LF/PB/93 Mrs L Fawthrop 01384 814629
Lynda.fawthrop@dudley.gov.uk

The Boro' Foundry Limited,
Stourvale Road,
Lye,
West Midlands
DY9 8PR

24th March 2005

Dear Sir,

Environmental Protection Act 1990 – Part I
Pollution Prevention and Control Act 1999
Pollution Prevention and Control (England and Wales) Regulations 2000

You were informed in my letter dated 4th April 2004 that the Pollution Prevention and Control Act 1999 (PPC Act) introduced a new pollution control regulatory regime known as Local Authority Pollution Prevention and Control (LAPPC) which would gradually replace the pollution control regime set up under Part I of the Environmental Protection Act 1990 (EPA 1990), under which you were authorised to operate a prescribed process.

In the letter you were also informed that under the new regulatory regime you had been deemed to have made an application to operate a Part B Installation under LAPPC and that your Authorisation to operate a prescribed process under EPA 1990 would, in due course, be replaced by a permit to operate a Part B installation.

Following my visits to your foundry and discussions with Mark Barnbrook I have determined your deemed application to operate a Part B Installation and accordingly I am now issuing you a Permit to operate Part B Installation which has replaced your Authorisation issued under EPA 1990 and is enclosed with this letter.

If there are any matters you wish to discuss in respect of the above please do not hesitate to contact me.

Yours faithfully

L Fawthrop

L FAWTHROP (MRS)
SENIOR ENVIRONMENTAL HEALTH OFFICER
(ENVIRONMENTAL PROTECTION)

Enclosure(s):

Permit (original permit).

Public Register.

Dudley
Metropolitan Borough Council

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 POLLUTION PREVENTION AND CONTROL ACT 1999

THE POLLUTION PREVENTION AND CONTROL (ENGLAND AND WALES) REGULATIONS 2000 (AS AMENDED)

SOLVENTS EMISSIONS (ENGLAND AND WALES) REGULATIONS 2004

Permit Reference Number

PB/93

Date Initial Permit Issued

24th March 2005

..... **Dated**: 24th March 2005

Tim Glews
Environmental Protection Manager
(Authorised to sign on behalf of Dudley Metropolitan Borough Council)

CONTENTS

INTRODUCTORY NOTE TO PERMIT

The Permit is issued by Dudley Metropolitan Borough Council (the Council) under Regulation 10 of the Pollution Prevention and Control (England and Wales) Regulations 2000 (S.I. 2000 No.1973), as amended, ("the PPC Regulations") to operate an Installation carrying out activities covered by the description in Part 1 of Schedule 1 of the PPC Regulations, to the extent authorised by the Permit.

Aspects of the Installation not regulated by specific Permit conditions are subject to a general condition implied by Regulation 12(10) of the PPC Regulations i.e. the operator must use the best available techniques for preventing or, where that is not practicable, reducing emissions from the Installation. Techniques include both the technology used and the way in which the Installation is designed, built, maintained, operated and decommissioned.

The 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.

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 600 kilograms). 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.

- 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 of 20 tonne capacity and 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.

- Reprocessing sand in an attrition plant. Emissions are collected and taken to a bag filter plant which exhausts to atmosphere.

- Finishing operations including shot-blasting, grinding and fettling. Shot blasting takes place in four units, all of which are served by bag filter plants. The bag filter plants serving the table blast unit and the room blast unit exhaust externally. Emissions from the fettling booths and grinders are collected and contained by bag filter plants which vent into the process building.

- The handling of waste materials prior to removal from site.

This Installation falls within the definition of Part 1 Section 2.1, Ferrous Metals of Schedule 1 of the Pollution Prevention And Control (England and Wales) Regulations 2000 (As Amended). The attached location plan "Appendix 1 – Site Plan PB/93" shows the designated site.

STATUS LOG

Detail	Reference	Date
Deemed Application Made	PB/93	1st April 2004
Permit Issued	PB/93	24th March 2005

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: • One or more electric arc furnaces, none of which has a designed holding capacity of 7 tonnes or more; or • A cupola, crucible, reverberatory, rotary, induction or resistance furnace.
Directly Associated Activity - The manufacture of cores and moulds.	The production of cores and moulds and the recycling of mould materials from the knockout into 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, linishing, 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 implement changes to any aspect of the permitted Installation from the description of the Installation at the beginning of this Permit, or any other aspect which may affect the substances or concentration of substances being emitted to air, the Council shall be notified of the proposed changes at least 4 weeks before the changes take place.

2.0 EMISSION LIMITS AND CONTROL

2.1 All emissions to air shall be free from persistent visible emissions with the exception of emissions of condensed water vapour and emissions from Nodularisation.

2.2 All emissions to air shall be free from droplets.

2.3 All emissions to air shall be free from offensive odour outside the Installation boundary as perceived by an authorised officer of the Council.

a.1 The limits for emissions to air from the contained emission points set out in the Table below shall not be exceeded.

Emission Source	Parameter	Limit mg/ m^3
Electric Induction Furnaces	Particulate Matter	20
The table shot blasting machine and the room blast shot blasting machine	Particulate Matter	20
Sand Reclamation Plant	Particulate Matter	20

The concentrations of substances measured in accordance with this condition shall be expressed at reference conditions 273.15K and 101.3 kPa, without correction for water vapour.

2.5 Exhaust flow rates for emissions shall be consistent with efficient capture of pollutants and shall minimise emissions in accordance with good operating practices.

The introduction of dilution air to achieve emission concentration limits contained within this Permit is not permitted

2.6 Emissions from the stack serving the Electric Induction Furnaces shall in normal operation be free of visible smoke and in any case shall not exceed the equivalent of Ringelmann shade 1 as described in British Standard BS 2742: 1969.

3.0 MONITORING SAMPLING AND MEASUREMENT OF EMISSIONS

3.1 Emissions from the stacks serving the Electric Induction Furnaces, the table shot-blasting machine, the room blast shot blast machine and the sand reclamation plant shall be monitored for concentrations of particulate matter within two months of the following occuring:-

a) Any significant process changes which may affect the emissions monitored.
b) The commissioning of new or substatially changed equipment which may affect the emissions monitored.

3.2 Adequate and safe facilities to enable monitoring/sampling to be carried out in accordance with conditions 3.1 shall be provided at the emission points specified in that condition.

3.3 Non-continuous emissions monitoring of particulate matter shall be carried out in accordance with the main procedural requirements of BS ISO 12141: 2002 or BS EN 13284: Part I, with samples taken during periods of maximum emission. Sampling equipment shall be capable of collecting particulate matter of 0.1 microns diameter or less, with an efficiency of at least 75%.

3.4 The Operator shall notify the Council in writing at least 21 days before the commencement of any monitoring exercise undertaken in accordance with condition 3.1. 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 exercises are scheduled to begin, together with a full specification of the monitoring programme including the proposed sampling and analysis techniques.

3.5 During monitoring exercises the process being monitored must be operated under normal conditions, at full capacity and unless otherwise instructed by Officers of the Council, the monitoring shall be undertaken over the whole production cycle.

3.6 The results of non-continuous emissions monitoring undertaken in accordance with conditions 3.1 including process conditions at the time of testing shall be forwarded to the Council within 28 days of the completion of the testing unless otherwise agreed. A record of these results shall be maintained in accordance with condition 6.1 of this Permit.

3.7 Adverse results from the monitoring shall be investigated by the operator as soon as the monitorning data has been received. The operator shall identify the cause and take corrective action, recording the details of the cause and extent of the problem and the action taken to recitfy the problem in accordance with condition 6.1 of this Permit. The monitoring shall be repeated as soon as possible once the problem has been rectified. The re-test shall be carried out and reported to the Council in accordance with conditions 3.5 and 3.6 of this Permit.

3.8 The arrestment equipment serving the table shot blast unit, the room shot blast unit and the sand reclamation plant shall be indicatively monitored once per week for emissions of particulate matter. The test shall involve holding a piece of white fablon or similar adhesive coated material which is approximately 25 cm square and fixed to a board, directly in line with the point of discharge of the emission at a distance of approximatley 30 cm from the point of emission for a time period of 1 minute. The plant being tested must be operated normally at the time of the test and the

extraction associated with the plant must be operating at full capacity at the time of the test.

If excessive depoists are found to be adhering to the fablon sheets following the test, immediate action shall be taken to determine the cause of the emission and to resolve the malfunction responsible for the emission. Contingency arrangements shall be instigated to prevent or reduce to a minimum any further emissions to air caused by the malfunction.

The white fablon test sheets shall be individually labelled with the date and time of the test and which emission source the test was carried out on. The test sheets shall be kept available for inspection by officers on the Council in accordance with the terms of condition 6.1 of this Permit but shall only be retained for a period of six months.

3.9 The stacks serving the Electric Induction Furnaces, 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 emission to air by a responsible person who has been instructed to carry out these duties. A record of all observations shall be maintained in accordance with condition 6.1. The records shall include an assessment of the nature and severity of any emission observed, the source of emissions to air, details of any corrective action taken and the identity of the person making the record.

The Council shall be notified as soon as practicable if emissions to air are observed which may contravene any conditions of this authorisation immediate action shall be taken to determine the cause of the emission and to prevent or minimise further emissions.

4.0 PROCESS CONTROLS

4.1 The reclaimed sand silo shall be fitted with an automatic system to cut off delivery in the event of over filling or pressurisiation.

4.2 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 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.

4.3 Immediately prior to the filling of a sand storage silo or once a week , whichever is the longer inteval, the seating of the pressure relief valve, if fitted to the silo, shall be checked by a responsible personfor this duty, and the valve reseated, if necessary.

4.4 Immediately prior to any delivery being made to the sand storage silo, the transfer line connecting the delivery tanker to the silo shall be checked to ensure that it is securely connected to the tanker discharge point and the silo delivery inlet, by a person instructed to carry out this duty.

4.5 Silo inlet connections and the exhausts to the bag filter units fitted to the sand storage silos shall be observed for visible emissions to air throughout the duration of deliveries. The observations shall be made from a position providing an unobstructed view of the point of emission to air by a responsible person who has been instructed

to carry out these duties. A record of all deliveries shall be maintained in accordance with condition 6.1. The records shall include the start and finish time of the deliveries, any emissions observed, an assessment of the nature and severity of any emission, the source of emissions to air, details of any corrective action taken and the identity of the person making the record. In the event of an emission of sand the filling operation shall cease immediately and not recommence until the necessary remedial action has been completed to prevent any further emissions.

4.6 The bag filter plants serving the sand silos shall be inspected at least once a month. The outlet shall be inspected for signs that emissions have occurred and the cleaning system for the plant checked. If emissions or defects are noted then corrective action shall be taken before another delivery takes place.

4.7 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.

4.8 Waste particulate matter and used filters shall be collected and transported around the site in covered containers or sealed bags and stored whilst awaiting removal for disposal in covered containers or sealed bags within a waste materials skip or inside an enclosed building.

4.9 Drums and containers containing liquid materials, whether full, partly full or empty, shall be kept tightly closed to prevent any emissions to air.

4.10 All potentially dusty raw materials used in the Installation shall be delivered, stored and handled with care to prevent or reduce to an absolute minimum any emissions of particulate matter to air.

4.11 The mould making, casting, knockout and any other process which may give rise to emissions of particulate matter into the air shall be carried out within enclosed buildings, thereby minimising fugitive emissions of particulate matter.

4.12 Chimneys and vents from which it is necessary to achieve dispersion of the residual pollutants shall not be fitted with any restrictive plates, caps or cowls at the final opening.

5.0 GENERAL CONDITIONS

5.1 Regular cleaning and effective preventative maintenance in accordance with the manufacturer's instructions shall be employed on all plant and equipment concerned with the emission, capture, transport and control of emissions to atmosphere.

5.2 Staff at all levels shall receive the necessary formal training and instruction in their duties relating to control of the process and emissions to air. Particular emphasis shall be given to training for start-up and shut-down and abnormal conditions. A record shall be maintained of all relevant training provided to staff in accordance with condition 6.1.

5.3 The external surfaces of the Installation building(s), ancillary plant and open yards and storage areas shall be thoroughly cleaned on an annual basis or more frequently, if necessary, to prevent accumulations of dusty materials which may be the source of airborne particulate matter.

5.4 Any malfunction or breakdown which results in emissions to atmosphere which are likely to cause an adverse effect on the local community shall be reported to the Council immediately, and a record shall be made of the incident 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;
(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 4 years from the date when the records were made, unless otherwise agreed in writing

Appendix 1 –Site Plan PB/93