POLLUTION PREVENTION AND CONTROL ACT 1999
ENVIRONMENTAL PERMITTING (ENGLAND & WALES) REGULATIONS 2016
As amended

Permit Number: 2.1/049723/JT3

Installation Address:
Norton Cast Products Limited
Capital Steel Works
Tinsley Park Road
Sheffield
S9 5DL

In accordance with Regulation 13(1) of the Environmental Permitting (England and Wales) Regulations 2016 as amended, Norton Cast Products Limited is hereby permitted to operate a scheduled activity at the address detailed above, namely the production, melting or refining of iron or steel or any ferrous alloy (other than producing pig iron or steel, including continuous casting) using induction furnaces as described in Schedule 1, Part 2, Chapter 2, Section 2.1, Part B(b) and subject to the following Permit conditions.

Signed

Dated: 17th December 2019

Commercial Team Manager
Authorised by Sheffield City Council to sign on their behalf

The Secretary of States Guidance Notes PG PG2/3(13) “Electrical, Crucible and Reverberatory Furnaces” and PG2/4(13) “Iron, Steel and Non-Ferrous Metal Foundry Processes” have provided the framework for the conditions in this Permit.

CHAPTER 2 Production and processing of metals

SECTION 2.1*Ferrous metals*

Part B (b);

producing, melting or refining iron or steel or any ferrous alloy (other than producing pig iron or steel, including continuous casting) using—

(i)one or more electric arc furnaces, none of which has a designed holding capacity of 7 or more tonnes, or

(ii)a cupola, crucible, reverberatory, rotary, induction, vacuum, electro-slag or resistance furnace.

Name & Address of Operator:

Norton Cast Products Ltd
Capital Steel Works
Tinsley Park Road
Sheffield
S9 5DL

Company registration number: 1376835

Site contact: Andrew Jackson Tel: 0114 2448722;
Email: Andrew.jackson@nortoncast.com

Registered Office:

Norton Cast Products Ltd
Capital Steel Works
Tinsley Park Road
Sheffield
S9 5DL
Company registration number: 1376835

Address of Permitted Installation:

Norton Cast Products Ltd
Capital Steel Works
Tinsley Park Road
Sheffield
S9 5DL

Holding Company:

J B Ingall Limited
Capital Steelworks
Tinsley Park Road
Sheffield
S9 5DL

Company registration number: 01177794

Talking to Us

Any communication with Sheffield City Council should be made to the following address quoting the Permit number: 2.1/049723/JT3

epsadmin@sheffield.gov.uk or ippc@sheffield.gov.uk

Telephone: (0114) 273 4651

Our Address:

ENVIRONMENTAL PROTECTION SERVICE
SHEFFIELD CITY COUNCIL
5th FLOOR (NORTH)
HOWDEN HOUSE
1 UNION STREET
SHEFFIELD
S1 2SH

Contents

Explanatory Note to Pollution Prevention and Control Permit for Part B Installations
(This note does not form a part of the Permit)

The following Permit is issued under Regulation 13(1) of the Environmental Permitting (England and Wales) Regulations 2016 (S.I. 2016 No.1154), as amended, ("the EP Regulations") to operate an installation carrying out activities covered by the description in Section 2.1 of Schedule 1 of those Regulations, to the extent authorised by the Permit.

Process Changes

Under the provisions of the EP Regulations, you are required to notify the Council of any proposed change in operation at least 14 days before making the change. This must be in writing and must contain a full description of the proposed change in operation and the likely consequences. Failure to do so is an offence.

If you consider that a proposed change could result in the breach of the existing permit conditions or is likely to require the variation of permit conditions then you may apply in writing under Regulation 20(1) of the EP Regulations. Additionally, if this involves a SUBSTANTIAL CHANGE to the installation you will be required to submit an application, pay the relevant fee and advertise the application accordingly. You may serve a Notice on the Council requesting that they determine whether any change that is proposed would constitute a substantial change before you proceed with application.

Variations to the Permit

The Permit may be varied in the future by the Council serving a Variation Notice on the Operator. If the Operator wishes any of the Conditions of the Permit to be changed, a formal Application must be submitted.

Surrender of the Permit

Where the Operator of a Part B installation or mobile plant ceases or intends to cease the operation of the activity the Operator may notify the regulator of the surrender of the whole permit, in any other case, notify the regulator of the surrender of the permit in so far as it authorises the operation of the installation or mobile plant which he/she has ceased or intends to cease operating. The notification shall contain information as described in Regulation 24 or 25 of the EP Regulations.

Transfer of the Permit or Part of the Permit

Before the Permit can be wholly or partially transferred to another person, a joint application to transfer the Permit has to be made by both the existing and proposed holders, in accordance with Regulation 21 of the EP Regulations. A transfer will be allowed unless Sheffield City Council considers that the proposed holder will not be the person who will have control over the operation of the installation or will not ensure compliance with the conditions of the transferred Permit.

Annual Subsistence Fee

In accordance with Regulation 66 of the EP Regulations, the holder of a permit is required to pay a fee for the subsistence of the Permit. This fee is payable annually on 1st April. You are advised that under the provisions of Regulation 66 (5) of the EP Regulations, if you fail to pay the fee due promptly, Sheffield City Council may revoke the Permit. You will be contacted separately each year in respect to this payment.

Public Register

The Council is required by Regulation 46 of the EP Regulations to maintain a Public Register containing information on all LAPPC installations and mobile plant. The register is available for inspection by the public free of charge during office hours by prior appointment (Monday to Friday 9.00 am to 5.00 pm) at the following address:

Environmental Protection Service
Sheffield City Council
5th Floor 5 (North)
Howden House
1 Union Street
Sheffield
S1 2SH

Tel: 0114 273 4651 or email epsadmin@sheffield.gov.uk

Confidentiality

Sheffield City Council has a duty to consider the question of confidentiality of information supplied to it. If any information supplied is considered confidential, a statement of which information this applies to and the reasons why it is considered confidential should be specified. The Operator is reminded that he may apply to Sheffield City Council for the exclusion of information from the public register under the provisions of the Environmental Permitting (England and Wales) Regulations 2016.

Appeals

Under Regulation 31 of the EP Regulations, Operators have the right of appeal against the conditions attached to their permit. Chapter 5 of the EP Regulations sets out the detailed procedures.

Appeals against a Variation Notice do not have the effect of suspending the operation of the Notice. Appeals do not have the effect of suspending Permit conditions.

Notice of appeal against the conditions attached to the permit must be given within six months of the date of the Notice, which is the subject matter of the appeal.

How to Appeal

There are no forms or charges for appealing. However, for an appeal to be valid, appellants (the person/Operator making the appeal) are legally required to provide:

- 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 a hearing – a hearing must be held if either the appellant or enforcing authority requests this, or if the Planning Inspector or the Secretary of State decides 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; and
- A copy of any decision or notice, which is the subject matter of the appeal.

Where to Send Your Appeal Documents

Appeals should be addressed to:

The Planning Inspectorate
Environmental Appeals Administration
Room 4/19 – Eagle Wing
Temple Quay House
2 The Square
Temple Quay
Bristol BS1 6PN

In the course of an Appeal process the main parties will be informed of procedural steps by the Planning Inspectorate.

To withdraw an appeal the appellant must notify the Planning Inspectorate in writing and copy the notification to the local authority.

Enforcement

An **Enforcement Notice** may be served if the Local Authority believes an Operator has contravened, is contravening or is likely to contravene any condition of his Permit.

A **Suspension Notice** may be served if in the opinion of the Local Authority the operation of an installation involves an imminent risk of serious pollution. This applies whether or not the Operator has breached a Permit condition.

The Local Authority can revoke a Permit by written notice at any time by serving a **Revocation Notice**. The Permit then ceases to authorise the operation of the installation.

Offences

A limited summary of the offences is listed below:

a) operation of an installation without a Permit
b) failure to comply with or contravene a Permit condition
c) failure to comply with the requirements of an enforcement or suspension notice

A full list is available under Regulation 38 of the Environmental Permitting (England & Wales) Regulations 2016.

Penalties

The maximum penalties for the above offences are a fine not exceeding £50,000 and/or up to twelve months imprisonment per offence for a summary conviction (in a Magistrates Court); and a fine and/or up to five years imprisonment for conviction on indictment (in a Crown Court).

Definitions

In relation to this Permit, the following expressions shall have the following meanings:

"Application" means the application for this Permit, together with any response to a notice served under Schedule 4 to the EPR Regulations and any operational change agreed under the conditions of this Permit.

"EPR Regulations" means the Environmental Permitting (England and Wales) Regulations S.I.2016 No. 1154, and words and expressions defined in the EPR Regulations shall have the same meanings when used in this Permit save to the extent they are explicitly defined in this Permit.

"Permitted Installation" means the activities and the limits to those activities described in this Permit.

"Monitoring" includes the taking and analysis of samples, instrumental measurements (periodic and continual), calibrations, examinations, tests and surveys.

"Regulator" means any officer of Sheffield City Council who is authorised under section 108(1) of the Environment Act 1995 to exercise, in accordance with the terms of any such authorisation, any power specified in Section 108(1) of that Act.

"BAT" means the most effective and advanced stage in the development of activities and their methods of operation which indicates the practical suitability of particular techniques for providing in principle the bases for emission limit values designed to prevent, and where that is not practical, generally to reduce emissions and the impact on the environment as a whole. For those purposes:

"available techniques" means those techniques which have been developed on a scale which allows implementation in the relevant industrial sector, under economically and technically viable conditions, taking into consideration the cost and advantages, whether or not the techniques are used or produced inside the United Kingdom, as long as they are reasonably accessible to the Operator;

"best" means, in relation to techniques, the most effective in achieving a high general level of protection of the environment as a whole; "techniques" include both the technology used and the way in which the installation is designed, built, maintained, operated and decommissioned. Schedule 2 of the Regulations shall have effect in relation to the determination of best available techniques, and;

"Fugitive Emission" means an emission to air from the permitted installation that is not controlled by an emission limit imposed by a condition of this Permit.

Where any condition of this Permit refers to the whole or parts of different documents, in the event of any conflict between the wording of such documents, the document with the most recent publication date shall be taken to be the most appropriate document to be used.

DESCRIPTION OF ACTIVITIES.

Norton Cast Products Ltd is a ferrous metal engineering manufacturing company. The activities are carried out within the red outlined area on the Installation Location and Boundary plan in Schedule 1. The layout of the installation is as shown in Schedule 2. The Permit covers a range of processes as described below, from receipt of raw materials through to finishing of final products.

Raw Materials

This Permit covers the unloading, storage and transfer of raw materials. Raw materials include scrap metal, alloys, additions, sand, resins, binders, hardeners, paints, refractories, gases (argon, oxygen and nitrogen), mould coatings, fuel and refractories. Recovered sand is used as far as possible, being mixed with fresh sand and binders as required.

Manufacture of Shells and Moulds

Sand moulds are manufactured using alkaline phenolic cold set resins. Sand is stored in 7 bulk sand silos (labelled S1 to S7 on the plan in Schedule 2). Numbers 1, 4, 5 and 7 silos hold virgin sand whereas silos 2, 3 and 6 hold reclaimed sand. Silos have high and low alarms to warn of over filling and low on capacity. All silos are fitted with pressure relief valves. Particulate matter is extracted to a bag filter unit situated within the foundry to prevent emissions to atmosphere.

Resin is delivered by tanker and stored in an 8 tonne silo situated outside within a bunded tank shown on the drawing (R). Catalysts are stored in IBC’s. Moulds are flood coated using spirit based Zircon paint.

Ceramic cores are made by using a 3 part mix of a ceramic powder, binder and accelerator. Binders and accelerators are delivered and stored in metal drums. Dust extraction serves this area which is collected internally to a bag filter which vents internally. The mix cures and the cores are then fired in a kiln at 1200cc in a 20 hour cycle. The products of combustion from the kiln (located at S on the plan) are extracted to atmosphere.

Sand reclamation and core blowing equipment is served by 2 internally venting dust extractors located at T on the plan.

Melting and Casting

The production of carbon steel, low alloy steel, stainless and nickel alloys in 6 furnaces as detailed in the table below.

Table of Furnaces

Schedule 2 Label	Details	Power Supply
a	INDUCTOTHERM 600kg	350kw
c	INDUCTOTHERM 100kg	shared
e	INDUCTOTHERM 1800kg	750kw
f	INDUCTOTHERM 3000kg	shared
d	INDUCTOTHERM 1000kg	350kw
g	INDUCTOTHERM 6000kg	1800kw

Fumes from melting are extracted from above the furnaces and filtered prior to being exhausted to the external air via a 12 metre high stack. The filters are a Donaldson type DFE 5-60.

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Molten metal is poured into a ladle and poured into sand moulds, adjacent to L on the layout plan. Casting fumes released are captured and filtered via a Donaldson type DFE 5-60 prior to release via the 12m high stack. Particulate matter emissions are continuously indicatively monitored and data logged using an U3400 Auburn system Continuous Emissions Monitor and recorded using an eDAS system. The airflow is 1000m^3/min (60,000m^3/hour).

Knockout

Once cooled, castings in the moulds are placed on a shakeout deck with vibratory attrition unit to break the moulds and remove the sand. This is carried out in the location labelled knockout. Reclaimed sand is pneumatically blown to one of the sand reclamation silos (S2 and S7 on the layout plan) and particulate matter emissions from this process are vented to the cartridge filter prior to being emitted to atmosphere at K on the layout plan. K has capacity airflow of 530 m^3/minute. Particulate matter emissions are continuously indicatively monitored from the cartridge filter stack by an EDAS Auburn monitor, set to trigger an alarm if the emissions exceed a reference level equivalent to 15mg/m^3.

Finishing: Fettling, Grinding, Blasting and Welding

Castings are finished in the fettling shop by use of arc air, fettling, shot blasting, welding and grinding equipment. The fettling shop is served by 2 externally venting extractors (M&N on the layout plan) which draw air from finishing areas as follows.

Extractor	**Capacity Airflow (m^3/min)**	**Bays / Booths**
K EPS03	530	Knockout
M EPS01	256	1 x Arc air, 3 x fettling, 2 x welding
N EPS02	478	1 x arc air, 3 x fettling
EPS06	333	Supplementary KO, burning & arc air

Continuous indicative monitors and alarms are fitted to extractors to EPS01, EPS02, EPS03, EPS06 and EPS07.

Emissions from 2 other fettling booths, a table blast (V) and a grit blast (Y) are extracted through bag filters that vent internally within the foundry.

Particulate emissions from the Knockout, oxy flame and 2 arc air systems are filtered prior to being exhausted to external air via emission point EPS06 which is a 12m high stack. The filter is a Donaldson type DFO 4-32 with 333m^3/min airflow (20,000m^3/hour). Particulate matter emissions are continuously indicatively monitored and data logged using an U3400 Auburn system Continuous Emissions Monitor and recorded using an eDAS system.

Heat Treatment

Castings are heat treated in one of two Drayton Beaumont high temperature gas fired furnaces (H) one of which has a water quench unit and a gas fired top hat furnace (Q).

Other Activities

This permit covers the receipt, storage and handling of raw materials, through to the storage and handling of wastes and dispatch of products. Wastes generated by the process include; sand, slag, refractories and scrap metals. These materials are stored on site, reused and recycled as much as possible, sold for re-use or disposed of off-site using licensed waste service contractors.

CONDITIONS OF PERMIT

The following conditions shall be complied with immediately unless otherwise stated.

Section 1 – Upgrading

1.1 By 31st March 2020 the Operator shall increase the stack height of each of the new emission points EPS06, serving the knockout and arc air, and EPS07 serving the melting furnaces, to 12 metres high from ground level.

1.2 When the works to increase the stack heights of emission points EPS06 and EPS07 are completed, the Operator shall inform the Regulator.

Section 2 – Plant and Equipment

2.1 The activities at the installation shall be carried out within the installation boundary outlined in red as indicated on the Installation Location and Boundary plan shown in Schedule 1 of this Permit.

2.2 Permitted activities shall only be carried on using the plant and equipment as detailed in the Description of Activities and on the Installation Layout reproduced in Schedule 2 of this Permit.

2.3 The Operator shall notify the Regulator of any proposed operational changes including any alterations to the process involving the provision of new plant or equipment, substances or processes, which may affect emissions or have consequences for the environment. The information shall be submitted at least 14 days before the changes take place.

2.4 No plant or equipment used for any activity shall be operated with an extraction point to atmosphere unless specifically noted within this Permit or specifically agreed in writing with the Regulator.

Section 3 – Production Capacity

3.1 The installation shall not have the capacity to produce twenty tonnes or more per 24 hour period of finished product.

3.2 The Operator shall keep a record of production in relation to condition 3.1. The record shall include the total weight of castings and the total weight of finished product in tonnes per day. The record shall be kept in a log book or other recording system on site and be available for inspection by the Regulator. Details of the record shall be submitted to the Regulator at least once in every twelve month period. The first record shall be submitted by 14th January 2020 and every year thereafter.

Section 4 – Emissions Limits and Controls

4.1 No visible dust, smoke, fume or particulate matter shall be emitted beyond the installation boundary. The installation boundary is detailed in Schedule 1.

4.2 There shall be no burning of materials, excluding mould coats, in the open air, inside buildings or in any form of incinerator in connection with the activities within the installation boundary, without permission in writing from the Regulator.

4.3 Emissions from combustion processes shall 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.

4.4 All reasonably practicable steps shall be taken to minimise the duration and visibility of emissions during start up and shut down.

4.5 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.

4.6 Emissions to air shall be free of offensive odour beyond the installation boundary as perceived by the Regulator.

4.7 Except for condensed water vapour, all releases to air shall be free from persistent visible emissions.

4.8 In the reporting of monitoring results, all pollutant concentrations shall be expressed at reference conditions 273k, 101.3kPa, the oxygen and water references shall be that which corresponds to the normal operating conditions in the process.

4.9 The introduction of dilution air into duct systems in order to comply with emission limits shall not be permitted.

4.10 Emissions of total particulate matter from all emission point stacks with an airflow of 150m^3/min or more shall not exceed 20mg/m^3, unless otherwise notified by the Regulator.

4.11 Emissions of total particulate matter from emission point EPS07 connected to the melting area extraction shall not exceed 20mg/m^3.

4.12 Emissions of Nickel, Cobalt, Chromium and their compounds from emission point EPS07 connected to the melting area extraction shall not exceed 5mg/m^3.

4.13 Where an emission limit value applies to an emission point, emissions shall be tested at least once in every twelve month period unless otherwise agreed in writing with the Regulator.

4.14 The use of resins, hardeners and catalysts shall be minimised, consistent with the correct functioning of the binder system, in order to minimise emissions of volatile organic compounds and odour. Records shall be kept of the level of necessary binder addition.

4.15 Emissions from mould and core production (including mixing operations) shall be discharged via suitable arrestment plant where necessary to meet the emission limits in this Permit.

4.16 All filtration plant with capacity airflow less than 150m^3/min shall be fitted with a pressure drop indicator or magnehelic gauge.

4.17 Fume from the melting activity shall be kept to a minimum by using only clean scrap or reworked material from previous castings produced at the installation which are not contaminated.

4.18 The process shall avoid the addition of fluxes to furnaces where possible. If fluxes have to be used they shall be low fuming fluxes and receive prior approval in writing by the Regulator.

4.19 The operator shall ensure that the metal is melted in such a way as to prevent excessive fuming during pouring.

4.20 Melting and casting fumes shall be captured by the furnace area extraction system, and filtered prior to being exhausted to the external air.

4.21 The furnace area extraction and filtration system shall be operational throughout all melting and casting activities.

4.22 All grinding, fettling, finishing, shot blasting and any other casting finishing processes shall be carried out within ventilated booths that are connected to suitable dust arrestment plant.

4.23 The emission of organic solvents from the use of die and mould dressing material shall be minimised, for example through the use of water-borne die lubricants and low solvent mould and core coatings. Emissions from the use of propanol based mould and core coatings shall be minimised by igniting as soon as safely possible after coating.

4.24 All containers used for carrying or storing the mould dressing materials shall be kept lidded when not in use.

4.25 The use of resins, hardeners and catalysts shall be consistent with the correct functioning of the binder system as directed by the supplier, in order to minimise use of the materials and reduce emissions.

4.26 Potentially harmful liquids shall be stored bunded. Bunds shall be impermeable and resistant to the materials stored. Bunds shall be designed to have a holding capacity of at least 110% of the largest vessel held.

5.0 Monitoring, Sampling and Measurement of Emissions

5.1 At least 7 days prior to any non-continuous monitoring being carried out, the Operator shall ensure that site specific monitoring protocols are submitted to the Regulator for approval. The monitoring protocols shall include the proposed date and time of the testing, the method to be used and the pollutants to be monitored.

5.2 Within 4 weeks from the date of issue of this Permit, the Operator shall submit a stack emissions monitoring programme to the Regulator for approval in writing. The programme shall provide a complete list of emissions points from the installation, arrestment plant with capacity volume airflows detailed in m^3/min, any continuous monitoring system provided with each emission point, the proposed pollutants to be tested and the proposed frequency of testing.

5.3 The results of annual non-continuous monitoring tests shall be forwarded to the Regulator within 8 weeks of completion of the testing.

5.4 The Operator shall ensure that adequate facilities for sampling are provided on vents or ducts. Sampling points on new plant shall be designed to comply with the British or equivalent standards.

5.5 Monitoring shall be carried out in accordance with methods described in M1 “Sampling requirements for monitoring stack emissions to air from industrial installations”[1] and M2 “Monitoring of stack emissions to air”[2], published by the Environment Agency, or by another method agreed in writing by the Regulator.

[1] Environment Agency, 2017, or any re-issue or update
[2] Environment Agency, 2017, or any re-issue or update

5.6 Where the results of any non-continuous monitoring are adverse, the Operator shall investigate the matter as soon as possible. The investigation shall include the following steps:

- Close down the process or plant responsible for the breach;
- Identify the cause of the breach;
- Carry out any necessary works or repairs to ensure compliance with the emission concentration limit;
- Re-test the plant to check compliance with the emission concentration limit specified as soon as possible;
- Submit the re-test emissions monitoring report to the Regulator within 7 days of receipt of the results;
- Record details of investigation and outcomes in the log book or recording system.

5.7 Where the results of any non-continuous monitoring are adverse, the Operator shall inform the Regulator no later than 10:00 hours the following working day after receipt of the results of the emissions testing.

5.8 The Operator shall ensure that a visual assessment is conducted daily to determine whether emissions from activities are visible or cross the installation boundary. In particular, assessments shall focus on emissions from melting and casting. The duration of the assessments shall be for a minimum of five minutes and coincide with pouring molten metal. The assessments shall be carried out at least once per day and made at locations as agreed in writing by the Regulator. All results of assessments shall be recorded in the log book or recording system kept in accordance with condition 5.11.

5.9 The Operator shall ensure that odour assessments are conducted to determine whether emissions from activities result in offensive odours. In particular, assessments shall focus on emissions from melting, casting and mould making. The duration of the assessment shall be for a minimum of five minutes. The assessments shall be carried out at least once per day and made at locations as agreed in writing by the Regulator. All results of assessments shall be recorded in the log book or recording system kept in accordance with condition 5.11.

5.10 The Operator shall ensure that alarm events and adverse results from monitoring and assessments carried out in accordance with conditions of the Permit, are investigated immediately to identify the cause of the emission and allow the appropriate corrective action to be taken. The corrective action taken shall be recorded in the log book or recording system kept in accordance with condition 5.11.

5.11 The Operator shall ensure that a log book or suitable recording system containing the details and results of all visual and olfactory assessments, maintenance, repairs, records of all inspections, checks and assessments made in accordance with Permit conditions is kept. These records shall include the time and date of inspection, the nature, colour, persistency and intensity of any emission and the name of the person carrying out the assessment. The log book or recording system shall be kept on the premises and made available for inspection by the Regulator. Such records shall be kept for a minimum of two years and shall be furnished in writing to the Regulator on demand.

5.12 The Operator shall inform the Regulator within one day in cases where:

- An emission is likely to have an effect on neighbouring premises; or
- There is a failure of any arrestment plant.

The report to the Regulator shall include:

- The date and time of the incident;
- The cause and nature of the incident;
- Details of any abnormal emissions;
- Remedial action taken.

6.0 Sand Silos

6.1 The Operator shall ensure that a visual assessment of emissions from the sand silos, associated bag filters and delivery pipes shall be undertaken for a period of at least the first and last five minutes during all bulk deliveries. Any adverse emissions shall be investigated immediately and rectified. The results of these visual assessments and the start and finish time of deliveries shall be recorded in the log book or recording system kept in accordance with condition 5.11.

6.2 The bulk sand silos shall be vented to suitable bag filters to prevent emissions of particulate matter. These bags shall be of a sufficient size and kept clean to avoid over pressurisation during delivery. Each silo shall also be fitted with a pressure relief valve, high-level indicator and audible alarm to warn of overfilling.

6.3 The Operator shall ensure that a visual inspection of the sand silo bag filters, high level alarms and pressure relief valves is carried out at least once a month for any signs of wear, tear or damage. Any defect shall be repaired as soon as possible and prior to another delivery taking place. All inspections including any remedial action taken shall be recorded in the log book or recording system kept in accordance with condition 5.11.

6.4 During pressure tanker delivery into a silo, the silos shall be charged at a rate prescribed by the filter manufacturer, and shall not be exceeded, in order to prevent causing any visible emissions of materials.

6.5 The seating of pressure relief valves on the silos shall be checked at least once per week or before a delivery takes place, whichever is the longer interval. A record of the checks shall be made in the log book or recording system kept in accordance with condition 5.11. If, during a delivery it appears that the valve may have become unseated, the delivery shall cease immediately and the valve examined and re-seated if necessary prior to the delivery continuing.

6.6 All new or replacement silo filtration plant shall be designed to operate to an emission standard of less than 10mg/m^3 for particulate matter.

6.7 The filters serving each silo shall be cleaned by reverse air jets pulsing continuously throughout each delivery of material into that silo such that the filters are kept clean with the arrested dust being blown back into the silo.

7.0 Maintenance of Abatement Plant

7.1 The Operator shall ensure that a visual inspection of all arrestment plant ductwork is carried out at least once in every three month period under normal operating conditions, for any signs of wear, tear or damage. Any defects shall be repaired as soon as possible to ensure sound operation and prevent emissions to atmosphere. Details of the checks and any repair work shall be recorded in the log book or recording system required by condition 5.11 of this Permit.

7.2 The Operator shall ensure that arrestment plant serving emission points is serviced at least once in every 12 month period to ensure sound operation. Details of the servicing or maintenance shall be recorded in the log book or recording system kept in accordance with condition 5.11.

7.3 Effective preventative maintenance shall be employed on all plant and equipment concerned with the control of emissions to air. Essential spares and consumables such as replacement filters, shall be stored on site or be readily available in 24 hours from guaranteed suppliers, in order to rectify break downs rapidly.

7.4 The Operator shall implement and maintain a written planned preventative maintenance programme in relation to permitted pollution control equipment. The programme shall be made available to the Regulator.

7.5 The Operator shall provide a list of key abatement plant to the Regulator, within 2 weeks of the date of issue of this Permit and have a written procedure for dealing with its failure

7.6 All malfunctions or breakdowns leading to visible or odorous emissions shall be investigated and rectified immediately. Process operations shall be adjusted until normal operations are restored. Details of the malfunction shall be recorded in the log book or recording system. If an effect on the local community is likely, the Operator shall inform the Regulator within 1 working day.

7.7 Filtration plant shall be inspected at the frequency specified in the Table below;

Table- Filter Plant Inspection Frequency

Filter Cleaning Method	Frequency of Visual Inspection
Fitted with reverse jets	At least once a month
Fitted with mechanical shakers	At least once a week
Requiring manual shaking	Daily inspection or prior to any delivery being made if deliveries are not daily

7.8 Burners in mould and core making equipment shall be regularly inspected and maintained, to minimise methane leakage. A record of the inspection and maintenance shall be kept in the log book or recording system kept in accordance with condition 5.11 of this Permit.

8.0 Materials Handling

8.1 Sand shall be transferred from silos to mixers using enclosed systems.

8.2 Stocks of dusty, or potentially dusty, materials including waste sand shall be stored in containers, enclosed areas of the site, under cover or shall be treated with water in order to prevent emissions of particulate matter to the air.

8.3 Waste collection skips shall be covered with suitable material or their contents shall be treated with water in order to prevent emissions of particulate matter to the air.

8.4 The Operator shall ensure that any accumulation or spillage of particulate materials outside any building is cleaned up immediately by a wet method or vacuum cleaning. Dry sweeping is not permitted.

8.5 Arrested particulate matter from the filters serving abatement plant shall be collected into heavy duty bags or containers which shall be stored sealed.

8.6 Accumulations of materials likely to generate dust are not permitted outside any building. Spillages shall be cleared immediately.

8.7 Incoming scrap metal shall be clean (i.e. free from significant amounts of contamination such as dirt, foreign material, oily residues, paint or other organic materials) and a system shall be employed which ensures that only clean scrap is melted.

8.8 All waste storage areas shall be clearly marked and signed including containers, which shall be clearly labelled.

8.9 All waste liquids shall be stored in lidded or sealed containers and sited on an impervious base surrounded by an impervious bund.

9.0 Continuous Emissions Monitors

9.1 All emission points with airflow of 150m^3/min or more shall each be fitted with a continuous indicative particulate emissions monitor, to monitor emissions whenever the extraction system it serves is operating.

9.2 The particulate monitors serving emission points with airflow of 300m^3/min or more shall continuously record the particulate monitoring data. The dataloggers shall continuously monitor particulate emissions whenever the extraction system they serve is operating.

9.3 The furnace area extraction emission point EPS07 shall be fitted with a continuous indicative particulate emissions monitor and datalogger, which shall continuously record the particulate emissions data whenever the furnace area extraction is operating.

9.4 All continuous indicative particulate emissions monitors shall be fitted with a visual display and visual and audible alarms.

9.5 The alarms serving the continuous particulate monitors shall be set to trigger at a reference level equivalent to 75% of the emission limit value for the emission point they serve.

9.6 Alarm events from all continuous indicative particulate monitoring systems shall be automatically recorded.

9.7 Any continuous monitor used shall provide reliable data >95% of the operating time, (i.e. availability >95%). A manual or automatic procedure shall be in place to detect instrument malfunction and to monitor instrument availability.

9.8 All abatement plant with an airflow of less than 150m^3/min shall be fitted with a pressure drop indicator such as a magnehelic gauge to warn of arrestment plant failure.

9.9 A reading of the magnehelic gauges or other pressure drop indicators serving filters shall be taken and recorded on every operational day. Details of the reading shall be recorded in the log book or recording system kept in accordance with condition 5.11.

9.10 Where the magnehelic gauge reading falls outside the optimum parameters for the plant, the condition of the filters shall be investigated and rectified. Details of the corrective actions shall be recorded in the log book or recording system kept in accordance with condition 5.11.

9.11 The Operator shall ensure that a visual assessment of the continuous indicative monitors and associated alarms is carried out at least once in every three month period for any signs of damage. Any defects shall be repaired as soon as possible. Details of the checks and any repair work shall be recorded in the log book or recording system required by condition 5.11 of this Permit.

9.12 The Operator shall ensure that the continuous indicative monitors are kept in good working order, and are serviced and calibrated or referenced at least once in every 12 month period by a competent person. Details of the servicing or maintenance shall be recorded in the log book or recording system kept in accordance with condition 5.11 of this Permit.

9.13 A six monthly summary of automatically recorded data and alarm events from the continuous indicative monitors shall be forwarded to the Regulator twice per year. The first summary is required to be submitted by 14th January 2020.

9.14 No 15-minute mean emission concentration should exceed twice the specified emission concentration limits during normal operation (excluding start-up and shut-down).

9.15 New or replacement continuous indicative monitors shall be designed for less than 5% down time over any 3 month period. Details of any proposed replacement equipment shall be submitted to the Regulator for written approval prior to installation.

9.16 The probes to the continuous emissions monitors shall be cleaned at least once in every 6 months period. A record of the cleaning shall be noted in the log book or recording system kept in accordance with condition 5.11 of this Permit.

9.17 An alarm event procedure shall be implemented and trained out to relevant personnel on the steps to be taken in the event of an alarm from a continuous particulate monitor.

10. Chimneys and Process Vents

10.1 Stacks or process vents shall not be fitted with any restriction at the final opening such as a plate, cap or cowl, with the exception of a cone which has been fitted to increase the efflux velocity with prior written approval of the Regulator.

10.2 Exhaust gases discharged through a stack or vent shall achieve an exit velocity of 15m/sec or more during normal operating conditions, in order to achieve adequate dispersion. The discharge shall be vertically upwards.

10.3 Stack flues and duct work shall be checked and cleaned at least once every six month period in order to prevent an accumulation of materials. This shall be written into the site Maintenance Programme and a record of the check and clean made in the logbook or recording system required by condition 5.11.

11.0 Records and Training

11.1 Staff at all levels shall receive training and instructions necessary for their duties and shall include the following:

- Responsibilities under the Permit;
- Minimisation of emissions;
- Actions during abnormal emissions including dust suppression.

11.2 The Operator shall keep and maintain a statement of training requirements for each operational post and keep a record of the training received by each employee whose actions may have an impact on emissions. These documents shall be made available to the Regulator upon request.

11.3 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 process shall:-

a) be made available for inspection by the Regulator at any reasonable time;
b) be supplied to the Regulator 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 Permitted installation, or other location agreed by the Regulator in writing, for a minimum period of 2 years from the date when the records were made, unless otherwise agreed in writing.

12.0 Complaints

12.1 Within 2 weeks of the date of issue of this Permit, the Operator shall submit a written complaints procedure to the Regulator to be followed by the Operator in the event of any complaint from the general public, for approval in writing.

13.0 General Conditions.

13.1 External surfaces of the process buildings, ancillary plant, open yards and storage areas shall be inspected at least annually and cleaned if necessary to prevent the accumulation of dusty material. Particular attention shall be paid to roofs, guttering, roadways, external storage areas and yards. Cleaning operations shall be carried out by wet sweeping methods or vacuuming in order to minimise emissions of particulate matter to air.

13.2 The Operator shall notify the following to the Regulator in writing, within 14 days of their occurrence:-

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

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

a) The detection of an emission of any substance, which exceeds any limit or criterion in this Permit, specified in relation to the substance;
b) The detection of any fugitive emission that has caused, is causing or may cause significant pollution, unless the quantity emitted is so trivial that it would be incapable of causing pollution;
c) The detection of any malfunction, breakdown or failure of plant or techniques which has caused, is causing or has the potential to cause pollution;
d) Any accident, which has caused, is causing or has the potential to cause pollution.

13.4 The Operator shall give written notification to the Regulator in the following instances;

a) Permanent cessation of the operation of any part of, or all of the Permitted Installation;
b) Cessation of the operation of any part of, or all of the Permitted Installation for a period, likely to exceed 1 year;
c) Resumption of the operation of any part of, or all of the permitted installation after a cessation notified under (b) above.

13.5 All reports and notifications required by this Permit, or under any Regulation under the Environmental Permitting Regulations 2016, as amended, shall be sent to Regulator. Unless notified in writing, all reports, notifications and communications in respect of this Permit shall be sent to:

epsadmin@sheffield.gov.uk or ippc@sheffield.gov.uk
or

Sheffield City Council,
Environmental Protection Service,
Floor 5 Howden House
1 Union Street
Sheffield
S1 2SH.

13.6 The Operator shall implement and maintain a management system, organisational structure and allocate resources that are sufficient to achieve compliance with the limits and conditions of this Permit.

13.7 A copy of this Permit shall be held on the premises.

13.8 Complete and immediate access to the premises shall be granted to the Regulator upon request.

END OF CONDITIONS

Please Note

Where complaint is attributable to the operation of the installation and is, in the opinion of the Local Authority, justified, or if new knowledge develops on the potential for harmful effects from emissions, an immediate review of the Permit shall be undertaken. The Local Authority shall subsequently specify any new requirements and compliance time scales.

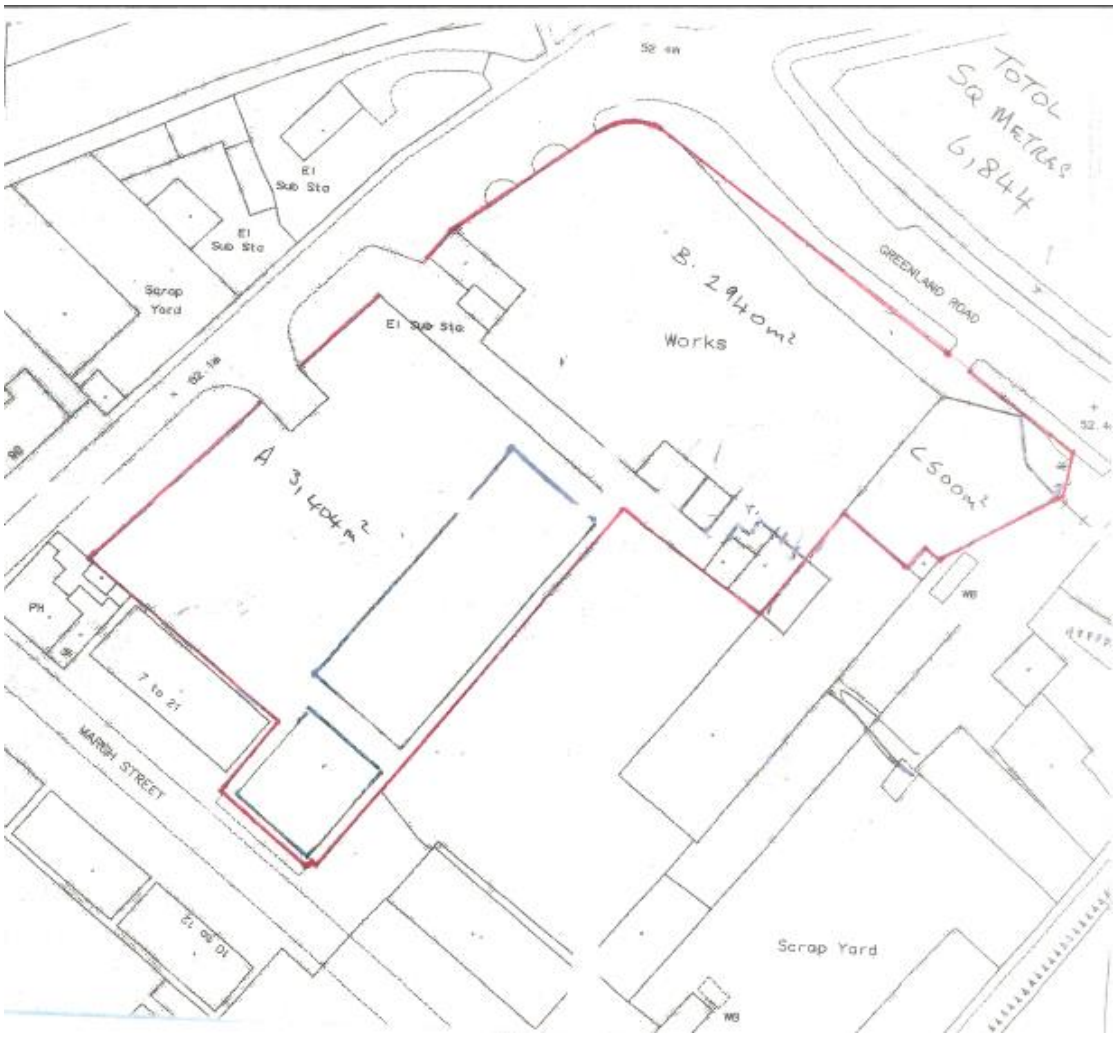
An annual subsistence fee as prescribed by the Secretary of State for the Environment shall be payable, for this Permit, by the process Operator, to this Authority within 2 weeks of the 1st April of each year.

In the event that the Permit has been issued after the 1st April in the initial year then the subsistence fee shall be pro rata for the complete months remaining and shall be due within 2 weeks of the Permit issue date.

If the relevant payment is not received by Sheffield City Council's Environmental Protection Service then Permit revocation procedures shall be initiated in accordance with Regulation 22 of the Environmental Permitting (England & Wales) Regulations 2016 or any statutory re-enactment of the same.

The requirements of this Permit are not to be taken as planning permission. Where any structural alterations are necessary to ensure compliance with this Permit then the normal planning channels should be followed.

Schedule 1 – Installation Location and Boundary



Schedule 2 – Installation Layout