



Hereby Permit

The Boro' Foundry Limited
Stourvale Road
Lye
DY9 8PR

To Operate A Part B Installation At

The above address

Under The Provisions of

THE ENVIRONMENTAL PERMITTING (ENGLAND AND WALES)
REGULATIONS 2010 (AS AMENDED)

Permit Reference Number

PB/93

Date Initial Permit Issued

24th March 2005

Variation Notice and Consolidated Permit Issued

11th February 2015

A handwritten signature in black ink that reads "T. Glews". The signature is stylized with a large, bold "T" and a cursive "Glews".

.....**Dated:** 11th February 2015

Tim Glews

Public Protection Manager

(Authorised to sign on behalf of Dudley Metropolitan Borough Council)

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INTRODUCTORY NOTE TO PERMIT

The Permit is issued by Dudley Metropolitan Borough Council (the Council) under Regulation 13(1) of the Environmental Permitting (England and Wales) Regulations 2010 (S.I. 2010 No.675), as amended, ("the EP Regulations") to operate an Installation carrying out activities covered by the description in Part 2 of Schedule 1 of those Regulations, to the extent authorised by the Permit.

The requirements of this Permit shall be effective from the date of service unless otherwise specified within the Permit. Where a Variation Notice has been served the conditions contained within that Variation Notice shall be effective from the date that the Notice is served, unless a specific implementation date is allocated to specific conditions.

For the purpose of this Permit the legal operator of the Installation is The Boro' Foundry Limited, Stourvale Road, Dudley. DY9 8PR.
Company No 00447495

The following Process Guidance Notes apply to this installation.

PG Note 2/3(13) Statutory guidance for electrical furnaces

PG Note 2/4(13) Statutory guidance for iron, steel and non-ferrous foundry processes.

STATUS LOG

Detail	Reference	Date	Comment
Deemed Application Made	PB/93	1 st April 2004	
Permit Issued	PB/93	24 th March 2005	
Environmental Permit	PB/93	6 th April 2008	Transfer to Environmental Permit by virtue of Regulation 69 of the Environmental Permitting (England and Wales) Regulations 2007
Variation Issued	PB/93	11 th Feb 2015	

DESCRIPTION OF INSTALLATION

The following activities are undertaken at the Installation:

- The melting of clean scrap cast iron, pig iron, and returns from the process in three Electric Induction Furnaces (Two with a capacity of 1500kg and one with the capacity of 600Kg) The melt is adjusted with the addition of alloys and Nodularisation is carried out by the addition of a magnesium alloy. Emissions from the two larger furnaces are captured in fume hoods which exhaust to atmosphere via a chimney approximately twelve metres high. Internal

rearrangements for furnace charging may require modification or removal of current ducting and hoods, although a decision on this matter by the operator is pending. The operator will advise the authority in writing by 31st August 2015 on the outcome of the decision made on whether extraction to the 2 larger furnaces is to be vented internally, or alternatively provide details by 31st August 2015 of the proposed location and specification of the proposed replacement extraction system. Emissions from the smaller furnace are not captured and vent internally.

- Moulding using the Alphaset (organic cold set) method. The resin for the process is stored in a 15 tonne silo.
- The storage of virgin sand in two silos, one currently unused of 20 tonne capacity, one of 40 tonne capacity and reclaimed sand in a 40 tonne silo. All three silos are vented externally via bag filter plants. Inside the process building there are two sand feed hoppers which are fed pneumatically with premixed, reclaimed and virgin sand. The air from the delivery system is extracted to a bag filter plant which exhausts externally.
- The manufacture of sand cores using an oil bonded sand method and the Alphaset method. The oil bonded sand cores are cured in a gas fired oven which vents into the process building.
- The application of a mould coat.
- Casting of metal.
- The manual knock-out of moulds. There is no extraction to this area.
- Reclaiming of used sand in an attrition plant. Emissions are collected and taken to a bag filter plant which exhausts to atmosphere.
- Finishing operations including, grinding and fettling. Emissions from the fettling booths and grinders are collected and contained by bag filter plants which vent into the process building, Shot blasting takes place in one of four units, (room blast, small table blast, large table blast and tumble blast) all of which are served by bag filter plants which exhaust to atmosphere.
- The handling of waste materials prior to removal from site.

This Installation falls within the definition of Part 2 Section 2.1, Part B (b)(ii) of Schedule 1 of the Environmental Permitting (England and Wales) Regulations 2010 (As Amended). The attached location plan "Appendix 1 – Site Plan PB/93" shows the designated site.

CONDITIONS

1.0 THE PERMITTED INSTALLATION

- 1.1 The permitted Installation shall be comprised of the activities and associated activities specified in Table 1.1

Table 1.1	
Activity listed in Schedule 1 of PPC Regulations or Associated Activity	Description of specified activity
Directly Associated Activity - Handling of raw materials	Handling of all raw materials including receipt through to sending material via a designated process route.
Section 2.1 – Ferrous Metals, Part B(b)(i).	Producing, melting or refining iron or steel or any ferrous alloy (other than producing pig iron or steel, including continuous casting) using: <ul style="list-style-type: none">• One or more electric induction furnaces
Directly Associated Activity - The manufacture of cores and moulds.	The production of cores and moulds and the recycling of mould materials from the knockout in the sand reclamation plant.
Directly Associated Activity - Casting of Ferrous Metal.	The casting into moulds of ferrous metal and the removal of the casting at the knockout.
Directly Associated Activity – Finishing Operations	Shot blasting, finishing, sawing, hand finishing and/or fettling to produce the final casting.
Directly Associated Activity – Painting of castings	Painting by dipping in water-based paints.
Directly Associated Activity – Handling of waste materials	Collection and storage of waste including dross, sand, waste paper, pallets, collected dust, sludge and liquor.

- 1.2 The activities permitted under condition 1.1 shall not extend beyond the site, being the area shown hatched on the Site Plan PB/93 in Appendix 1 to this Permit.
- 1.3 If there is any intention to make a change in operation of the installation, or any other aspect which may affect emissions to air, the Council shall be notified of the proposed changes at least 28 days before the changes take place. 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.
- 1.4 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.

2.0 EMISSION LIMITS AND CONTROL

2.1 The limit for emissions to air from the relevant emission point set out in the Table below shall not be exceeded. *¹ Should the operator cease external extraction to the 2 large induction furnaces then Row 1 relating to emissions from “Stack serving Induction Furnaces” shall not apply.

	Emission Source	Parameter	EmissionLimit	Monitoring Frequency
Row1	Stack serving Induction furnaces * ¹	Particulate Matter	20mg/m ³	Annual Extractive Monitoring
Row 2	Virgin and reclaimed sand silo unit extractions	Particulate Matter	Free from persistent visible emissions	At least daily
Row 3	Sand reclamation plant	Particulate Matter		
Row 4	Room blast extraction Tumble blast extraction Small & Large Table blastextractions	Particulate Matter		

2.2 Emissions from combustion processes shall, in normal operation, be free from visible smoke and in any case shall not exceed the equivalent of Ringelmann Shade 1 as described in British Standard BS 2742:2009.

2.3 All emissions into the air from any process exhaust points or building openings other than condensed water vapour or processes involving nodularisation, shall be free from droplets and from persistent visible emissions.

2.4 Visible emissions shall not cross the site boundary during the process of nodularisation

2.5 Exhaust flow rates for emissions shall be consistent with efficient capture of pollutants and shall minimize emissions in accordance with good operating practices. The introduction of dilution air to achieve emission limits contained within this Permit is not permitted

3.0 MONITORING SAMPLING AND MEASUREMENT OF EMISSIONS

- 3.1 A daily visual assessment of contained and fugitive emissions shall be undertaken to ensure that all final releases are compliant with Conditions 2.1 to 2.4 inclusive. The chimneys/vents and building openings shall be observed for any visible emissions to air once per shift for a period of at least five minutes. The observations shall be made from a position providing an unobstructed view of the point of the emission to air by a responsible person who has been instructed to carry out these duties. A record of all observations shall be recorded in accordance with Condition 6.1. The records shall include an assessment of the nature and severity of any emission observed and where appropriate a comparison to the Ringelmann scale of obscuration as described by British Standard BS 2742:2009 shall be made.

If emissions to air are observed which may contravene any conditions of this permit immediate action shall be taken to determine the cause of the emission and to prevent or minimise further emissions.

- 3.2 The Operator shall notify the Council in writing by 31st August 2015 on the result of the decision as to whether the existing 2 X 1500kg electric induction furnaces shall cease to be subject to external extraction. Where the decision is taken to provide external extraction to the furnaces the operator shall provide details of the proposed location and specification of the extraction system to the Council in writing for approval at least 28 days to its installation.
- 3.3 All non-continuous emission monitoring of particulate matter shall be carried out according to the main procedural requirements of BS EN 13284-1: 2002, with samples taken during periods of maximum emission. The monitoring exercise on the stack serving the electric induction furnaces shall be conducted within 2 months of notifying the council in writing on the operators decision regarding the extraction system serving the furnaces, as detailed in Condition 3.2. Subsequent monitoring exercises shall take place 12 months later and each year after, unless agreed in writing with the Council.
- 3.4 The Operator shall notify the Council in writing at least 21 days before commencing any monitoring exercise undertaken in accordance with Condition 3.3. The notification shall include the name and address and any other relevant details of the person(s) or company engaged to undertake the monitoring exercise; the time, and date, on which the monitoring is scheduled to begin, together with a full specification of the monitoring programme including the proposed sampling and analysis techniques.

- 3.5 The results of monitoring undertaken in accordance with Condition 3.3, including details of the process conditions at the time of monitoring, shall be forwarded to the Council within 28 days of the completion of the monitoring unless otherwise agreed with the Council. A record of these results shall be maintained in accordance with Condition 6.1 of this permit.
- 3.6 Adequate and safe facilities to enable monitoring / sampling to be carried out in accordance with Condition 3.3 shall be provided. Sampling points on new plant shall be designed and installed to ensure that monitoring can be carried out in accordance with the standards specified in condition 3.3

4.0 MATERIALS HANDLING

- 4.1 All new and reclaimed sand stored externally shall be stored in purpose built enclosed silos or hoppers.
- 4.2 Sand storage silos shall be fitted with particulate matter arrestment equipment to prevent emissions during sand delivery and transfer. Such arrestment equipment shall be maintained in such a manner as to prevent visible emissions to the air of particulate matter.
- 4.3 The virgin sand silos shall be equipped with sight glasses or either an audible or visual high level alarm which will warn of overfilling. The correct operation of the alarm(s) shall be checked at least once every three months and the results recorded in accordance with condition 6.1. When necessary, corrective action shall be taken to ensure the proper working operation of the alarm(s).
- 4.4 The reclaimed sand silo shall be fitted with an automatic system to cut off delivery in the event of over filling or pressurisation.
- 4.5 All pipe work conveying sand to or from the sand storage silos shall be free of leaks.
- 4.6 All sand deliveries to the storage silo must be continually attended and recorded (record date; start and finish times). Operators shall have a procedure in place to ensure that visual assessment of emissions from silo inlet connections and the silo arrestment plant are undertaken throughout the duration of all bulk deliveries. Records shall be maintained in accordance with Condition 6.1.
- 4.7 If emissions of particulate matter are visible from ducting, pipework, the pressure relief valve or dust arrestment plant during silo filling, the operation shall cease; the cause of the problem shall be rectified prior to further deliveries taking place. Tanker drivers shall be informed of the correct procedure to be followed

- 4.8 All potentially dusty materials and wastes which are stored outside the building shall be stored in covered or enclosed skips or containers or damped down to prevent the fugitive emission of dust.
- 4.9 Spillages of liquids and dusty materials shall be cleaned up immediately. Liquid spillages shall be contained and removed by the use of a suitable absorbent material. Spillages of dusty materials shall be removed by a method, which prevents or minimises dust emissions. Dry sweeping shall not be permitted.
- 4.10 The room blast, tumble blasts and table blast bag filter plants shall be fitted with indicative monitoring equipment e.g. pressure drop indicator or burst bag detector by the 1st June 2015. Where these devices are activated, they shall be investigated immediately and corrective action taken. Records of such events shall be recorded in accordance with condition 6.1.
- 4.11 Residues collected by particulate matter control plant shall be discharged into sealed bags or containers and kept in a sealed state prior to being removed for disposal off site.
- 4.12 A record of the following maintenance operations shall be detailed in the records required to be kept in accordance with Condition 6.1. This record shall include the date, details of any maintenance or repair and identification of the person(s) who carried out the operation.
- (a) Maintenance, service and repair to the bag filter units.
 - (b) Inspection, maintenance and testing of external pipework, fabric filters and high level alarms to the bulk sand storage hoppers.

5.0 GENERAL CONDITIONS

- 5.1 The Operator shall maintain and implement written procedures to ensure that regular cleaning and effective preventative maintenance in accordance with the manufacturer's instructions is employed on all plant, equipment and technical means concerned with the production, capture, transport, control and exhaust of emissions which could lead to an adverse impact on the environment. A record of relevant maintenance shall be maintained in accordance with Condition 6.1.
- 5.2 Essential spares and consumables shall be held on site or shall be available from a guaranteed supplier at short notice so that plant breakdown can be rectified rapidly.

- 5.3 The Installation shall be supervised by suitably trained staff who are fully conversant with the requirements of this Permit.
- 5.4 All staff shall be fully conversant with those aspects of the Permit conditions, which are relevant to their duties and shall be provided with adequate professional technical development and training and written operating instructions to enable them to carry out their duties.
- 5.5 The Operator shall maintain a record in accordance with Condition 6.1 of the skills and training requirements for all staff whose tasks in relation to the Installation may have an impact on the environment and shall keep records of all relevant training.
- 5.6 Any malfunction or breakdown which results in emissions to air which are likely to cause an adverse effect on the local community shall be reported to the Council and action taken to prevent or minimise further emissions to air immediately. A record of the incident shall be maintained in accordance with Condition 6.1.

6.0 RECORDS

- 6.1 The Operator shall ensure that all records required to be made by this Permit and other records made by it in relation to the operation of the Installation shall:
- (a) be made available for inspection by the Council at any reasonable time;
 - (b) be supplied to the Council on demand and without charge;
 - (c) be legible;
 - (d) be made as soon as reasonably practicable after the event it relates to.
 - (e) indicate any amendments which have been made and shall include the original record wherever possible; and
 - (f) be retained at the Installation, or other location agreed by the Council in writing, for a minimum period of 2 years from the date when the records were made, unless otherwise agreed in writing

End of Permit Condition

Appendix 1 –Site Plan PB/93

