

THE BROCKMOOR FOUNDRY COMPANY LIMITED

Doc Ref B.5.2

NONE TECHNICAL SUMMARY

PART A.

The Application is for a new IPPC permit for the Brockmoor Foundry Co Ltd, Leys Road, Brockmoor, Brierley Hill, West Midlands. The company is owned and operated by the The Brockmoor Foundry Co Ltd. The company currently holds a permit under the 1992 Authorisation to operate a part B process under part 1 of the Environmental Protection Act Authorisation No: B2/11.

PART 1.2 Scope and reason for application.

The activities of the installation have been deemed components of the Technical Unit are the Melting and Casting of Spheroidal Graphite Castings the removal of sulphur from molten metal, Scrap Storage and handling mould and core making production. The cleaning, fettling, painting and machining of castings are considered, Directly Associated Activities. This application is being submitted within the timetable agreed for the A – 2 Foundry Sector, Schedule 3 of the PPC regulations.

B 1.3 Site Maps

4 maps are included within the application. These four details of the following (1) The location of the site (2) emission from the site (3) Material storage/waste storage (4) site drainage.

B 2.1 Process Description

The Brockmoor Foundry Co Ltd produces Spheroidal Graphite Castings for use within the Off Road and Heavy Goods Commercial Vehicle Market, Commercial Hydraulics, current output of approx 8000 tonnes per annum.

Casting are produced by pouring liquid/molten metal into a sand mould, a core is used to produce hollow sections that would be required within the particular shape. After a pre-determined time the casting is separated from the sand mould, the casting will then undergoes several other operations, cleaning, fettling, painting, machining as depending on Technical requirement of the customer.

As there are several stages the casting passes through during its production there is a potential for the release of substance to Air and Water, due to the generation of waste, there are also a potential of creating noise, from equipment and the transfer of the casting from department to department.

B 2.2 Emissions To Air and Water

Air emissions are made through 14 stack/chimneys the main source being, Melting, Sand Plant, Magnesium Treatment, Fettling, Wheelabrating 7 of these emission points are cleaned by bag filtration units to remove dust particulates prior to discharge through stack/chimneys and comply with IPPC Standards, on occasions, odour could cause nuisance to neighbouring site, this is extremely rare and may occur due to weather conditions, temperature and wind direction.

On occasions some "fugitive" emissions to air may occur from the buildings, through doors or roof vents, however most dust and fumes are contained within the buildings there is normally no visible discharge from the roof or any other areas. An assessment of the sources of fugitive emission has been carried out, and the impact is believed to be trivial.

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The site has a surface water drainage system on the South Site, the system discharges into the main storm drainage system of Leys Road and Moor Street. The discharge consists of rainwater collected from roof and surface run off. The North Site system is split in two 50% of the buildings roof rain water is discharged into Stourbridge canal, the 50% on the South side of buildings along with surface water from roads and car parks is discharged into sewers and is pumped up to main sewer in Leys Road.

There are other discharges that may take place into the sewer; these are from emergency cooling systems that will only come into service if we have a complete electrical failure or an overheating of a system.

B.2.3 Control Techniques

Emissions are controlled from the site by the following methods, the selection of raw materials and their inputs engineering technology the choice of filtration systems to control air emission, preventative maintenance program and some continuous automatic monitoring.

B.2.4 Material Impacts

The main raw materials used in the production of castings are pig iron clean scrap metal, metal removed from castings during the fettling operations, off cuts and rejected castings that are recycled these are collected at several points and feed back to the main melters. Other metal alloys are used to achieve the final grade of metal required.

Other materials used are Sand, Clay and Coal Dust, to produce moulds resins and hardener to produce core's, Steel Shot and Carbarundum Wheels for cleaning castings, refractory material for repairs on furnace, cutting oils for machining of castings, water based paints for coatings, diesel and oils.

Water is used in several areas on cooling systems all cooling systems are closed loops and would only discharge to drain in an emergency. Water is used on the green sand to mix sand and cooling. This would be the largest consumer.

B.2.5 Waste

Waste minimisation initiatives have been carried out resulting in 40% reduction in sand waste to landfill. The site is implementing ISO 14001; the site has implemented a good practice code for disposal. The Company recycles cold box core sand waste internally, Green sand and wood is recycled externally by third party. Mineral oil are used internally as lubricants, we have looked for further opportunities for magnesium oxide and furnace extraction dust that contain zinc, however all though materials can be re-used/recycled volumes produced are not of sufficient quantity to raise interest.

B.2.6 Emissions to Ground Water

There are **no** direct discharges to ground water of any List I or List II substances.

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B.2.7 Energy Consumption

Melting and holding of metal consumes the largest proportion of energy on site, the total primary energy consumption site 2002 equalled 44.4 mwh this composed of 90% being Electricity 7% Gas, the balance diesel. The company is part of the 2010 climate change levy agreement, and is committed to reduce its energy consumption where practical.

B.2.8 Assessment of Accident Risks

The risk of accidents on site with an environmental impact has been assessed. Two areas have been identified that will require improvement to control risks. Bunding improvement, main diesel storage tank and waste disposal area North Site, this area is uncovered hence potential for wind to whip off dry material, there is no other major environmental risk other than a major fire, the risk here would be water run off to Stourbridge Canal and sewers.

B.2.9 Noise and Vibration

We have assessed noise from the site but have not carried out any survey on vibration; we have identified three potential nuisance points to residential housing on Leys Road (1) Fettling Shop Extraction, Stack No A6(2) Loading of Wheelabrator, fettling department south works (3) Press pour water-cooling fans. On evaluation of methods to reduce the impact from these items is being considered.

Currently site noise is controlled by a combination of physical barriers such as acoustic enclosures and silencer plant maintenance management of purchases of new equipment as required.

B.2.10 Emissions and Monitoring

Monitoring releases to water emissions to air and waste.

Air emissions monitoring periods are ongoing checks of emissions from building and abatement plant for both odours and release to atmosphere this is carried out daily and a record of these checks are kept in the Works Laboratory, abatement checks are also carried out annually by an external consultant assuring compliance to BS3405.

B.2.11 Decommissioning

List of environmental consideration are provided for use when the site is to cease operations, the list relates to (A) The design and build on any new development (B) Decommissioning of plant and Buildings, (C) the decontamination (D) the demolition of the site on any part. A detailed plan/proposal will be submitted in the case of any actual decommissioning operations to be undertaken.

B.2.12 Management Techniques

Within the application is a description of the Environmental Management of the site this relates to ISO 14001. The company has its pre-assessment 9th and 10th July 2003 and Objectives to achieve full accreditation, ISO 14001 approval by January 2004 this approval will be subject to auditing by external parties.

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B.3.1 Site Report

The Phase I site report, including a Desk Study and site walkover has been carried out on behalf of the company by Castings Technology International Consultants. This indicated the likely presence of metals, Organics, sulphur compounds, oil contamination at the site from historic data based on use and current activities. Phase II intrusive investigation confirming the presence of any substances and the levels present are included.

B.4.1 Environmental Impact Assessment

The company has assessed the environmental impact it may have on the local community. There are sensitive receptors located near the installation.

The company already controls the processes and potential releases to a standard that prevent any impacts to these receptors have been evaluated.

- Potential health impacts from emissions to human receptors within the local area.
 - Potential nuisance impacts from noise to human receptors.
 - Potential harm to Ecosystems/aquatic life within Stourbridge Canal.
 - Contribution to global warming from emission associated with energy use.
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