a) any change in the operator's name or address; and
  - (b) any steps taken with a view to the dissolution of the operator.
- 4.3.5 Where the operator proposes to make a change in the nature or functioning, or an extension of the activities, which may have consequences for the environment and the change is not otherwise the subject of an application for approval under the Regulations or this permit:
- (a) the Environment Agency shall be notified at least 14 days before making the change; and
  - (b) the notification shall contain a description of the proposed change in operation.
- 4.3.6 The Environment Agency shall be given at least 14 days notice before implementation of any part of the site closure plan.
- 4.3.7 Where the operator has entered into a climate change agreement with the Government, the Environment Agency shall be notified within one month of:
- (a) a decision by the Secretary of State not to re-certify the agreement;
  - (b) a decision by either the operator or the Secretary of State to terminate the agreement; and
  - (c) any subsequent decision by the Secretary of State to re-certify such an agreement.

## **4.4 Interpretation**

- 4.4.1 In this permit the expressions listed in schedule 6 shall have the meaning given in that schedule.
- 4.4.2 In this permit references to reports and notifications mean written reports and notifications, except where reference is made to notification being made "without delay", in which case it may be provided by telephone.

# Schedule 1 – Operations

<b>Table S1.1 activities</b>			
<b>Activity reference</b>	<b>Activity listed in Schedule 1 of the EP Regulations</b>	<b>Description of specified activity</b>	<b>Limits of specified activity</b>
A1	S3.4 A(1)(a)	Melting mineral substances in a plant with a melting capacity of more than 20 tonnes per day using electric melt furnaces.	Melting minerals using electric melt furnaces.
<b>Directly Associated Activity</b>			
A2		Producing mineral fibre and associated products.(Downstream Processing)	Producing mineral fibre from the melted minerals and subsequent conversion, drying, finishing and associated abatement of releases to air and sewer.
A3		Storage and handling of raw materials.	Unloading, storage, blending and transfer of batch raw materials for the melting operation.
A4		Product and Waste handling, storage and despatch.	Handling, storage and despatch of various solid and liquid wastes and products from the process.

<b>Table S1.2 Operating techniques</b>		
<b>Description</b>	<b>Parts</b>	<b>Date Received</b>
Application	The response to questions 2.3 given in section B2.3 of the application.	17 July 2002
Response to Schedule 4 Part 1 Notice (dated 4 April 2003)	Response to questions 1 to 12, 15 and 20.	5 June 2003
Additional Information	All submitted	28 March 2003
Variation EPR/BR8352IN/V002	The response to question 3 c in application form C3 plus duly making response to questions 1, 2, 3, 4, 5 and 9. Supporting variation application document section BR8352IN C2.10, C2.7.2, and duly making response to question 8.	Duly made 20/11/14
Response to Regulation 60 Notice issued 18 <sup>th</sup> December 2013	All Submitted	30 <sup>th</sup> May 2014
Additional Information received in response to Regulation 60 Notice issued 18 <sup>th</sup> December 2013	All Submitted	16 <sup>th</sup> October 2014, 22 <sup>nd</sup> October 2014 and 18 <sup>th</sup> December 2014.

<b>Table S1.3 Improvement programme requirements</b>		
<b>Reference</b>	<b>Requirement</b>	<b>Date</b>
IC1 (9.1)	A report shall be sent to the Agency on establishing an Environmental Management System having regard to section 2.3 of the relevant IPPC Technical Guidance. The report shall include any proposals to implement such a programme.	Completed
IC2 (9.2)	The operator shall carry out an appraisal of the availability of recycled or recovered batch raw materials including cullet having regard to BAT. The appraisal shall consider, but not be limited to, the availability of potential sources in the current and future marketplace, the potential impact upon production, and the potential impact upon the environment. A summary of the appraisal shall be submitted to the Agency.	Completed
IC3 (9.3)	The operator shall provide a report on the waste minimisation audit and associated action plan as proposed in Section 2.1 of the Application and the water efficiency audit and associated action plan as proposed in Section 2.2.3 of the Application.	Completed
IC4 (9.4)	The operator shall carry out a review of techniques, with regard to BAT, for identifying bypassing or failure of bag filter systems which discharge to air. This review shall include, but shall not be limited to, continuous monitors and alarms. The report shall include justification of, and proposals for implementing, the technique(s) which are considered to be BAT for the installation.	Completed
IC5 (9.5)	The operator shall carry out a review of potential for contamination of the surface water drainage system from the installation. The review shall include, but shall not be limited to, an assessment of the likely benefits of installing oil interceptors on discharges to controlled water and shall review Pollution Prevention Guideline Note PPG26 (available from the Agency) with regard to possible improvements in drum and IBC storage. A report on the review shall be submitted to the Agency, with associated action plan and timescales.	Completed
IC6 (9.6)	The operator shall review the potential for fugitive emissions from SEF1 furnace pot stripping activity and SEF3 Downstream Process extraction (reference p 36 of Sect B2.3 of the Application) and propose methods or techniques for improving control of these emissions. A report describing the above shall be submitted to the Agency, to include timescales for improvements proposed	Completed
IC7 (9.7)	The operator shall provide a report on the Accident Management Plan review as proposed in Section 2.8.1 of the Application.	Completed
IC8 (9.8)	The operator shall produce a noise management plan for the installation having regard to section 2.9 of the relevant IPPC Technical Guidance and the IPPC Horizontal Guidance for Noise. The plan shall include proposals to carry out noise assessments to the appropriate standard, to identify sources of tonal noises; to review all noise sources with a view to reducing the overall noise level with regards to BAT; and to consider liaison with local residents and neighbours in order to minimise the likelihood of noise-related annoyance at sensitive receptors.	Completed
IC9 (9.9)	The operator shall develop a site closure plan for the installation having regard to section 2.11 of the relevant IPPC Technical Guidance. A report including the plan shall be provided to the Agency.	Completed
IC10 (9.10)	The operator shall carry out further investigations to reduce the uncertainty in the air dispersion modelling for PM <sub>10</sub> emissions as discussed in Section B4 of the Application. These investigations shall	Completed

<b>Table S1.3 Improvement programme requirements</b>		
<b>Reference</b>	<b>Requirement</b>	<b>Date</b>
	include, but not be limited to, measurement of levels of PM <sub>10</sub> in particulate emissions; a review of the assumptions made; a review of the emissions data used; and remodelling or calculation as required. A report shall be submitted regarding the above to the Agency with justifications for any changes as appropriate.	
IC11 (9.11)	The operator shall carry out an analysis of the emissions from the SEF1 and SEF3 furnaces in order to determine the release levels in mg/Nm <sup>3</sup> of the following groups of metals: Group 1: As, Co, Ni, Se and Cr(VI) Group 2: Sb, Pb, Cu, Mn, V, Sn and Cr(III) A report regarding the above shall be provided to the Agency.	Completed
IC12 (9.12)	The operator shall provide a report on the feasibility of measuring refractory ceramic fibre emissions to air from the installation and of assessing the environmental impact of such emissions.	Completed
IC13 (9.13)	The operator shall determine the typical levels in mg/Nm <sup>3</sup> of total volatile organic compounds (expressed as carbon) emitted to air via point A7 from the SEF3 Blanket Line Oven. A report regarding the above shall be submitted to the Agency.	Completed
IC 14	The operator shall submit a report to the Environment Agency on the techniques Unifrax propose to use to reduce Boron emissions from the furnace. As a minimum these should include:- <ul style="list-style-type: none"> <li>• Reduction of volatile components by raw material selection</li> <li>• Operation of a filter system at a suitable temperature to enhance the separation of boron compounds in the solid state</li> <li>• Use of dry or semi-dry scrubbing</li> <li>• Use of wet scrubbing</li> </ul> The report shall identify any improvements together with a proposed timetable for their implementation.	8 March 2016

## Schedule 2 – Waste types, raw materials and fuels

Table S2.1 Raw materials and fuels	
Raw materials and fuel description	Specification
Fuel Oil	Less than 0.1% sulphur.



## Schedule 3 – Emissions and monitoring

Table S3.1 Point source emissions to air – emission limits and monitoring requirements						
Emission point ref. & location	Source	Parameter	Limit (including unit)	Reference period	Monitoring frequency	Monitoring standard or method
A2 [As identified in Schedule 7 – site plan]	SEF1 Furnace (BA2)	Particulate matter	10 mg/m <sup>3</sup>	Periodic	6 monthly (note a)	BS EN 13284-1
		Sulphur dioxide	50 mg/m <sup>3</sup> after 8/3/2016			BS EN 14791
		Nitrogen Oxides	200 mg/m <sup>3</sup> after 8/3/2016			BS EN 14792 and MID
		Hydrogen Chloride	10 mg/m <sup>3</sup> after 8/3/2016			BS EN1911
		Hydrogen Fluoride	5 mg/m <sup>3</sup> after 8/3/2016			BS EN 15713
		Carbon monoxide	100 mg/m <sup>3</sup> after 8/3/2016			BS EN 15058
		As, Co, Ni, Cd, Se, Cr <sub>VI</sub> and their compounds (total)	1 mg/m <sup>3</sup> mg/m <sup>3</sup> after 8/3/2016	Periodic	Yearly	BS EN 14385 and MID
		As, Co, Ni, Cd, Se, Cr <sub>VI</sub> , Sb, Pb, Cr <sub>III</sub> , Cu, Mn, V, Sn and their compounds (total).	5 mg/m <sup>3</sup> mg/m <sup>3</sup> after 8/3/2016			BS EN 14385 and MID
		A3 [As identified in Schedule 7 – site plan]	SEF1 Collector System Arrestment (BA3)	Particulate matter	5 mg/m <sup>3</sup>	Periodic
Particulate matter	1 mg/m <sup>3</sup>			6 monthly (Note a) after 8/3/2016	BS EN 13284-1	
Sulphur Dioxide	50 mg/m <sup>3</sup> after 8/3/2016			6 monthly (Note a)	BS EN 14791	

Table S3.1 Point source emissions to air – emission limits and monitoring requirements						
Emission point ref. & location	Source	Parameter	Limit (including unit)	Reference period	Monitoring frequency	Monitoring standard or method
		Nitrogen Dioxide	200 mg/m <sup>3</sup> after 8/3/2016		6 monthly (Note a)	BS EN 14792 and MID
A6 [As identified in Schedule 7 – site plan]	SEF3 Furnace Ventilation (CA2) SEF3 Collector System (CA4)	Particulate matter	5 mg/m <sup>3</sup>	Periodic	6 monthly (Note a)	BS EN 13284-1
		Sulphur Dioxide	50 mg/m <sup>3</sup> after 8/3/2016			BS EN 14791
		Nitrogen Dioxide	200 mg/m <sup>3</sup> after 8/3/2016			BS EN 14792 and MID
		Hydrogen Chloride	10 mg/m <sup>3</sup> after 8/3/2016			BS EN1911
		Hydrogen Fluoride	5 mg/m <sup>3</sup> after 8/3/2016			BS EN 15713
		Carbon monoxide	100 mg/m <sup>3</sup> after 8/3/2016			BS EN 15058
	As, Co, Ni, Cd, Se, Cr <sub>VI</sub> and their compounds (total)	1 mg/m <sup>3</sup> mg/m <sup>3</sup> after 8/3/2016	Periodic	Yearly	BS EN 14385 and MID	
	As, Co, Ni, Cd, Se, Cr <sub>VI</sub> , Sb, Pb, Cr <sub>III</sub> , Cu, Mn, V, Sn and their compounds (total)	5 mg/m <sup>3</sup> mg/m <sup>3</sup> after 8/3/2016			BS EN 14385 and MID	
A7 [As identified in Schedule 7 – site plan]	SEF3 Slag System LEV (CA3)	Particulate matter	5 mg/m <sup>3</sup>	Periodic	6 monthly (Note a)	BS EN 13284-1
	SEF3 Blanket (CA5)	Sulphur Dioxide	50 mg/m <sup>3</sup> after 8/3/2016			BS EN 14791
	SEF3 Blanket Line Oven (CA6)	Nitrogen Dioxide	200 mg/m <sup>3</sup> after 8/3/2016			BS EN 14792 & MID
	SEF3 Packaging System (CA7)					

Table S3.1 Point source emissions to air – emission limits and monitoring requirements							
Emission point ref. & location	Source	Parameter	Limit (including unit)	Reference period	Monitoring frequency	Monitoring standard or method	
A10 [As identified in Schedule 7 – site plan]	Wet Plant Dryers (DA1/DA2)	Particulate matter	5 mg/m <sup>3</sup>	Periodic	6 monthly (Note a)	BS EN 13284-1	
		Volatile Organic Compounds (VOC) (expressed as Total Organic Carbon)	30 mg/m <sup>3</sup> until 8/3/2016			Annual until 8/3/2016	BS EN 12619
			20 mg/m <sup>3</sup> after 8/3/2016				
		Nitrogen Dioxide	50 mg/m <sup>3</sup>			6 monthly after 8/3/2016 (Note a)	
						6 monthly (Note a)	BS EN 14792 and MID
Sulphur Dioxide	50 mg/m <sup>3</sup> after 8/3/2016	6 monthly (Note a)	BS EN 14791				
A15 [As identified in Schedule 7 – site plan]	EC Press Cell	Volatile Organic Compounds (VOC) (expressed as Total Organic Carbon)	No Limit until 8/3/2016	Periodic	6 monthly (Note a)	BS EN 12619	
			20mg/m <sup>3</sup> after 8/3/2016				
A1 [As identified in Schedule 7 – site plan]	SEF1 Silo Arrestment (BA1)	-	No Limit	-	-	-	
A4 [As identified in Schedule 7 – site plan]	SEF1 Evaporative Coolers (BA4)	-	No Limit	-	-	-	
A5 [As identified in Schedule 7 – site plan]	SEF 3 Silo Arrestment (CA1)	-	No Limit	-	-	-	
A8 [As identified in Schedule 7 – site plan]	SEF 3 Evaporative Coolers (CA8)	-	No Limit	-	-	-	

<b>Table S3.1 Point source emissions to air – emission limits and monitoring requirements</b>						
<b>Emission point ref. &amp; location</b>	<b>Source</b>	<b>Parameter</b>	<b>Limit (including unit)</b>	<b>Reference period</b>	<b>Monitoring frequency</b>	<b>Monitoring standard or method</b>
A9 [As identified in Schedule 7 – site plan]	SEF3 Slag System Primary Quench (CA9)	-	No Limit	-	-	-
A14 [As identified in Schedule 7 – site plan]	Specialities Dryer (EA4)	-	No Limit	-	-	-
A16 [As detailed in Schedule 7 – site plan]	Vacuum Pump Vent	-	No Limit	-	-	-
A17 [As detailed in Schedule 7 – site plan]	Compressor Heat Exchanger Cooling air vent	-	No Limit	-	-	-

Note a Minimum interval between monitoring shall be 4 months

<b>Table S3.2 Point source emissions to sewer, effluent treatment plant or other transfers off-site– emission limits and monitoring requirements</b>						
<b>Emission point ref. &amp; location</b>	<b>Source</b>	<b>Parameter</b>	<b>Limit (incl. Unit)</b>	<b>Reference period</b>	<b>Monitoring frequency</b>	<b>Monitoring standard or method</b>
S1 (Mill Lane Sewer)	Wet Plant/Vacuum Forming Plant	-	No limit	-	-	-
S2 (Mill Lane Sewer)	SEF 3 Plant	-	No limit	-	-	-
S3 (Mill Lane Sewer)	Cements Plant	-	No limit	-	-	-

## Schedule 4 – Reporting

Parameters, for which reports shall be made, in accordance with conditions of this permit, are listed below.

Parameter	Emission or monitoring point/reference	Reporting period	Period begins
Particulates mg Nm <sup>-3</sup>	A2,A3, A6, A7,A10	Every 6 months	1 January
Oxides of Nitrogen (as NO <sub>2</sub> ) mg Nm <sup>-3</sup>	A2, A3, A6, A7,A10	Every 6 months for extractive sampling	1 January
Carbon Monoxide mg Nm <sup>-3</sup>	A2, A6	Every 6 months for extractive sampling	1 January
Oxides of Sulphur (as SO <sub>2</sub> ) mg Nm <sup>-3</sup>	A2, A3, A6, A7, A10	Every 6 months for extractive sampling	1 January
Gaseous Fluorides (as HF) mg Nm <sup>-3</sup>	A2, A6	Every 6 months for extractive sampling	1 January
Gaseous Chlorides (as HCl) mg Nm <sup>-3</sup>	A2, A6	Every 6 months for extractive sampling	1 January
Volatile Organic Compounds (VOC) (expressed as Total Organic Carbon)	A10, A15	Every 6 months for extractive sampling	1 January
As, Co, Ni, Cd, Se, Cr <sub>VI</sub> and their compounds (total)	A2, A6	Every 12 months for extractive sampling	1 January
As, Co, Ni, Cd, Se, Cr <sub>VI</sub> , Sb, Pb, Cr <sub>III</sub> , Cu, Mn, V, Sn and their compounds (total)	A2, A6	Every 12 months for extractive sampling	1 January

Parameter	Frequency of assessment	Units
Water usage	Annually	m <sup>3</sup>
Energy usage	Annually	MWh
Total raw material used	Annually	tonnes

Media/parameter	Reporting format	Date of form
Air	Form air 1 or other form as agreed in writing by the Environment Agency	DD/MM/YY
Water usage	Form water usage 1 or other form as agreed in writing by the Environment Agency	DD/MM/YY
Energy usage	Form energy 1 or other form as agreed in writing by the Environment Agency	DD/MM/YY

<b>Table S4.3 Reporting forms</b>		
<b>Media/parameter</b>	<b>Reporting format</b>	<b>Date of form</b>
Sewer 1	Form sewer 1 or other form as agreed in writing by the Environment Agency	DD/MM/YY
Performance 1	Form performance 1 or other form as agreed in writing by the Environment Agency	DD/MM/YY

# Schedule 5 – Notification

These pages outline the information that the operator must provide.

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 EP Regulations.

## Part A

Permit Number	<b>BR8352IN</b>
Name of operator	<b>Unifrax Ltd.</b>
Location of Facility	<b>HTIW Factory</b>
Time and date of the detection	

<b>(a) Notification requirements for any malfunction, breakdown or failure of equipment or techniques, accident, or emission of a substance not controlled by an emission limit which has caused, is causing or may cause significant pollution</b>	
<b>To be notified immediately</b>	
Date and time of the event	
Reference or description of the location of the event	
Description of where any release into the environment took place	
Substances(s) potentially released	
Best estimate of the quantity or rate of release of substances	
Measures taken, or intended to be taken, to stop any emission	
Description of the failure or accident.	

<b>(b) Notification requirements for the breach of a limit</b>	
<b>To be notified immediately</b>	
Emission point reference/ source	
Parameter(s)	
Limit	
Measured value and uncertainty	
Date and time of monitoring	
Measures taken, or intended to be taken, to stop the emission	

Time periods for notification following detection of a breach of a limit	
Parameter	Notification period

(c) Notification requirements for the detection of any significant adverse environmental effect	
To be notified immediately	
Description of where the effect on the environment was detected	
Substances(s) detected	
Concentrations of substances detected	
Date of monitoring/sampling	

## Part B – to be submitted as soon as practicable

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 which has been or may be caused by the emission	
The dates of any unauthorised emissions from the facility in the preceding 24 months.	

Name*	
Post	
Signature	
Date	

\* authorised to sign on behalf of the operator



## Schedule 6 – Interpretation

“accident” means an accident that may result in pollution.

“application” means the application for this permit, together with any additional information supplied by the operator as part of the application and any response to a notice served under Schedule 5 to the EP Regulations.

“authorised officer” means any person authorised by the Environment Agency under section 108(1) of The Environment Act 1995 to exercise, in accordance with the terms of any such authorisation, any power specified in section 108(4) of that Act.

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

- for emissions to surface water, the surface water quality up-gradient of the site; or
- for emissions to sewer, the surface water quality up-gradient of the sewage treatment works discharge.

“daily average” for releases of substances to air means the average of valid half-hourly averages over a calendar day during normal operation.

“emissions to land” includes emissions to groundwater.

“EP Regulations” means The Environmental Permitting (England and Wales) Regulations SI 2010 No.675 and words and expressions used in this permit which are also used in the Regulations have the same meanings as in those Regulations.

“emissions of substances not controlled by emission limits” means emissions of substances to air, water or land from the activities, either from the emission points specified in schedule 3 or from other localised or diffuse sources, which are not controlled by an emission or background concentration limit.

“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.

“Industrial Emissions Directive” means DIRECTIVE 2010/75/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 24 November 2010 on industrial emissions

“MCERTS” means the Environment Agency’s Monitoring Certification Scheme.

“quarter” means a calendar year quarter commencing on 1 January, 1 April, 1 July or 1 October.

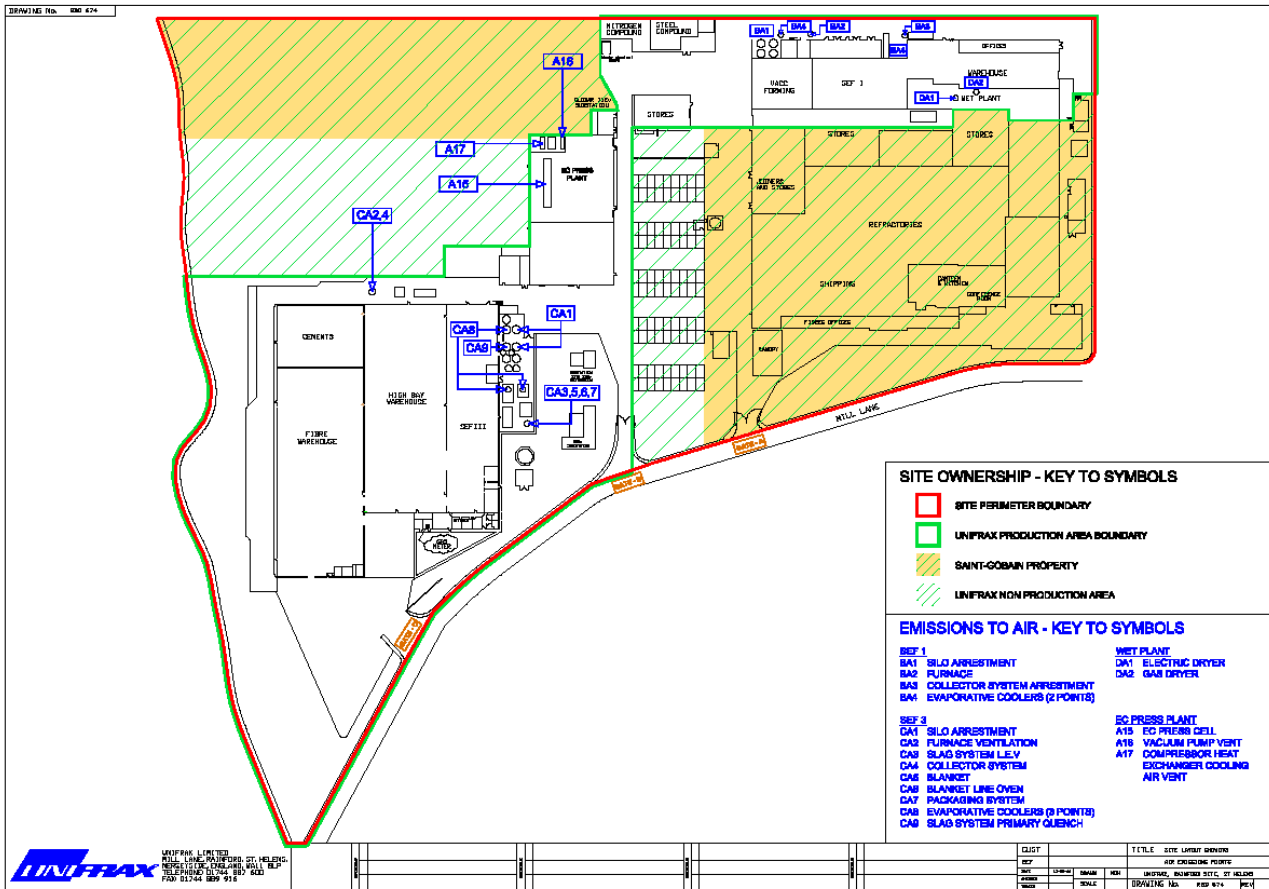
Where a minimum limit is set for any emission parameter, for example pH, reference to exceeding the limit shall mean that the parameter shall not be less than that limit.

Unless otherwise stated, any references in this permit to concentrations of substances in emissions into air means:

- 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 no correction for oxygen; and/or
- in relation to emissions 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.

“year” means calendar year ending 31 December.

# Schedule 7 – Site plan



END OF PERMIT