

**SELBY DISTRICT COUNCIL**

**POLLUTION PREVENTION AND CONTROL ACT 1999**

**THE POLLUTION PREVENTION AND CONTROL (ENGLAND AND WALES) REGULATIONS 2016 (AS AMENDED)**

**PERMIT TO OPERATE AN INSTALLATION FOR THE MANUFACTURE OF CERAMIC PRODUCTS**

**PERMIT REF NO: A(2)19P/V3**

<b>OPERATOR INSTALLATION ADDRESS</b>	PLASMOR LIMITED GREEN LANE GREAT HECK GOOLE DN14 0BZ  COMPANY NUMBER 00642173
<b>REGISTERED OFFICE</b>	PLASMOR LIMITED PO BOX 44 WOMERSLEY ROAD KNOTTINGLEY WEST YORKSHIRE WF11 0DN  COMPANY NUMBER 00642173

Selby District Council hereby permits Plasmor Ltd to carry on installation:

- a) for the production of light weight ceramic products as described in the installation description under Section 3.6 Part A(2) (a), of Part 1 of Schedule 1 of The Pollution Prevention and Control (England and Wales) Regulations 2016 (as amended),
- b) the loading and use cement in bulk as described under Section 3.1 Part B (b), of Part 1 of Schedule 1 of The Pollution Prevention and Control (England and Wales) Regulations 2016 (as amended),
- c) the crushing of blocks under Section 3.5 Part B (c), of Part 1 of Schedule 1 of The Pollution Prevention and Control (England and Wales) Regulations 2016 (as amended),
- d) the use of biomass pulverised fuel ash and use of waste fullers earth as a waste operation under Schedule 9 of The Pollution Prevention and Control (England and Wales) Regulations 2016 (as amended),

within the installation boundary as shown outlined in red on plans referenced Map PLAS GH/1 forming part of this permit, and in accordance with the following conditions.

The conditions within this permit shall come into effect from the date of issue of the permit, unless otherwise stated in a specific condition.

Provenance	Date
Date Of Latest Version	22 June 2018
Date of Pervious Version	2 June 2016 31 March 05
Current Guidance	SG7 - SoS's Guidance for the A2 Ceramics Sector including Heavy Clay, Refractories, Calcining Clay and Whiteware (September 2007)  Reference Document on Best Available Techniques in the Ceramic Manufacturing Industry of August 2007.

Signed on behalf of Selby District Council by



Date: 22 June 2018

Diana Adamson, Environmental Health Officer  
 Authorised to sign on behalf of Selby District Council

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## 1. Description of Installation

### 1.1 The Installation

The installation is located in a 71 acre disused sand quarry off Green Lane, Great Heck as located on the site location plan in Schedule 2. The site is bounded by the East Coast main line railway to the west, the M62 motorway to the north, farmland to the east and the Heck to Pollington road to the south.

The main purpose of the installation is the production of lightweight concrete building blocks, manufactured from lightweight expanded clay aggregate (manufactured on site), cement and other aggregates. These blocks are manufactured to BS EN 771-3 and independently assessment for CE Marking. The site have operated a registered quality system BS EN14001 since 2009, and a responsible sourcing system BES 6001 since 2012.

The installation of Plasmor Ltd, Great Heck comprises of the following processing units and storage/despatch areas.

#### 1.1.1 Rotary Kilns

Two rotary kilns, each has a rated output of 240 tonnes/day, is used for the production of Aglite or Lightweight Expanded Clay Aggregate (LECA). Each kiln has a thermal input of approximately 7MW each and use a non-reducing atmosphere. (See installation description 1 in Schedule 1)

#### 1.1.2 Aglite (LECA) Screening Plant

The Aglite (LECA) from the kilns needs to be sized in preparation for use in block manufacture. This is carried out on a dry screening and crushing plant located close to the kiln outlet tube. (See installation description 2 in Schedule 1)

#### 1.1.3 Aggregate Plant

The aggregate plant receives furnace bottom ash (FBA) from local coal fired power stations and screens and crushes it into sizes suitable for block production. Due to the seasonable nature of FBA produced by the power stations it is stockpiled in the colder months of the year for use in periods of lower power generation.

Other ash types, known as black ash, can also be processed by the plant or by dry screening. (See installation description 3 in Schedule 1)

#### 1.1.4 Block Plants D and E Plants

The two block production plants D and E Plant, manufacture lightweight concrete blocks. This process involves the loading, blending and mixing of aggregates with cement and pulverised fuel ash (PFA), then pressing, curing and packaging the product. (See installation description 4 in Schedule 1)

#### 1.1.5 Finished Product Stockyard and Rail Sidings

Finished blocks are stocked on the yard to await despatch to customers by road or rail.

Limestone aggregates are delivered by rail and off loaded into lorries for site transportation to the processed material stocking areas.  
(See installation description 5 in Schedule 1)

**CONDITIONS****2. GENERAL CONDITIONS**

- 2.1 It is a condition for the validity of this Permit that no information provided by the Operator in connection with the obtaining of this Permit is false or misleading and that any change affecting the accuracy of such information is notified immediately in writing by the Operator to the Regulator at Selby District Council.
- 2.2 The Permitted Installation shall, subject to the provisions of this Permit operate using the techniques and in the manner described in the Application and is the description of the Installation forming part of this Permit.
- 2.3 The Permitted Installation shall be managed and operated by sufficient persons who are suitably qualified, experienced, trained and supervised in respect of the duties to be undertaken in connection with the Installation.
- 2.4 The Operator shall provide all such persons described in Condition 2.3 above, with appropriate written operating instructions for their duties in relation to the operation of the Permitted Installation.
- 2.5 Any persons having duties which are or may be affected by the matters set out in this Permit shall have convenient access to a copy of this document kept at or near the place where such duties are carried out.
- 2.6 Safe and permanent means of access shall be provided by the Operator to any sampling or monitoring point which is required to demonstrate compliance with an emission limit specified in Schedule 3. Safe means of access shall be provided to any other sampling or monitoring points when required by the Regulator at Selby District Council.
- 2.7 A written log or other traceable record approved by the Regulator at Selby District Council shall be kept by the Operator of the Installation containing a record of all inspections, assessments and monitoring required by the Conditions of this Permit.

The record shall include the time and date of the assessment inspection or monitoring, the result, any corrective action taken and the name of the person carrying out the task.

The log or record shall be kept available for inspection at the Installation by an Authorised Officer of Selby District Council and shall be retained by the Operator for a minimum of 2 years.

Where emissions exceeding the emission limit value from any monitoring activity (both continuous and non-continuous) and malfunction or breakdown leading to abnormal emissions shall be investigated and corrective action taken immediately. The Operator shall ensure that the Regulator is notified without delay identifying the cause and corrective action taken. Where there is immediate danger to human health, operation of the activity should be suspended.

- 2.8 If the operator proposes to make a change in operation of the installation, he must, at least 14 days before making the change, notify the regulator in writing. The notification must contain a description of the proposed change in operation. It is not necessary to make such a notification if an application to vary this permit has been made and the application contains a description of the proposed change. In this condition 'change in operation' means a change in the nature or functioning, or an extension, of the installation, which may have consequences for the environment.
- 2.9 The best available techniques shall be used to prevent or, where that is not practicable, reduce emissions from the installation in relation to any aspect of the operation of the installation which is not regulated by any other condition of this permit.
- 2.10 The operations on site shall be subject to constant monitoring of operational parameters by the DCS system which shall alarm when critical parameters for emissions to air and energy efficiency are exceeded. This shall include continuous monitoring of temperature, fuel feed and air flow.
- 2.11 The operations on site shall be subject to a comprehensive inspection and maintenance plan which shall form part of the Environmental Management Plan required by Condition 6.1.

### 3. CONTROL OF EMISSIONS TO ATMOSPHERE

#### 3.1 Emission Limits and Controls

- 3.1.1 There shall be no burning of material associated with the process in the open air within the installation boundary.
- 3.1.3 Monitoring to determine compliance with emission limit values shall be correct to the following reference conditions: temperature 273K, pressure 101.3kPa, without correction for water vapour, normalised to 18% oxygen measured dry. Dilution air may be added for waste gas cooling or improved dispersion but monitoring shall be carried out upstream of the dilution air input or procedures designed to correct for the ratio of input air to the satisfaction of the regulator.
- 3.1.4 All emissions to air, other than steam or water vapour, shall be free from persistent mist, persistent fume and droplets. All emissions to air shall be free from visible particulates.
- 3.1.5 Exhaust gases from the each rotary kiln shall be vented through an electrostatic precipitator, prior to a final discharge to atmosphere via the release point specified in Schedule 3 attached to this Permit.
- 3.1.6 An emission to air from a release point specified in Schedule 3 shall not exceed any limit for that release point specified in that Schedule.
- 3.1.7 Sampling points on new plant shall be designed to comply with CEN or the most recent version of the appropriate British Standard.

#### 3.2 Monitoring, Sampling and Measurement of Emissions

- 3.2.1 Particulate emissions from the chimney serving each rotary kiln shall be continuously monitored using the PCME particulate monitors. The monitor fitted to the kilns shall be to MCERTS standards.
- 3.2.2 (a) With respect to the continuous assessment of the particulate emissions from the each precipitator serving each rotary kiln, the following criteria shall apply:-
- (i) no more than 5% of all 15 minute mean emission concentrations shall exceed the specified emission concentrations limit, and
  - (ii) no 15 minute mean emission concentrations shall exceed twice the specified emission concentration limit.
- Compliance with this requirement shall be demonstrated on a daily basis.
- (b) Where particulate emission is twice the specified level, Selby District Council shall be informed immediately.

- 3.2.3 Calibration of the PCME monitors shall be carried out in February 2008 and annually thereafter. The monitors shall be operated and maintained in accordance with the manufactures instructions which shall be available to the Regulator on request.
- 3.2.4 The times and dates of the calibration carried out to satisfy Condition 3.2.3 above, shall be notified in writing to Selby District Council, no later than 14 days prior to calibration being carried out, this notification shall include the calibration techniques to be employed.
- 3.2.5 A certificate of the calibration of the PCME monitors shall be provided to Selby District Council within eight weeks of the date of calibration.
- 3.2.6 The PCME SC600 monitoring particulates from the chimney serving each rotary kiln shall be fitted with audible and visual alarms, situated appropriately to warn the operator of arrestment plant failure or malfunction, the activation of these shall be automatically recorded. These alarms shall activate at a trigger level of 45 mg/m<sup>3</sup> not corrected for oxygen. When this level is reached, the Clay Plant procedure 17-ENV-CP7 forming part the installations EMS system required by Condition 6.1 of this Permit, shall be implemented. Any implementation of this procedure and resulting action taken shall be recorded in the log book required by Condition 2.7 of this Permit.
- 3.2.7 An emission sample shall be taken from the chimney serving the rotary kilns at least once every year and tested quantitatively for the following:-
- hydrogen chloride, hydrogen fluoride, nitrogen oxides, sulphur oxides and particulates.
- 3.2.8 The times and dates of monitoring carried out to satisfy Condition 3.2.7 shall be notified in writing to Selby District Council, no later than 7 days prior to monitoring commencing. This notification shall include the sampling techniques to be employed.
- 3.2.9 The results of all non-continuous monitoring required by Condition 3.2.7 shall be forwarded to Selby District Council within 8 weeks of the completion of sampling.
- All results submitted to the regulator shall include details of the process conditions at the time of monitoring, monitoring uncertainty as well as any deviations from the procedural requirements of standard reference methods and the error invoked from such deviations.
- 3.2.10 When operations associated with the process are taking place visual assessments of emissions to atmosphere from the production plant, stockpiled materials, stocking areas, lagoons, haul roads and plant shall be made at least once a day during daylight hours for a minimum period of 1 minute. The observations shall be made at points where there is no obstruction of the area under assessment. The details shall be entered in the log book required by Condition 2.7

- 3.2.11 An olfactory assessment of odour attributable to the process shall be carried out once a day downwind of the process, the result of this assessment shall be recorded in the log book.

Where the assessment or investigation of a complaint has determined offensive odours are originating from the installation operators shall devise an odour control programme of improvements and maintain an odour management plan. The plan shall be submitted within 2 months of the odour being determined to and agreed by the Regulator.

- 3.2.12 Visual assessments of particulate emissions made in accordance with conditions shall be noted with reference to the following scale:

- 0 - No visible emission
- 1 - Slight visible particulate emission but contained within the installation boundary
- 2 - Heavy visible particulate emission but contained within the installation boundary
- 3 - Slight visible particulate emission carrying beyond the installation boundary
- 4 - Heavy visible particulate emission carrying beyond the installation boundary.

Any entry of 1, 2, 3 or 4 on this scale will amount to an adverse result.

Any entry of 3 or 4 on this scale amounts to an emission likely to have an effect on the local community.

The entry in the log book shall also detail the date, time and result of the assessment and the name of the person carrying out the assessment.

- 3.2.13 Where an adverse result is discovered during the visual assessments required by Condition 3.2.10 an immediate investigation shall take place and the results of the investigation and any remedial action taken entered in the log book required by Condition 2.7.
- 3.2.14 Where complaints are received regarding fugitive dust emissions or at the request of the regulator a programme requiring the monitoring of particulate matter shall be produced and agreed with the regulator. The monitoring shall be carried out in line with the agreed programme. The results of the monitoring shall be provided to the regulator on a monthly basis.

### 3.3 Silos

- 3.3.1 All storage silos shall be vented to air through reverse jet fabric filters. The installation operator shall arrange for continuous visual monitoring of the silo charging process to be undertaken during the bulk delivery of cement, pulverised fuel ash and granular limestone with the start and finish times being recorded. If fugitive emissions are observed from the ducting, pipework, the pressure relief valve or dust arrestment plant the tanker discharging process shall be stopped, the cause of the emission investigated and corrective action taken. Details of visible emissions and action taken shall be recorded in the log book required by Condition 2.7.

- 3.3.2 All tanker drivers shall be instructed of the correct procedures to be followed to minimise spillages, leaks and dusty emissions. The instructions shall be drawn up and comprise part of the Environmental Management System required by Condition 6.1. The instructions shall include the recording of the start and finish times of all deliveries and the treatment of displaced air.

- 3.3.3 Bulk cement, pulverised fuel ash, precipitator dust and granular limestone shall be stored in purpose built silos which are vented to bag filters capable of achieving an emission limit of 10 mg/m<sup>3</sup>. All storage silos shall be fitted with high-level alarms to warn of overfilling. The correct operation of the alarms is to be checked weekly and recorded in the logbook required in Condition 2.7. The bag filters shall be kept clean to avoid pressurisation during delivery and the Operator shall ensure that the delivery of materials to the silos is a rate which will not result in pressurisation of the of the silo.

- 3.3.4 The reverse jet bag filters shall be visually inspected at least once a month. The record of the inspection and the findings shall be recorded in the log book required by Condition 2.7.

- 3.3.5 The inspection and maintenance programme for the silos as laid down in Plasmor Documents Reference Numbers H/ENV/MAINT/DE and H/ENV/MAINT/CP shall be adhered to and records of the checks made available to Authorised Officers of Selby DC on request.

- 3.3.6 The sealing of the pressure relief valve shall be checked at least once a week, or before a delivery takes place, whichever is the longer interval. It should also be noted if there is evidence that emissions have occurred. The record of the checks shall be recorded in the log book required by Condition 2.7.

- 3.3.7 Where there is evidence that the pressure relief valve has been displaced during silo filling, the Operator shall ensure that no further delivery shall take place until corrective action has been taken. The valve shall be examined for defects before re-seating and replacement valve fitted if necessary.

- 3.3.8 Deliveries to the silo's shall only be made by vehicles with using on-board (truck mounted) relief valve and filtration systems.

- 3.3.9 During the charging of silos, the Operator shall ensure that the transfer lines are securely connected to the silo delivery inlet point and the tanker discharge point, in that order.

- 3.3.10 All new silos shall be fitted with an automatic system to cut off delivery in the event of pressurisations or overfilling.

### 3.4 Materials Handling

- 3.4.1 The height of stockpiled material in the raw and finished material storage area at the northern part of the installation boundary, shall not exceed the level of the adjacent site boundary embankment.

- 3.4.2 Stockpiled material below 3mm shall either be capped or water conditioned to minimise wind-blown dust during dry and windy conditions.



- 3.4.3 Clay stocks shall be stored on the clay stock pad as identified on Map Plan GH/3 in Schedule 2.
- 3.4.4 Where a visual assessment required under Condition 3:2:10 reveals dust being blown from the clay stocking area immediate action shall be taken to wet the stockpile and prevent further dust emissions.
- 3.4.5 External above ground conveyors and bucket elevators for the movement of powdered, granular or dusty material shall be enclosed so as to prevent wind whipping.
- 3.4.6 External above ground conveyors shall be fitted with belt scrappers or other means of keeping the belt clear.
- 3.4.7 External above ground conveyors shall be designed and operated to minimise the free fall of the product at the discharge point. Where the drop height cannot be minimised a shroud shall be used minimise dust emissions.
- 3.4.8 All crushing, grinding and screening plant shall be enclosed or fitted with efficient means to control dust emissions.
- 3.4.9 The system of water spray equipment in the aggregate storage areas shall be maintained as shown in the diagram in Schedule 2 of this permit.

### 3.5 *General Conditions*

- 3.5.1 All spillages and accumulations of dusty materials outside raw materials stocking areas and accumulations of dust materials on structures, shall be dampened and cleaned up immediately to minimise emissions to air by wind entrainment. External structures and areas outside stocking areas shall then be kept free from dusty accumulations.
- 3.5.2 Roadways and other areas within the installation boundary where there is regular vehicular movement shall be kept clean or wet at all times to minimise the emission of particulate matter to air. The surface where vehicles operate in the storage areas shall be consolidated and kept in good repair.
- 3.5.3 The finished block stocking area shall be kept clean or wet at all times to minimise the emission of particulate matter to air.
- 3.5.4 Essential spares and consumables for all plant and equipment concerned with the control of emissions to air should be held on site or be available at short notice from a supplier in order to rectify breakdowns rapidly.
- 3.5.5 The inspection and maintenance programme for the abatement equipment as laid down in Plasmor Documents Reference Number H/ENV/MAINT/CP shall be adhered to and records of the checks made available to Authorised Officers of Selby DC on request.

## 4. NOISE AND VIBRATION

### Background Information

Noise and vibration from the installation is controlled via the Noise Management Plan required by Condition 4.1 and monitoring of noise from the site is required by Condition 4.5 for comparison with previous results from the site. Where an increase in noise levels is determined the reason for the increase is to be identified and mitigation measures carried out.

### 4. Conditions Controlling Noise and Vibration

- 4.1. The Noise Management Plan as laid down in Plasmor Document Reference Number: H/ENV/NOISE shall be adhered to.

The Plan shall be reviewed whenever changes are proposed to the installation which might have an impact on the Plan and, in any case, not less frequently than once in every period of two years.

- 4.2 The following operations shall only take place between the stipulated hours, which are in line with the current planning consent:
- The sidings loading operation shall only take place between the hours of 0700 hours and 1900 hours Monday to Saturday, and at no time on Sundays and Bank Holidays.
  - Train movements in and out of the installation site shall only take place between the hours of 0600 to 2400 Mondays to Saturdays, and at no time on Sundays and Bank Holidays.
  - Train movements in and out of the installation site shall only take place between the hours of 0600 to 2400 Mondays to Saturdays, and at no time on Sundays and Bank Holidays.
- 4.3 The testing of audible alarms shall only be carried out between the hours of 0900 hours and 1800 hours Mondays to Fridays, 0900 to 1400 hours on Saturdays, and no time Sundays or Bank Holidays.
- 4.4 During the operation of the block plants the external doors to the plants should remain closed except during the access of personal and equipment.
- 4.5 Monitoring of noise from the site shall be carried out on an annual basis and compared to previous results including those for August 2008 and October 2016. The monitoring locations shall be as provided plan Noise Monitoring Location Plan. A report giving the monitoring results, indicating where levels have increased, the reason for the increase and the any mitigation measures to be taken. The report shall also consider the additional train deliveries to the site and the impact on the noise climate. The report shall be submitted to the regulator by the 30 September 2018 and annual reviews submitted by the 30 September on an annual basis.

**5. EMISSIONS TO WATER AND SEWER**

- 5.1 A record of fugitive emissions to surface water, sewer and groundwater shall be maintained and submitted to the Regulator on an annual basis.
- 5.2 The operator shall maintain the record of the routing of all installation drains and subsurface pipework as shown on MAP PLAS GH/3 in Schedule 2. The records shall be updated as alterations are made to drains and subsurface pipework.
- The records shall identify all subsurface sumps and storage vessels.
- 5.3 The inspection and maintenance programme for the storage of liquids as laid down in Plasmor Documents Reference Number H/ENV/MAINT/OIL shall be adhered to and records of the checks made available to Authorised Officers of Selby DC on request.
- 5.4 The inspection and maintenance programme for the subsurface structures as laid down in Plasmor Documents Reference Number H/ENV/MAINT/SSS shall be adhered to and records of the checks made available to Authorised Officers of Selby DC on request.
- 5.5 All operational areas listed below to be equipped with an impervious surface, spill containment and sealed joints.
- DS1 ) As shown on MAP PLAS GH/3 in Schedule 2
  - DS2
- 5.6 Details of design and condition of operational areas listed in above Condition shall be recorded. The information shall include resistance to chemical attack, thickness, material, falls and permeability.
- 5.7 All tanks containing liquid whose spillage could be harmful to the environment shall be contained by bunds. These include tanks for fuel oil, gas oil, pallet oil and hydrochloric acid even when empty and not in use which are located on MAP PLAS GH/3 in Schedule 2. The bunds shall:
- be impermeable and resistant to the material stored
  - have no outlet and be drained to a third collection point
  - have a capacity of at least 110% of the tank
  - be visually inspected weekly and any contents pumped out or otherwise removed under manual control after checking for contamination
  - have all associated pipework, fill points, vents, gauges, overflow outlets and sight glasses located within the bunded area
  - have a maintenance inspection programme drawn up and agreed with the regulator within 6 months of the date of this Permit.
- 5.8 Domestic effluent only shall be discharged to the existing public sewerage system in accordance via the private foul sewer indicated on MAP PLAS GH/3 in Schedule 2 attached to this Permit.
- 5.11 The storage tanks for storage of liquids whose spillage could be harmful to the environment, including those identified on MAP PLAS GH/3 in Schedule

2 shall:

- be fitted with high level alarms or volume indicators to warn of overfilling
  - have delivery connections located within a bunded area, fixed and locked when not in use
  - have their integrity inspected, recorded and documented. These inspections shall be included in the maintenance schedule.
- 5.12 Storage areas for liquids whose spillage could be harmful to the environment including those identified on MAP PLAS GH/3 in Schedule 2 and shall:
- be located away from watercourses, and protected against vandalism
  - have the maximum storage capacity stated and not exceeded
  - specify the maximum storage period for containers
  - the storage areas shall be inspected once a week to check for signs of leakage. These inspections shall be included in the maintenance schedule. The result of the inspections shall be recorded.
- 5.13 The washing of vehicles shall only take place in an area designated for the washing of vehicles at the rear of the block plant where it can be ensured that contaminants from the washing such as oil re collected and contained in the condensate holding tanks.

## 6. ENVIRONMENTAL MANAGEMENT SYSTEM

### Background

An effective system of management is a key technique for ensuring that all appropriate pollution prevention and control techniques are delivered reliably and on an integrated basis.

Plasmor Ltd operate an in house Environmental Management System (EMS) which covers various aspects of the installation operation including noise, maintenance and significant environmental impacts.

- 6.1 The Environmental Management System as laid down in Plasmor's Heck Works Environmental Manual shall be adhered to.
- 6.2 The standards of competence and management system required by Condition 6.1 above shall be maintained and, whenever possible, improved throughout the life of the installation. In order to demonstrate compliance with this requirement:
- i) the results of all external audits of the Environmental Management System or part thereof shall be included in a report submitted annually to  
  
and
  - ii) the results of all internal audits shall be retained on site at the installation and shall be made available for inspection on request by:  
  
the Regulator at Selby District Council.
- 6.3 Any deviation from the systems, procedures, techniques or timetables in Condition 6.1 above shall be approved in writing by the Regulator at Selby District Council.
- 6.4 The Operator shall provide a training matrix for all posts at the site identifying the employee's responsibility with regard to the control of the process and its environmental impacts.
- 6.5 The Operator shall ensure that personnel at all levels shall be given training and instruction sufficient to fulfil their designated duties identified in the training matrix required under Condition 6.4. Details of the training and instruction undertaken shall be recorded and made available to the Regulator on request.
- 6.6 The Operator shall ensure the potential environmental risks posed by the work of contractors shall be assessed and instructions shall be provided to contractors about protecting the environment while working on site. A copy of the information provided to contractors shall be made available to the Regulator on request.

- 6.7 The Operator shall identify environmental critical process and abatement equipment (whose failure could impact on the environment) shall be identified and listed. A copy of the list shall be provided to the Regulator within 6 months of the date of this permit.



## 7. ENERGY EFFICIENCY OF INSTALLATION

### Background Information:

The installation continues to be a member of the Climate Change Levy Agreement (CCLA) for the Ceramics sector with a target reduction of 6.1% on the baseline year of 2008.

The installation has currently achieved a saving of 8.75% from this baseline and is currently working on the following areas to improve the energy efficiency of the installation:

- The use of Fullers Earth mixed with a combination of dust from the ESP and limestone and pressed into pellets that can be blown into the kilns at the burner end.
- Increasing the crusher roll gap from 20mm without allowing large stones to pass through as this would cause a problem with the extruder. This will reduce energy usage as there will be a reduced electricity need to the drive the rolls, compress the clay and break up large stones.

It has been acknowledged that some degree of duplication in the area of energy efficiency would exist for those PPC regulated companies entering into a CCLA. The Government has, therefore, agreed that inclusion in a CCLA satisfies certain requirements of this section of the Permit.

- 7.1 The Operator shall monitor energy flows and target areas for reduction. Areas for consideration shall include the use of Combined Heat and Power, use of less polluting fuels, heat recovery, use of heat exchanger, phase optimisation of electronic control motors and fans, minimisation of water use and plant layout. This shall be updated on an annual basis and a report on energy consumption shall be submitted to Selby District Council within 8 weeks of its production.
- 7.2 The Operator shall monitor oxygen in waste gases from the kiln, in line with Schedule 3, to ensure that the process of combustion is optimised.
- 7.3 The Operator shall ensure that all plant is operated and maintained to optimise the use and minimise the loss of energy.
- 7.4 The Operator shall ensure that all appropriate containment methods, (e.g. seals and self-closing doors) are employed and maintained to minimise energy loss.

## 8. SYSTEMS TO MINIMISE ENVIRONMENTAL RISKS AND ACCIDENTS

### Background Information

An application for a Permit under the Pollution Prevention and Control Regulations 2000 requires the applicant to provide information regarding the necessary measures that will be taken at the installation in order to prevent accidents that may have environmental consequences and the controls, which will be implemented to ensure such consequences, will be minimised.

- 8.1 The investigation of accidents as laid down in Plasmor Documents Reference Numbers H/ENV/P5, H/ENV/INCIDENT and H/ENV/P6 shall be adhered to and records of incidents and accidents made available to Regulator on request.
- 8.2 In the case of abnormal emissions arising from an accident the operator shall follow the procedures identified in Condition 8.1, including the investigating and undertaking immediate remedial action, and recording the events and actions.
- The Operator shall advise the Regulator as soon as possible.
- 8.3 The Operator shall introduce an accident management plan within 12 months of the date of this permit. The plan shall be submitted to and agreed by the Regulator prior to its introduction. The plan shall include a procedure to periodically review the documents listed in Condition 8.1 and identify any additional hazards associated with installation or its operation that have been identified.

## 9. MANAGEMENT OF RAW MATERIALS AND WASTE AT THE INSTALLATION

### Background Information

This section relates to the management of raw materials used in the production and wastes produced by the installation. The guidance considers the use of raw materials and water and the techniques for optimising their impact by selection. Waste handling is considered together with its re-use, recovery, recycling or disposal.

### Raw materials:

- 9.1 The Operator shall record materials usage in order to establish internal benchmarks and adopt procedures to control the specification of raw materials used in the production which may have an impact on the environment and shall include clay, mineral additives, water, fuel oils and machine oils. The specification shall be determined to minimise any potential environmental impact.

An assessment shall be made annually against the internal benchmarks to maintain and improve resource efficiency and an annual review of alternative materials shall be carried out with regard to environmental impact.

- 9.2 The annual reviews referred to in Condition 9.1 shall be submitted to Selby District Council within 8 weeks of its annual review. The next review is due to be submitted in February 2019.
- 9.3 Following the submission of the annual inventory review required in Condition 9.2 Selby District Council may require the Operator to complete long term studies into less polluting options for materials listed in the relevant sector guidance note. As a result Selby District Council may require the operator to make material substitutions as appropriate with regard to less polluting options. The studies and substitutions required will be time bounded by Selby District Council.

### Waste re-use, recovery, recycling and disposal:

- 9.4 The Operator shall carry out an annual review to demonstrate that the best environmental options are being used for dealing with the following waste stream: unfired waste, fired waste, collected dusts, steel bands, wood, cardboard, paper and oil.
- The audit shall be submitted to Selby District Council within 8 weeks of its completion. The next review is due to be submitted in February 2018.
- 9.5 Following the submission of the waste minimisation audit required by Condition 9.4 Selby District Council may require the Operator to carry out specific improvements in relation to waste generated by the operations at the installation. The improvements will be time bounded by Selby District Council.
- 9.6 The Operator shall carry out a bi-annual review to demonstrate that the best environmental option is being used for dealing with waste from the

installation. The review shall be submitted within 8 weeks of its completion to Selby District Council. The next review is due to be submitted in January 2017.

- 9.7 The Operator shall monitor and record the following details for all waste consigned off site:
- Quantity nature and origin of the waste
  - the physical description of the waste
  - a description of the composition of the waste
  - any relevant hazardous properties (hazard and risk phrases)
  - European Waste Catalogue code
  - Handling precautions and substances with which it cannot be mixed
  - Disposal routes for each waste category

### Water Use:

- 9.8 The Operator shall carry out audit of water use (water efficiency audit). The audit shall be reviewed every 6 years and be submitted to Selby District Council within 8 weeks of its completion. The next review is due to be submitted in March 2024.  
The audit shall include details of opportunities for reduction in water use.
- 9.9 Following the submission of the water efficiency audit required by Condition 9.8 the Operator shall identify opportunities for reduction in water use. Details of the results of the audit and opportunities for reduction in water use shall be submitted to the Regulator at Selby District Council within 8 weeks of the completion of the audit and a timescale for implementation of actions agreed and time bounded by the Regulator at Selby District Council.
- 9.10 The volume of mains and abstracted water used in the activities shall be directly measured once a month. The measurements shall be recorded in the written log or other traceable record as required by Condition 2.7 above.

### Waste Handling:

- 9.11 The Operator shall maintain the Waste Management Programme for the installation.
- The Programme shall include details of quantity, nature, origin and destination of the waste. The Programme shall also detail the storage arrangements for waste, ensuring that they are contained and pose no environmental risk.
- 9.12 Following the submission of the Waste Management Programme, Selby District Council may require improvements in the storage arrangements for waste products. The requirements will be time bounded.
- 9.13 The Operator shall ensure that the particulate waste from the EP system and waste oils shall be stored separately from other wastes.
- 9.14 The Operator shall ensure that the waste storage areas are clearly marked and signed, and that containers are clearly labelled.

**Waste Minimisation:**

- 9.15 The Operator shall record waste generation in order to establish internal benchmarks.
- 9.16 The Operator shall carry out a waste minimisation audit. The audit shall be reviewed every 6 years and be submitted to Selby District Council within 8 weeks of its completion. The next review is due to be submitted in January 2023.
- 9.17 Following the submission of the waste minimisation audit required by Condition 9.15 Selby District Council may require the Operator to carry out specific improvements in relation to waste generated by the operation of the rotary kiln. The improvements will be time bounded by Selby District Council.

**10. CLOSURE AND DECOMMISSIONING**

- 10.1 The Operator shall maintain and operate the installation so as to prevent or minimise, upon its closure or decommissioning, any pollution risk including the generation of waste and shall do so in particular by:
- Attention to the design of new plant and equipment;
  - The maintenance of a record of any events which have, or might have, impacted on the condition of the site along with further investigation or remediation work carried out. This shall include and be a development of the initial site condition report submitted as Plas 4.1/B3 in the permit application.
  - The development 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 condition.
- 10.2 The Operator shall carry out a full review of the site closure plan at least every four years.
- 10.3 The site closure plan shall be implemented on final cessation or decommissioning of the permitted activities or part thereof.
- 10.4 The Operator shall give at least 30 days written notice to an Authorised Officer of Selby District Council before implementing the site closure plan.

## 11. RECORDS

- 11.1 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:-
- be made available for inspection by the Regulator at any reasonable time;
  - be supplied to the Regulator on demand and without charge;
  - be legible;
  - be made as soon as reasonably practicable;
  - indicate any amendments which have been made and shall include the original record wherever possible;
  - be retained at the Permitted installation, or other location agreed by the Regulator in writing, for a minimum period of 4 years from the date when the records were made, unless otherwise agreed in writing; and
  - where they concern the condition of the site of the installation, be kept at the Permitted installation, or other location agreed by the Regulator in writing, until all parts of the Permit have been surrendered.

## 12. REPORTING

- 12.1 All reports and written and oral notifications required by this Permit, and notifications required by Regulation 16 of the PPC Regulations shall be made or sent to the Regulator using the contact address indicated on page 2 of this Permit.
- 12.2 The Operator shall, unless otherwise agreed in writing, submit reports of the monitoring and assessments carried out in accordance with the Conditions of this Permit.

**13. NOTIFICATIONS**

13.1 The Operator shall notify the Regulator **without delay** of:-

- the detection of an emission of any substance, which exceeds any limit or criterion in this Permit, specified in relation to the substance;
- the detection of any fugitive emissions that 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;
- 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
- any accident, which has caused, is causing or has the potential to cause significant pollution.

13.2 The Operator shall give written notification as soon as practicable and at least 30 days prior to any of the following:

- permanent cessation of the operation of part or all of the Permitted installation;
- cessation of operation of all or part of the Permitted installation for a period likely to exceed 1 year; and
- resumption of the operation of part or all of the Permitted installation after a temporary cessation of activities as above.

13.3 The Operator shall notify the following matters to the Regulator in writing within 14 days of their occurrence:

- any change in the Operators trading name, registered name or registered office address;
- any change to the particulars of the Operators ultimate holding company (including details of an ultimate holding company where an Operator has become a subsidiary);
- any steps taken by the Operator going into administration, entering into a company voluntary arrangement, being wound up or bankruptcy.

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

- any decision by the Secretary of State not to re-certify that Agreement;
- a failure to comply with an annual target under that Agreement at the end of

the trading compliance period.

#### 14. Explanatory Notes

##### 1. Issuing of Permit:

The following Permit is issued under Regulation 13 of the Environmental Permitting Regulations 2016 (statutory instrument number 1154), ("the EP Regulations") to operate a scheduled installation carrying out an activity, or activities covered by Part 1 to Schedule 1 of the EP Regulations to the extent authorised by the Permit.

##### 2. Change in Operation:

Paragraph 5 of Part 1 of Schedule 5 of the EP Regulations defines a 'change in operation' as 'a change in the nature or functioning, or an extension, of the installation which may have consequences for the environment'.

An operator of an installation who wishes to make a 'change in operation' is formally obliged to inform the local authority. If the change is not a substantial change, which is defined as 'a change in operation which may have significant negative effect on human beings or the environment', this notification should be in writing at least 14 days prior to the change'.

Should the change be a substantial change, the operator should apply for a variation to the Permit under Regulation 20. You are advised to notify the Regulator at Selby District Council of all changes.

##### 3. Best Available Techniques:

You should note that Article 3 of the Integrated Pollution Prevention and Control Directive provides that in relation to any aspect of the installation regulated by Conditions 2.1 to 13.4 that installations and mobile plant should be operated in a way that:

- a) all the appropriate preventive measures are taken against pollution, in particular through application of the best available techniques;
- b) no significant pollution is caused;
- c) waste production is avoided in accordance with Council Directive 2008/98/EC on waste; where waste is produced, it is recovered or, where that is technically and economically impossible, it is disposed of while avoiding or reducing any impact on the environment;
- d) energy is used efficiently;
- e) the necessary measures are taken to prevent accidents and limit their consequences;
- f) the necessary measures are taken upon definitive cessation of activities to avoid any pollution risk and return the site of operation to a satisfactory state.

Aspects of the operation of the installation that are not regulated by conditions in this Permit are subject to the Condition 2.9, 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.

##### 5. Transfer of the Permit or Part of the Permit

Before the Permit can be wholly or partially transferred to another Operator, an application to transfer the Permit has to be made jointly by the existing and proposed Operators. A transfer will not be approved if the Regulator is not satisfied that the proposed Permit holder will be the person having control over the operation of the installation, or will not comply with the conditions of the transferred Permit. In addition, if the Permit authorises the Operator to carry out a specified waste management activity, the transfer will not be approved if the Regulator does not consider the proposed Permit holder to be a fit and proper person as required by the EP Regulations.

##### 6. Public Registers

Considerable information relating to Permits, including the application, is available on public registers in accordance with the EP Regulations. Certain information may be withheld from the public registers where it is commercially confidential, or in the interest of national security to do so.

##### 7. Variation to the Permit

The Permit may be varied in the future by the Regulator, by serving a variation notice on the Operator. Should the Operator want any of the conditions of the Permit to be changed, a formal application must be submitted (the relevant forms are available from the Regulator).

##### 8. Surrender of the Permit

Where the operator intends to cease operation of the activity, he/she may notify the local authority of the action that has been taken or is intended. Such notification must include the information specified in Regulation 24 of the EP Regulations. The consequence of the notification is that the permit ceases to have effect on the date of notification. If the surrender is partial, the local authority may decide that there needs to be consequential variation of the permit.

##### 9. Planning Permission:

This Permit does not in any way imply that the Operator named is exempt from the requirement to obtain planning permission (where necessary) to carry out any works which are required to meet the conditions herein. Neither does this Permit imply that planning permission or building regulation approval (where necessary) will be granted. Any necessary application for planning permission must be submitted to the Planning Department of Selby District Council and for Building Regulation approval to the Building Control Department of Selby District Council.

##### 10. Health and Safety at Work:

This Permit is given in relation to the requirements of the Pollution, Pollution Prevention & Control Act 1999 only. It must not be taken to replace any responsibilities you may have under workplace Health and Safety legislation.

##### 11. Subsistence Fees:

The subsistence fee applicable to this Permit must be paid to the Environmental Health Department of Selby District Council on or before 1 May for the financial year 1 April to 31 March. If the relevant payment is not received by 1 May revocation procedures will be instituted in accordance with Regulation 22 of The EP Regulations or any statutory re-enactment of the same.

##### 12. Local Authority Contact:

The daytime telephone number for Selby District Council is 01757 705101, the out of hours emergency telephone number is 01653 600941.

##### 13. Appeals:

You have the right of appeal against this permit within 6 months of the date of the decision. You will normally be expected to pay your own expenses during an appeal.

You will be liable for prosecution if you fail to comply with the conditions of this permit. If found guilty, the maximum penalty for each offence if prosecuted in a Magistrates Court is £50,000 and/or 6 months imprisonment. In a Crown Court it is an unlimited fine and/or 5 years imprisonment.

Appeals must be made to:

**Environment Team, The Planning Inspectorate, Room 3/25 Hawk Wing,**



**Temple Quay House, 2 The Square Temple Quay, Bristol, BS1 6EA**

Within six months of the date of the decision or in the case of a revocation notice before the date on which the revocation takes place and in the case of a variation notice not requested by the operator, an enforcement notice, or a suspension notice, within two months of the date of the notice which is the subject of the appeal.

For an appeal to be valid, appellants (the person/operator making the appeal) are legally required to provide all of the following:

- written notice of the appeal
  - a statement of the grounds of appeal
  - a statement indicating whether the appellant wishes the appeal to be dealt with by written representations procedure or at a hearing – a hearing must be held if either the appellant or local authority requests this, or an appointed person or the Secretary of State decide to hold one
- (appellants must copy the above three items to the local authority when the appeal is made)
- a copy of any relevant application
  - a copy of any relevant permit
  - a copy of any relevant correspondence between the appellant and the regulator
  - a copy of any decision or notice, which is the subject matter of the appeal.

13 Our enforcement of your permit will be in accordance with the Regulators Compliance Code. A copy can be found on the Business, Innovation and Skills Department website:

<http://webarchive.nationalarchives.gov.uk/20121212135622/>

<http://www.bis.gov.uk/files/file9.pdf>

**SCHEDULE 1****Installation Description and Flow Plans****9 Rotary Kilns – Ref diagram Plas/GH/Kiln 1**

- a) Raw clay with a low sulphur content i.e. not more than 0.12% w/w is transported to site by road and stockpiled on a concrete base under cover of a canopy. This is normally delivered Monday to Friday between 0700 to 1700 hours. The clay is tipped over a wall edge to segregate the delivery vehicle from the stocking ground.

This provides material for the process for seven days at 640 tonnes/day.

- b) The raw clay is fed by loading shovel into a feed hopper where it is metered out onto a conveyor for transport to the clay preparation building.
- c) Fullers earth (spent bleaching agent) a clay material by product of vegetable oil refinery is transported to site by road and stockpiled adjacent to the raw clay. It is fed into a hopper by loading shovel from where it is metered out by conveyor onto the raw clay conveyor.

- d) Clay preparation takes place inside an enclosed building. It comprises of machinery to chop, mix and knead the raw clay and fullers earth, and includes the input of the dust removed from the kiln exhaust gases by the electrostatic precipitator back into the raw clay. This plant normally operates 14 to 18 hours/day.

- e) Clay hoppers contain the processed clay from the preparation plant and dispense it by conveyor over 24 hours to the mixer/extruder before it enters one of the kilns.

- f) The mixer extruder takes the processed clay from the hoppers.

Under very dry operating conditions it may be necessary to add water to the mixer extruder to maintain the workability of the clay. This is avoided for the vast majority of operating time and only adds to additional energy use.

The material from the mixer extruder is then conveyed to the inlet of one of the two kilns.

- g) The kiln progressively heats the incoming clay, initially drying it, then as it reaches the burning zone it expands before being expelled as bloated clay through the rotary coolers onto the output conveyor. Granular limestone, which is delivered by road tanker and stored in a silo, is blown into the kiln burner zone to aid bloating.

During kiln start up or shutdown, a small amount of clay may not bloat and this materials is diverted via a chute to a reject bunker.

- h) The expanded clay is transferred from the each kiln to the stocking area by conveyor and is discharged via a tube. Water is sprayed on the outgoing material for cooling and dust suppression.

- i) The exhaust gases are drawn through electrostatic precipitators, one per kiln, by an induced draught fans before being expelled through the chimney.

Particulate matter in the ducts after the electrostatic precipitators is monitored by a PCME monitor. Kiln 1 monitor is a PCME SC600 and Kiln 2 a PCME SC680.

The dust created by the kiln processes is removed from the exhaust gas and transferred by sealed systems to a dust silo. From this silo the dust is transferred, again by sealed systems, back into the raw clay mixer in the clay preparation building.

On start up of the kiln burner it is not possible to have the ESP turned on for safety reasons i.e. the possibility of carbon monoxide levels causing an explosive atmosphere in the ESP. However there is not normally any dust being generated by the kiln on burner start up so no abnormal emissions could occur.

In the event of carbon monoxide levels causing a significant risk, an emergency vent can be opened at the ESP inlet, and the burner would be shut down.

- j) An emergency generator is located inside building of No 1 kiln burner platform. This is used for emergency supplies in case of mains electricity failure. It is exhausted to outside of the building at EP5b.

## 2. Aglite Screening Plan

Installation Description – Ref diagram Plas/GH/ASP1.

- a) The Aglite (LECA) from the kiln is discharged through a tube where it forms a pile around the base. It is transferred by loading shovel to either b) or c).
- b) Transferred to stockpile to keep tube clear when screening plant is not running.
- c) Input to screening plant from a) or b) during production hours.
- d) The screening plant sizes the LECA into coarse and fine and any oversize is cracked by the crusher in the circuit and returned to the screen input.
- e) The screened material is discharged from chutes directly into lorries for transportation to the block plant sock piles.

## 3. Aggregate Plant

Installation Description – Ref Diagram Plas/GH/Agg1

- a) The raw FBA is delivered by covered tipper lorry to either the aggregate plant feeder or the raw material stock pile. It is received in a dampened state.
- b) Other ash types are also delivered by covered tipper and usually stock piled in a separate area.

- c) The raw FBA is fed into the plant feeder by loading shovel and conveyed to the top of the plant. Here it falls through a series of vibrating screens for sizing with any oversize material below 40mm being routed to the plant crusher for size reduction. The output of the crusher is returned to the main conveyor belt via a waste removal screen for re-screening. The screened materials falls into two internal hoppers where it accumulates until it is emptied by the plant tipper truck.
- d) The plant tipper truck removes the screened FBA from the hoppers and transports it to either the block plant material stocking area or a processed material stocking area near the ash plant e).
- e) Aggregate plant processed material stocking area is used to maintain additional stock for use by the block plant when the aggregate plant is stood for maintenance.
- f) FBA over 40mm in size is ejected before the plant crusher via a chute onto the floor. When this material accumulates, it is transported by loading shovel to the plant block/oversize crusher g) for size reduction before being re-fed into the plant.
- g) The block/oversize crusher is used to reduce the size of oversize from the aggregate plant and substandard blocks from block production into material which can be reprocessed by the aggregate plant.
- h) Any material which passes the plant crusher which is over 40mm in size is ejected by the waste screen. This may be any foreign objects which have been included in the delivered raw FBA.

## 4. Block Plants D and E Plants

Installation Description – Ref diagram Plas/GH/DE1.

- a) Processed aggregates are delivered when required to the block plant aggregate stocking area as listed below.
- Processed FBA by lorry from site aggregate plant.  
Processed LECA by lorry from site dry-screening plant.  
Limestone aggregate by lorry from off site suppliers.  
Limestone aggregate by rail from off site suppliers.  
Blast furnace slags by road from off site suppliers.
- b) Aggregates from the block plant stock piles are fed into a primary feeder by loading shovel for transport by conveyor to the aggregate hoppers b).
- c) Cement and PFA are delivered to site by tanker and blown into silos.
- d) The cement, PFA and aggregates are batch weighed and then mixed with the addition of water to form a semi-dry lightweight concrete ready for pressing.
- e) The block machines press the mix into moulds to form the required product on steel pallets.

- f) The moulded blocks are next transported by chain conveyor to a stacking machine. Along this conveyor a strength identification colour can be sprayed on top of the blocks to an industry standard if required.

The stacked pallets of blocks are then transported to the steam curing chambers via a rail mounted finger car.

- g) When a curing chamber is full, the door is closed and steam generated by a boiler is applied to cure the blocks to a pre-determined temperature. When this temperature is reached the steam is shut off and the blocks left to cure and cool in the humid atmosphere.
- h) After curing the pallets of blocks are removed from the chambers, de-stacked, de-palletised and formed into cubes ready for packaging.

During the above operations test samples are taken and any substandard blocks are removed. Also any product identification marking can be applied by dye marking if required.

The empty steel pallets have a release oil sprayed onto them and are then returned to the circuit for re-use.

- i) Packaging material is applied after the cubes of blocks have been formed.

This is normally by applying a polyester strap around each blade of the cube vertically and one strap around the cube horizontally.

On certain products a void board will be inserted into the cube to help maintain its integrity.

When customers demand additional packaging, a polythene shrink cover is placed over the cube and heat shrunk to size by a gas heated hood or heat guns.

After packaging the cubes of blocks are removed from the line by lift trucks and stored on the stockyard to await despatch to customers.

- j) The boiler generates steam for use in steam curing and some plant heating. It normally uses bore hole water with mains water as a back up. This is softened and treated before use. Natural gas is the normal fuel for the boiler with heavy fuel oil used as a standby fuel in case of gas supply shortage or interruption. Heavy fuel oil would be delivered by road tanker if required.

## 5. Finished Product Stockyard and Rail Sidings

Installation description: Diagram reference Plas/GH/YS1

- a) Finished product is stocked on the stockyard by lift trucks to await despatch to customers after clearance by quality control. This is by two methods:  
a) loading direct by mobile cranes to road delivery vehicles; b) loading internal trailer units for transfer to railwagons, again by mobile crane, at the site railway sidings.
- b) Some processed limestone aggregates are delivered to site by rail and

unloaded into site tipper lorries for transportation to the stockpiles at the block plant aggregate stocking area.

**SCHEDULE 2**

**POINT SOURCE EMISSIONS TO SURFACE WATER AND SEWER: MAP  
PLAS GH/3  
BULK STORAGE TANKS AND DRUM STORAGE AREA: MAP PLAS GH/2**

**SCHEDULE 3**

**POINT SOURCE EMISSIONS TO AIR**

As marked on GH/2 in Schedule in 2

- EP1 Rotary kiln stack
- EP2a Vapour Gen' Exhaust: E Plant
- EP2b Vapour Gen' Exhaust: D Plant
- EP3 Emergency generator exhaust
- EP4 Acetylene x 3
- EP5b HWB Exhaust
- EP7 Space Heater

- D Plant Cement Silo
- D Plant PFA Silo
- E Plant Cement Silo
- E Plant PFA Silo
- ESP Dust Silo
- Rotary Kilns Limestone Silos
- Curing Chamber Fans

**EMISSION LIMITS**

Pollutant	Source	Limit	Monitoring	Monitoring Frequency
PARTICULATE MATTER	Silo inlet and outlet	No visible emission	Operator/driver record start and finish times	Observations every delivery
PARTICULATE MATTER	Rotary Kilns net rated thermal input of 2 MW (expanded clay aggregates)	50 mg/m <sup>3</sup> per operational kiln as a daily average	Isokinetic monitoring	Annually
PARTICULATE MATTER	Whole of site for fugitive emissions	No visible emission	Visual observations	At least daily
PARTICULATE MATTER	Crushing Screening Stockpiles	No visible emission	Visual observations	Twice daily observations
PARTICULATE MATTER	Rotary Kilns net rated thermal input of 2 MW (expanded clay aggregates)	No visible emission	Continuously recorded indicative monitoring	Continuously
NITROGEN OXIDES	Rotary Kilns net rated thermal input of 2 MW (expanded clay aggregates)	500mg/m <sup>3</sup>	Manual extractive testing	Annually
CHLORIDE (expressed as hydrogen chloride)	Rotary Kilns net rated thermal input of 2 MW (expanded clay aggregates)	30mg/m <sup>3</sup>	Manual extractive testing	Annually

SULPHUR OXIDE (expressed as sulphur dioxide)	Rotary Kilns net rated thermal input of 2 MW (expanded clay aggregates)	500 mg/m <sup>3</sup>	Manual extractive testing	Annually
FLUORIDE (expressed as hydrogen fluoride)	Rotary Kilns net rated thermal input of 7 MW (expanded clay aggregates)	5 mg/m <sup>3</sup>	Manual extractive testing	Annually
Sulphur Dioxide	Combustion of oil	Maximum concentration of Sulphur in fuel = 1%wt/wt	Certificate from supplier	Every delivery
Oxygen	Rotary Kilns net rated thermal input of 2 MW (expanded clay aggregates)	None	Continuously recorded indicative monitoring	Continuously