



**POLLUTION PREVENTION AND CONTROL ACT 1999
ENVIRONMENTAL PERMITTING (ENGLAND AND WALES) REGULATIONS 2016**

**Permit Number:2.2/065825/ET
Installation Address:
Atomising Systems Limited
371 Coleford Road
Sheffield
S9 5NF**

In accordance with Regulation 13 of the Environmental Permitting (England and Wales) Regulations 2016 Atomising Systems Limited is hereby permitted to operate a scheduled activity at the address detailed above, namely the melting of non-ferrous metals in a plant with capacity less than 20 tonnes per day as described in Schedule 1, Part 2, Chapter 2, Section 2.2, Part B, subsection (a) and the melting of ferrous alloys using an electric induction furnace as described in Schedule 1, Part 2, Chapter 2, Section 2.1, Part B subsection (b) ii) and subject to the following Permit conditions.

Signed

Dated this day: 8th January 2018

**Dominic Stokes, Commercial Team Manager
Authorised by Sheffield City Council to sign on their behalf**

The Secretary of States Guidance Process Guidance Note 2/04(13) statutory guidance for iron, steel and non ferrous foundry processes (revised July 2013) has provided the framework for the conditions in this permit.

Name & Address of Operator:

Atomising Systems Limited
371 Coleford Road
Sheffield
S9 5NF

Contact: John Dunkley (0114) 262 6200
Email: jjd@atomising.co.uk
Company registration Number: 2731401

Registered Office:

Atomising Systems Limited
371 Coleford Road
Darnall
Sheffield
S9 5NF

Address of Permitted Installation:

Atomising Systems Limited
371 Coleford Road
Sheffield
S9 5NF

Holding Company

No holding company

Talking to Us

Any communication with Sheffield City Council should be made to the following address quoting the Permit Number:

**ENVIRONMENTAL PROTECTION SERVICE
SHEFFIELD CITY COUNCIL
5th Floor (North)
Howden House
1 Union Street
Sheffield
S1 2SH**

Tel: 0114 273 4651

Alternatively Email: epsadmin@sheffield.gov.uk

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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 of the Environmental Permitting (England and Wales) Regulations 2016, (“the EP Regulations”) to operate an installation carrying out activities covered by the description in Schedule 1, Part 2, Chapter 2, Section 2.2, Part B, subsection (a) and Section 2.1, Part B subsection (b) ii) of those Regulations.

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 (Monday to Friday 9.00 am to 5.00 pm) at the following address:

**ENVIRONMENTAL PROTECTION SERVICE
SHEFFIELD CITY COUNCIL
5th Floor (North)
Howden House
1 Union Street
Sheffield
S1 2SH**

Tel: 0114 273 4651

Alternatively 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 as amended.

Appeals

Under Regulation 31 of the EP Regulations operators have the right of appeal against the conditions attached to their permit. Schedule 6 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.

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 2016 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

Introduction

Atomisation is a process used to produce powders of metal alloys to very high tolerance levels with respect to shape, size and consistency. The metal powders are used in many industries and many applications ranging from solder and brazing pastes to catalytic converters and nanotechnology.

The main alloys produced on site are copper alloys and ferrous stainless steel alloys. Other alloys include nickel and precious metal alloys. The production capacity is 2000 – 5000 tonnes of powder per annum.

Production Processes

The process operates two main production atomisers.

- A gas atomiser used mainly for the production of non-ferrous and ferrous copper alloys (30%), ferrous stainless steel alloys (60%) and nickel based alloys (10%). The emissions from this are filtered through a dust extraction ltd 25MV filter before being vented to external atmosphere via stack ASL1
- A water atomiser used mainly to produce ferrous stainless steel powders. The emissions from this are filtered through a Nedermans MJB 31/XL/4-8 filter before being vented to external atmosphere via stack ASL4
- In addition to these there are several small atomisers. The small size and/or low frequency of operation of all of these atomisers means that their emissions are trivial. These systems are either enclosed or produce only fugitive emissions.
- A 30kg capacity atomiser for Research and Development and small batch production runs. The main alloys produced in this atomiser are silver based. This atomiser produces only fugitive emissions.
- Other small atomisers as required for Research and Development however the emissions from these atomisers are negligible.

Gas Atomisation

A schematic diagram of the gas atomisation process is included in Schedule 2 of this permit.

There is one gas atomiser. The process is a batch operation with a maximum of 200kg of material being induction heated in the crucible for each pour. The melting capacity of the Atomising Systems Limited bespoke electric induction furnace based on one melt per 45 minutes and an 8-9 hour operating day is 2.0 tonnes per day.

Raw Materials

The raw materials for the process are:-

- Metals –in ingot, slab or powder form.
- Recycled Powders – oversized powder from previous melts.
- Slag Coagulant Granules – a non-fuming slag coagulant (Slax 20) is used to prevent slag from the crucible entering the atomisation stage.

Melting

The raw metals for each melt are weighed and placed in a refractory crucible in the induction furnace, which is situated on a raised platform above the atomiser.

No fluxes are added to the raw materials.

Typically a melt will take 30-60 minutes to reach pouring temperature and for the alloy to be thoroughly mixed. The exact time varies depending on charge weight, alloy composition and the power setting of the furnace. During heating there is some loss of metal. This is mainly through the formation of slag. Approximately 0.55% of metal is lost as slag. During heating of a charge there are emissions from the furnace, which are collected in a hood and drawn through a filter (Schedule 2 FIL1). They will be vented through a stack (Schedule 2, ASL4) of height 7.87 metres after passing through a Nedermans MJB 31/XL/4-8 reverse jet bag filter.

The alloys produced in this furnace are copper, ferrous stainless steel and nickel alloys.

As soon as the metals are mixed and at an appropriate temperature the molten alloy is poured by tipping the furnace. The molten alloy is poured directly from the crucible and falls under gravity in to the gas atomiser. Here it meets a carefully controlled stream of nitrogen gas and is formed into the metal powder.

The powder then passes in to a cyclone which collects the metal particles above approximately 5µm in diameter. These larger particles fall to the bottom of the cyclone and are collected in a receptacle. Smaller particles are carried in the stream of nitrogen gas through to the dust filter.

Filtration and Exhaust

The gas and particles less than approximately 5µm pass through a dust extraction Limited 25MV filter which is exhausted through the nitrogen exhaust stack (ASL1) at a height of 7.22 metres. The filter has a pressure drop gauge which is checked monthly & a DB1 Probe alarm fitted which is wired through the PLC to warn the operator should the filter burst. A number of checks are made on this exhaust system under the Preventive Maintenance program.

1. Weekly check of Exhaust Filter Alarm.
2. Monthly check of pressure drop across filter.
3. Check and empty filter system dust container.

Sieving and Despatch

Once the atomisation of the batch is complete the powder collected in the receptacle is taken from the base of the cyclone and transferred to a sieve. Here oversize particles are separated from the finished product to be returned to the melting furnace.

At points where powder transport containers are connected and disconnected there is potential for small amounts of powder dust to escape. This dust is controlled by local exhaust ventilation (LEV) points at appropriate places. All such LEV systems are filtered and exhausted internally as fugitive emissions.

The finished powder passes through the sieve and is collected in barrels ready for despatch to the customer. In most cases powders are stored inside a sealed plastic bag inside the barrel. This protects the powder from the atmosphere and gives a secondary containment should the barrel be dropped and break open.

Water Atomisation

High Pressure Water Atomiser

The high pressure water atomiser has a 750Kg Atomising Systems Limited bespoke electric induction furnace to produce powders of Stainless Steels and other ferrous alloys. The atomiser uses high pressure water in a closed system to produce the powder so there are no emissions to air from the atomisation process other than from the furnace.

After atomising the powders are dried, blended then sieved for delivery to the customers.

Water atomisation is represented schematically in Schedule 3 of this permit.

Raw Materials

The raw materials for the process are:-

- Metals – these are generally in ingot, slab or powder form.
- Recycled Powders – oversized powder from previous melts.
- Slag Coagulant Granules – a non-fuming slag coagulant (Slax 20) is used to prevent slag from the crucible entering the atomisation stage.

Melting

The raw metals for each melt are weighed and placed in a refractory crucible in the induction furnace. The induction furnace is situated on a raised platform above the atomiser.

No fluxes are added to the raw materials.

Melts are expected to take 30-60 minutes to reach pouring temperature and for the alloy to be thoroughly mixed.

While heating a charge there are emissions from the furnace. As no fluxes are used these will mostly be in the form of metal oxide particulates including Iron, Nickel, Chromium, Manganese and Molybdenum.

The emissions from the furnace are collected in a hood and drawn through vents and extracted through a Nedermans MJB 31/XL/4-8 reverse jet bag filter which exhausts through a stack (Schedule 3, ASL4) of 8.0 metres in height.

As soon as the metals are mixed and at an appropriate temperature the molten alloy is poured by tipping the furnace.

Atomisation and Drying

The molten alloy is poured directly from the crucible and falls under gravity in to the atomiser. Here it meets a carefully controlled stream of water and is formed into the metal powder.

There are no emissions to air from the atomiser. The wet powder and water then pass in to a centrifuge where the water is extracted for recycling. The powder passes into double-cone vacuum driers for drying.

Sieving, Blending and Despatch

Once the drying of the batch is complete the powder is transferred to a blender where a single large lot of powder can be blended.

As with the gas atomisation process LEV extraction points are used wherever dust may be released.

After blending the powder is transferred to sieving where oversize particles are separated from the finished product to be returned to the melting furnace.

The finished powder is finally transferred to barrels ready for despatch to the customer. In most cases powders are stored inside a sealed plastic bag inside the barrel. This protects the powder from the atmosphere and gives a secondary containment should the barrel be dropped and break open.

General powder handling

During normal production emission of powders is controlled by using local exhaust ventilation (LEV) at all points where emissions are likely. These LEV points are extracted through a filtration system and exhausted internally as fugitive emissions. This has been found to give adequate control at the current site.

In the case of spillage or during some maintenance procedures a vacuum cleaner with appropriate filter is used to collect the powder and minimise dust.

Section 1 – Upgrading Requirements

No upgrading requirements.

Section 2 – Plant and Equipment

- 2.1 The process shall be carried out within the boundary outlined in red as indicated on the site plan shown in Schedule 1.B of this permit.
- 2.2 Permitted activities shall only be carried out using the plant and equipment detailed in the Description of Activities section of this permit, the Process Schematics in Schedule 2 and 3 of this permit and the Critical Equipment Inventory, Schedule 4.
- 2.3 Any changes to the plant and equipment specified in the Description of Activities section, the Process Schematics in Schedule 2 and 3 of this Permit and the Critical Equipment Inventory in Schedule 4 or changes to the layout as shown in Schedule 1B and 1C of this Permit that may have an impact on emissions to atmosphere, shall be notified in writing to Sheffield City Council's Environmental Protection Service at least 14 days prior to such changes are made.
- 2.4 A minimum discharge velocity of 15m/s shall be applicable to all stacks. The discharge shall be vertically upwards.

Section 3 – Production Capacity

- 3.1 The installation shall produce less than 20 tonnes per day of finished ferrous product.
- 3.2 The installation shall melt less than 20 tonnes of non-ferrous metal per day.
- 3.3 The Operator shall maintain a record of production to demonstrate compliance with condition 3.1 and 3.2 of the Permit. The record shall include the melt figures for each day in tonnages. The record shall be kept on site and be available for inspection by officers of Sheffield City Council's Environmental Protection Service. It shall be forwarded at least once in every six month period to Sheffield City Council's Environmental Protection Service. The next record shall be submitted by 30th June 2018.

Section 4 – Emissions Limits and Controls

- 4.1 All emissions to air, shall be free from persistent visible emissions. Visible emissions shall not exceed Ringelmann Shade 1 as described in British Standard BS 2742:2009.
- 4.2 The following emission concentration limits shall apply to releases from the process at the extraction points ASL1, ASL3 and ASL4 (as identified on the plan in Schedule 1C Detailed Site Layout, of this permit) and shall not be exceeded:

Substance	Limit
Total particulate matter	20 mg/m ³
Copper and Copper Compounds	5 mg/m ³
Nickel, Cobalt and their Compounds (Total in Combination)	5 mg/m ³
Chromium and its Compounds (Total in Combination)	1 mg/m ³
Tin and its Compounds	5 mg/m ³

- 4.3 In the reporting and keeping of emissions monitoring results, all pollutant concentrations shall be expressed at reference conditions 273k, 101.3kPa. The oxygen and water references shall be that which correspond to the normal operating conditions in the process.
- 4.4 There shall be no burning in the open air in connection with the activities within the installation boundary.
- 4.5 There shall be no offensive odour detectable beyond the site boundary, as perceived by an authorised officer of Sheffield City Council's Environmental Protection Service.
- 4.6 The use of odour masking agents is not permitted. Where offensive odour is detected at the process boundary, counteractants may be used only by agreement in writing of the Sheffield City Council's Environmental Protection Service.
- 4.7 The Operator shall ensure that the temperature of melted alloy is adequately controlled to prevent excessive fuming during pouring.
- 4.8 The addition of fluxes to the melting furnace shall not be permitted.

Section 5 – Monitoring, Sampling and Measurement of Emissions

- 5.1 The Operator shall undertake periodic monitoring to demonstrate compliance with emissions limits specified in condition 4.2 of this Permit. The frequency of this monitoring shall be at least once in every 12 month period or as otherwise agreed in writing by Sheffield City Council's Environmental Protection Service. The next monitoring exercise is due in November 2018.
- 5.2 Monitoring shall be carried out in accordance with methods described in M1 "Sampling requirements for monitoring stack emissions to air from industrial installations" and M2 "Monitoring of stack emissions to air", or by another method agreed in writing by Sheffield City Council's Environmental Protection Service.
- 5.3 Non-continuous emissions monitoring of particulate matter from the emission points shall be carried out in accordance with the main procedural requirements of BS ISO12141:2002 or BS EN 13284:Part 1 with averages taken over operating periods excluding start up and shut down, or by another method agreed in writing by Sheffield City Council Environmental Protection Service. Sampling equipment should be capable of collecting particulate matter of 0.1 microns diameter or less, with an efficiency of at least 75%.
- 5.4 Results of non-continuous monitoring shall include details of process conditions at the time of monitoring, monitoring uncertainty and any deviations from the procedural requirements of standard reference methods and any error invoked from such deviations.
- 5.5 Six monthly summary reports of automatically recorded alarm events from the continuous monitor shall be forwarded to Sheffield City Council's Environmental Protection Service. The next summary is required to be submitted on 31st March 2018.
- 5.6 Sheffield City Council's Environmental Protection Service shall be advised at least 7 days in advance of any periodic stack monitoring exercise. The site specific monitoring protocols shall be submitted and include the stacks to be tested, pollutants to be monitored, methods to be used and the competencies of the consultants undertaking the testing.
- 5.7 The results of periodic monitoring tests shall be forwarded to Sheffield City Council's Environmental Protection Service, within 8 weeks of completion of the testing.
- 5.8 The introduction of dilution air to achieve emission limits is not permitted.
- 5.9 Chimneys and process vents shall not be fitted with any restriction at the final opening such as a plate, cap or cowl other than a low resistance cowl. A cone fitted to increase the efflux velocity is permitted provided that the discharge is vertically upwards
- 5.10 The operator shall notify Sheffield City Council's Environmental Protection Service without delay in the event of:

- An emission that is likely to have an effect on the local community; or
- There is a failure of arrestment plant.

The report to Sheffield City Council's Environmental Protection Service shall include:

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

5.11 Where the results of any monitoring demonstrate a breach of the emission concentration limit, 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 demonstrate compliance with the emission concentration limit specified;
- Submit the emissions monitoring report to Sheffield City Council's Environmental Protection Service within 7 days of receipt of the results;
- Record details of investigations and outcomes.

5.12 The Operator shall ensure that a log book or recording system containing all results of inspections, tests and assessments made in accordance with this Permit is kept. These records shall include the date and time of the inspection or assessment, the nature, colour, persistency and intensity of any emission and a name of the person carrying out the inspection. Adverse results shall be investigated immediately and in all cases be recorded in the recording system. The log book or recording system shall be kept on the premises available for inspection by authorised officers of Sheffield City Council's Environmental Protection Service. Such records shall be kept for a minimum of two years and shall be furnished in writing to Sheffield City Council on demand.

5.13 The Operator shall ensure that a visual assessment of emissions from the stack serving the furnaces shall be carried out once a day when the furnaces are being charged. The assessments shall last for a minimum of two minutes. The results of the visual assessments shall be recorded in the log book or recording system kept in accordance with this Permit.

5.14 The Operator shall ensure that adverse results from the assessments carried out in accordance with condition 5.13 of this 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 this Permit.

Section 6 – Maintenance

- 6.1 The Operator shall keep a schedule of maintenance with regard to all plant, buildings and the equipment concerned with the control of emissions to air. It shall be made available to Sheffield City Council Environmental Protection Service upon request. The Operator shall keep a record of maintenance regarding pollution control equipment and conveyor systems which shall be made available for inspection by the Environmental Protection Service at Sheffield City Council.
- 6.2 Details of all maintenance, whether planned or unplanned, shall be recorded in the log book or recording system kept in accordance with this Permit. Any malfunction or breakdown leading to abnormal emissions shall be dealt with promptly and process operations adjusted until normal operations can be restored. All such malfunctions shall be recorded in the log book kept in accordance with this Permit
- 6.3 Chimneys, flues and duct work shall be inspected regularly to prevent the accumulation of material. Any such cleaning or inspection shall be recorded and details shall be kept on site for a period of at least two years. The details shall be made available to officers of Sheffield City Council's Environmental Protection Service upon request.
- 6.4 Spares and consumables subject to continual wear shall be held on site or shall be available at short notice from guaranteed suppliers.
- 6.5 Any emissions to atmosphere outside the normal range of the process when operating under routine operating parameters, such as those caused by any failure, breakdown, malfunction or bypass or arrestment equipment or plant shall be notified to Sheffield City Council's Environmental Protection Service at the earliest opportunity and in any event not later than 10.00 a.m. on the next working day. Process operations shall be adjusted as necessary in order to minimise emissions until normal conditions can be restored. Any such occurrence shall be recorded in the log book kept in accordance with condition 5.12 of this Permit.
- 6.6 Records of breakdowns and plant failure shall be kept and analysed in order to eliminate common failures. The records shall be made available for inspection by officers of Sheffield City Council's Environmental Protection Service on demand.
- 6.7 The Operator shall ensure that all abatement plant is serviced at least once in every 12 month period by a competent person. Details of the maintenance shall be kept on site and made available for inspection by authorised officers of Sheffield City Council's Environmental Protection Service.

Section 7 – Materials Handling

- 7.1 All potentially dusty materials shall be stored in covered containers or under cover, including raw materials, processed materials and waste materials.
- 7.2 The Operator shall ensure that any spillage of particulate materials is cleaned up immediately by a wet or vacuum cleaning method.
- 7.3 Bag filters shall be changed in such a manner as to minimise the possibility of fugitive emissions.
- 7.4 Transfers of potentially dusty materials (raw materials, processed materials and waste materials) shall be carried out by methods that minimise the potential of emissions and spillages.

Section 8 – General Conditions

- 8.1 Staff at all levels shall receive training, instructions and supervision necessary for their duties and shall include the following:
 - responsibilities under the Permit;
 - proper use of equipment;
 - effective preventative maintenance;
 - minimisation of emissions at start up and shut down;
 - actions during abnormal emissions including minimisation of emissions.
- 8.2 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 to atmosphere. These documents shall be made available to Sheffield City Council's Environmental Protection Service upon request.
- 8.3 Chimneys, flues and ductwork leading to the chimneys shall be adequately insulated to minimise the cooling of waste gases and prevent liquid condensation on internal surfaces.
- 8.4 External surfaces of the process buildings, ancillary plant and open yards and storage areas shall be kept clean to prevent the accumulation of dusty material in circumstances where dust may become wind entrained. Particular attention shall be paid to roofs, guttering, roadways, external storage areas and yards
- 8.5 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.

8.6 The Operator shall give written notification to Sheffield City Council 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) Any proposed change in the operation of the installation; and
- d) Resumption of the operation of any part of, or all of the Permitted installation after a cessation notified under (b) above.

8.7 The Operator shall notify the following matters to Sheffield City Council's Environmental Protection Service, in writing, within 14 days of their occurrence:

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

8.8 All reports and notifications required by this Permit, or under any Regulation under the Environmental Permitting Regulations 2016, as amended, shall be sent to Sheffield City Council's Environmental Protection Service. Unless notified in writing, all reports, notifications and communications in respect of this Permit shall be sent to:

**ENVIRONMENTAL PROTECTION SERVICE
SHEFFIELD CITY COUNCIL
5th Floor (North)
Howden House
1 Union Street
Sheffield
S1 2SH**

Tel: 0114 273 4651

END OF PERMIT 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 Section 22 of the Environmental Permitting (England & Wales) Regulations 2016 as amended or any statutory re-enactment of the same.

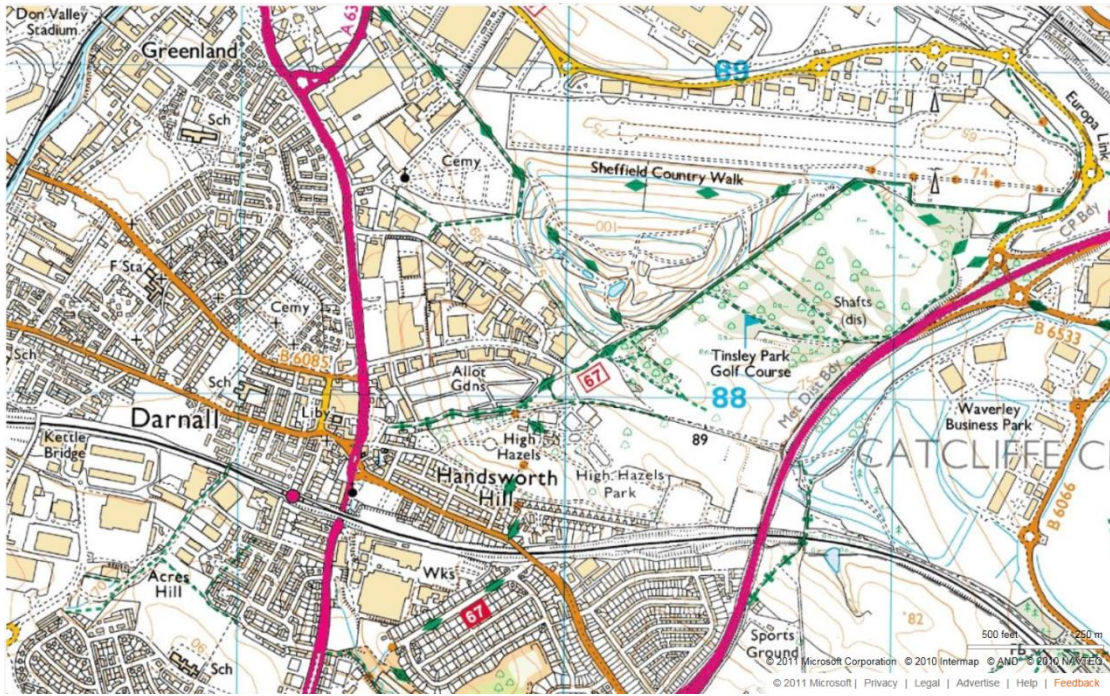
The requirements of this Permit are not to be taken as planning permission. Where any structural alterations are necessary to ensure compliance with this Permit then the normal planning channels should be followed.

Schedule 1 A- General Location

Atomising Systems Limited premises are located to the east of Sheffield City Centre at Coleford Road, Darnall.

The postcode is S9 5NF

The grid reference is SK 399 881



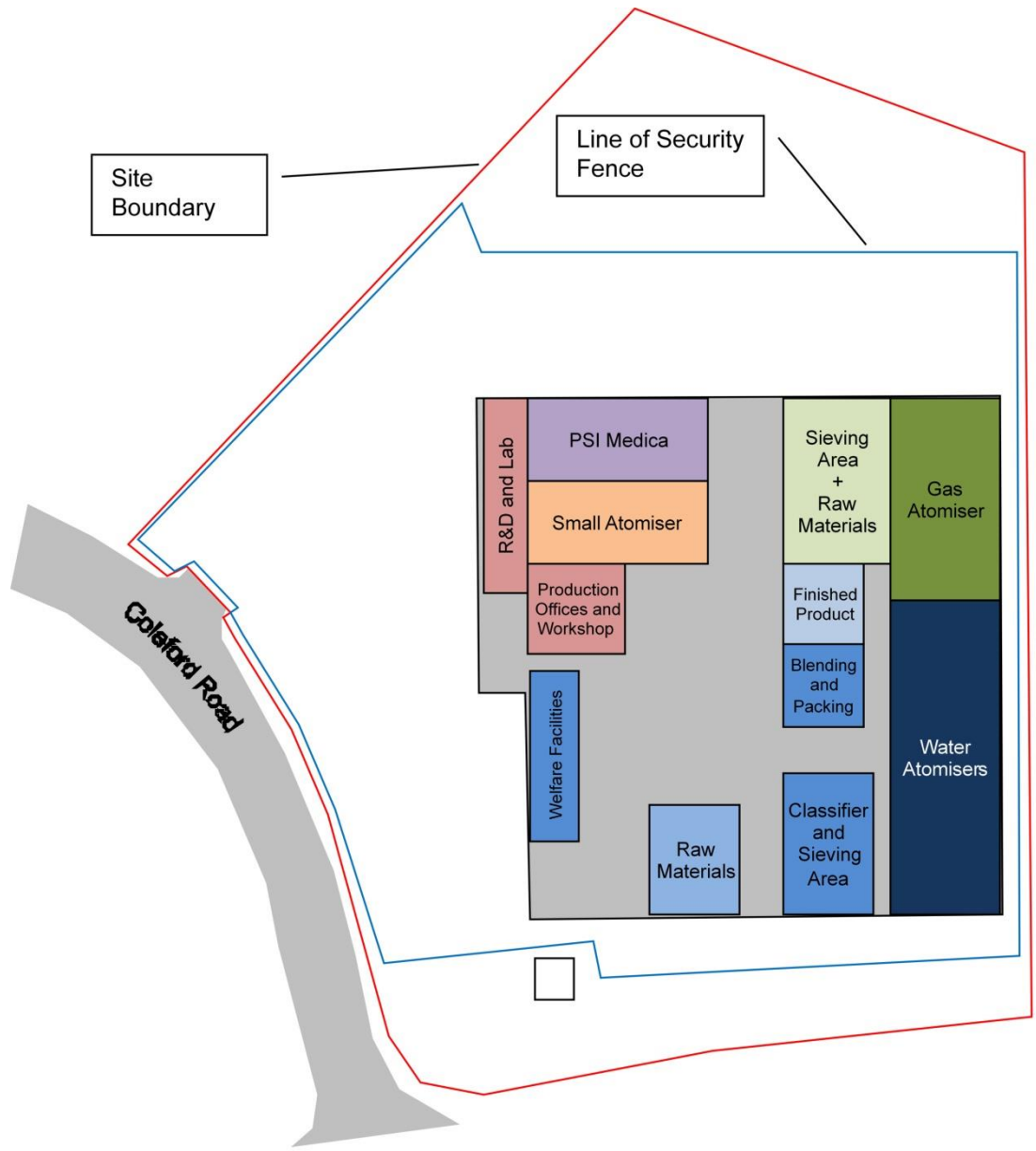
The location (indicated by the red circle above) is on the edge of an industrial area.

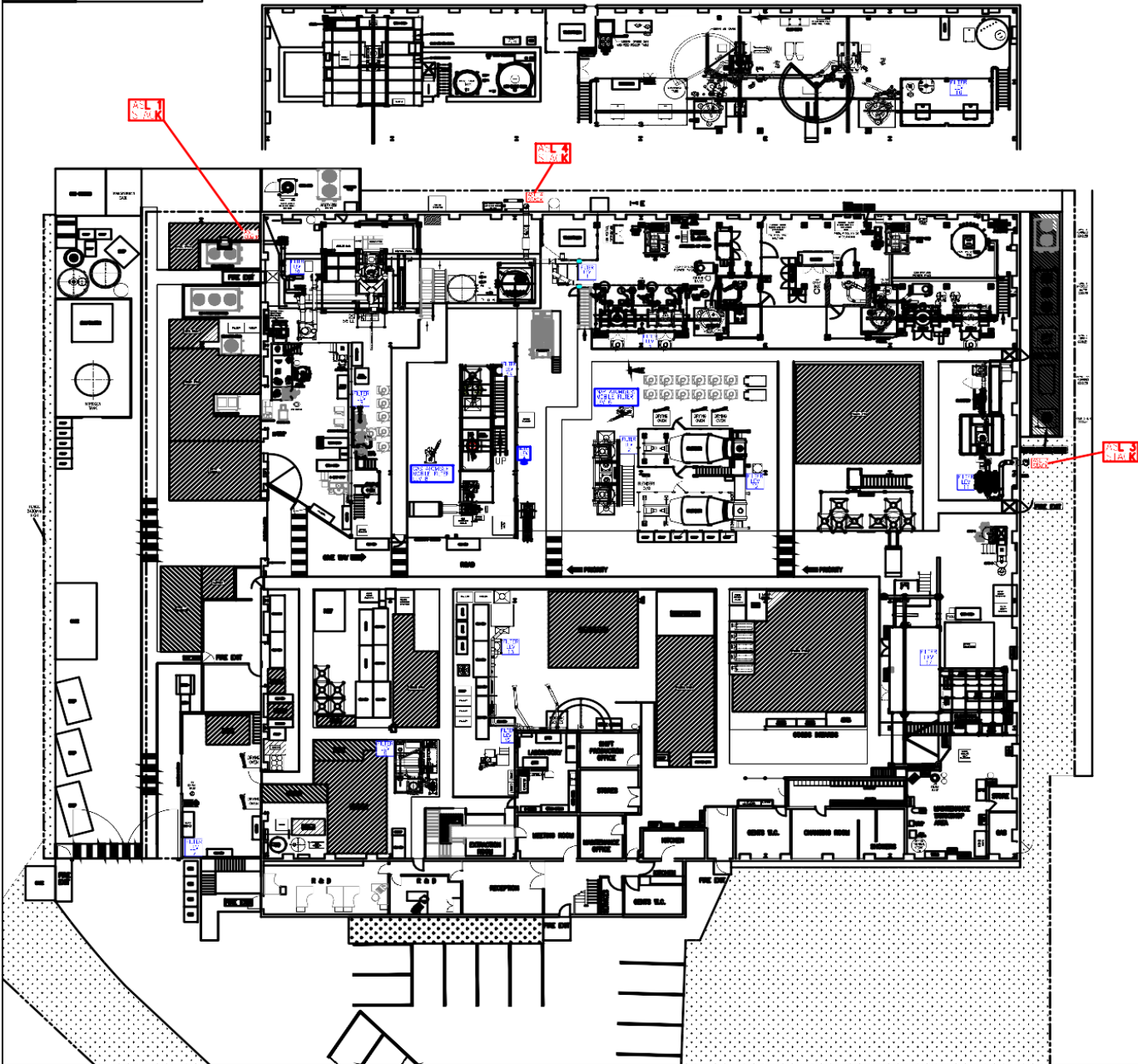
Schedule 1 B Plan of Site

P.1 General Site Layout

The main work floor of the factory is approximately 50m x 55m (2,750m² floor area).

The height of the building is approximately 6.5m at the top of the roof.

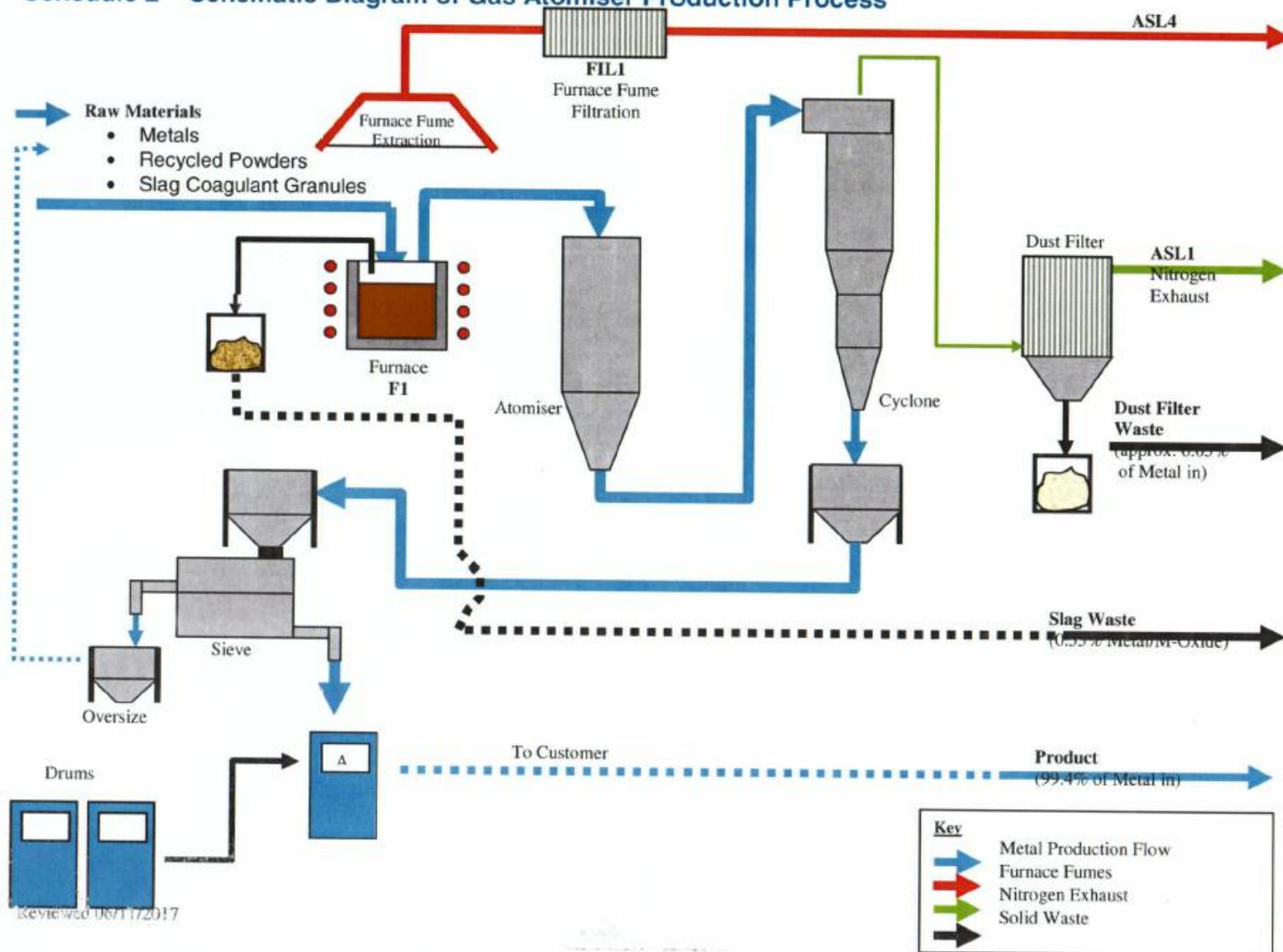


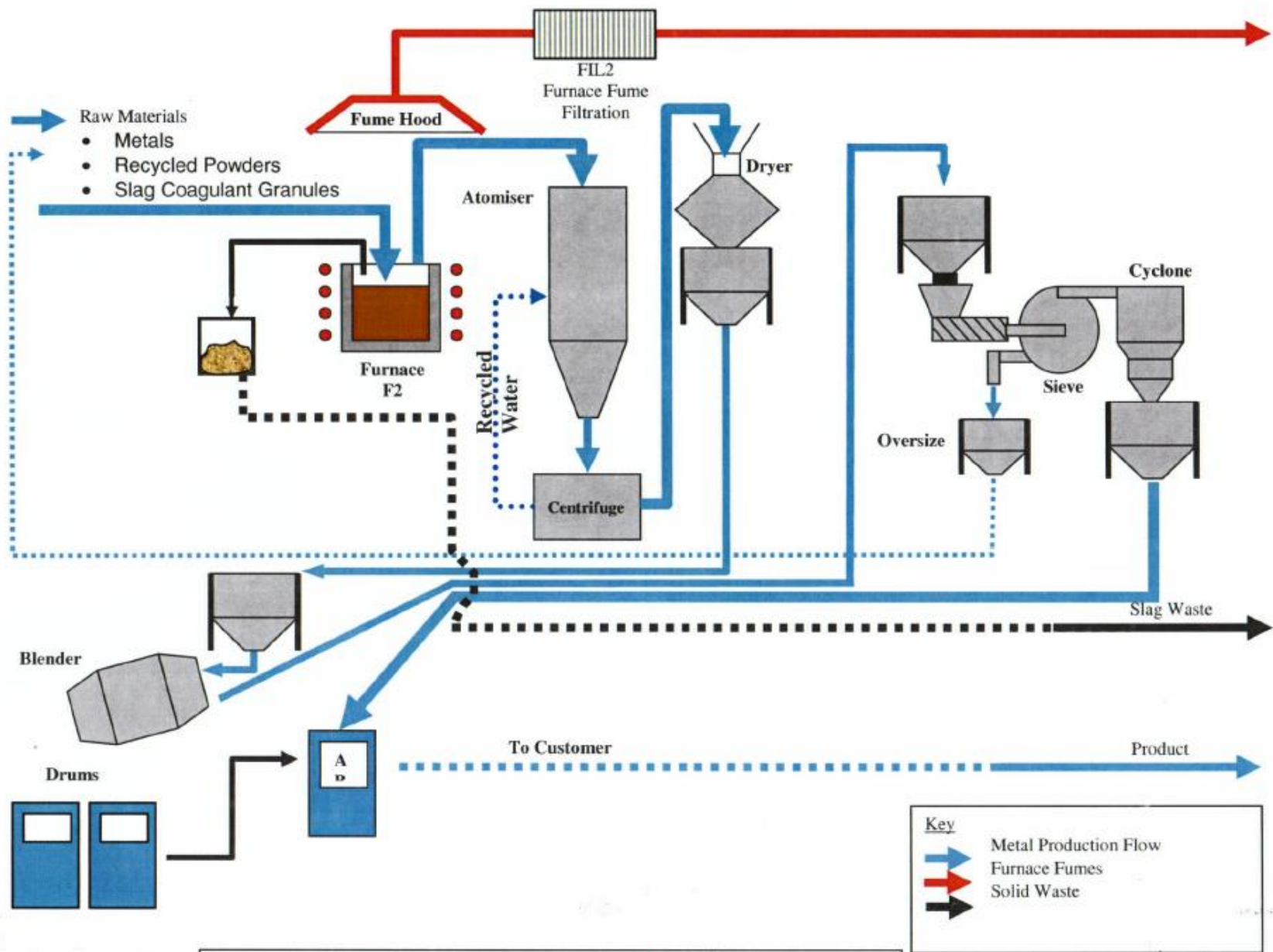


Schedule 1C Plant Layout

REV	NO	MATERIAL	DESCRIPTION	DRAWING	SUPPLIER
REV	NO	MATERIAL			
REV	NO	MATERIAL			
REV	NO	MATERIAL			
REV	NO	MATERIAL			
			ATOMISING SYSTEMS LIMITED		
			TITLE P2 DETAILED SITE LAYOUT (LOCATION OF DUST EXTRACTION AND FILTERS)		
			SCALE 1:150	SHEET A1	DRAWING NO ENVH-CC-03
					REV

Schedule 2 – Schematic Diagram of Gas Atomiser Production Process





Reviewed 06/11/2017

Schedule 3-Diagram of UHP Atomiser Production Process

Reviewed 06/11/2017

SCHEDULE 4 CRITICAL EQUIPMENT INVENTORY

The equipment listed below is the critical equipment on site which has an effect on production or abatement of emissions to atmosphere from the site.
 ADDITIONS OR AMMENDMENTS ARE IN RED.

Atomisers and Furnaces

Equipment	Make	Model	Serial Number	Site Plan Reference	Notes
Gas Atomiser	ASL		072165101	ASL 1	Nitrogen gas exhaust emissions go through Dust Extraction Ltd 25mv filter, then through ASL 1 stack – Ref LEV 10 on site plan. Designed and Manufactured by Atomising Systems Ltd.
Water Atomisers 1 & 2	ASL				No emissions from Atomiser. Designed and Manufactured by Atomising Systems Ltd.
Gas Atomiser Induction Furnace	TAYLORMADE	200 kW/200kg	388015.090	ASL 4	Fumes extracted through reverse jet bag filter Nedermans MJB/31/XL/4-8 – Ref LEV 1 on site plan.
Water Atomisers 1 & 2 Induction furnace	TAYLORMADE	500kW/500kg	388015.090	ASL 4	Fumes extracted through reverse jet bag filter Nedermans MJB/31/XL/4-8 – Ref LEV 1 on site plan.

Externally Exhausted Extraction and Filtration Systems

Equipment	Make	Model	Serial number	Site Plan Reference	Notes
Gas Atomiser Filtration	Dust Extraction ltd	25MV	072165101	ASL 1/ LEV 10	Filtration on Nitrogen Exhaust
Classifier Filtration	British Rema	MAC 2	H61876	ASL 3/ LEV 11	Filtration of Classified Powder through LEV 11, then vented through stack ASL 3.
Furnace Extraction and Filtration	Nedermans	MJB/31/XL/4-8	388015.090	ASL 4/ LEV 1	Furnaces fume extraction and filtration for UHP water, Gas Atomiser.

Internal Extraction and Filtration Systems

Equipment	Make	Model	Serial number	Site Plan Reference	Notes
Blenders 1&2	Nedermans	Auto M Z15	6008953	LEV 2	This is internally vented – Ref LEV 2 on site plan.
Turboscreen 1 Dust Extraction	DCE	Unimaster/UMA 100		LEV 3	No Serial Number visible. This is internally vented – Ref LEV 3 on site plan.
Packing NAP	Dust Extraction Ltd	DEI 15M	052088701	LEV 4	This is internally vented – Ref LEV 4 on site plan
Line 1 Centrifuge platform & Dryers 1&2	Dustcontrol	TLD 30 DC300 stat	14375	LEV 5	This is internally vented – Ref LEV 5 on site plan
Mobile Extraction Unit (NAP use)	Nedermans	N24 Mobile Extraction Unit	11395-00 /14510122/383444	LEV 6	Internally vented and used anywhere on shop floor but mainly in NAP section – Ref LEV 6 on site plan
Tundish preparation Room	Nedermans	Filterbox	12600163	LEV 7	This is internally vented – Ref LEV 7 on schematics
Packing Gas	Nedermans	Mobile Extraction Unit	DF 6008953	LEV 8	This is internally vented – Ref LEV 8 on site plan
Finesol Classifier	Turbo Controls	Turbo Dustcheck	6949Y 12	LEV 9	This is internally vented – Ref LEV 9 on site plan
Allgaier Sieves 3 & 4	JEC VAC	Cyclone Filter	150343-87377	LEV 12	This is internally vented – Ref LEV 12 on site plan
Hopper Decanting Booth & UHP Charge area	Donaldson Torit DCE	UMA253G8	3320604	LEV 13	This is internally vented – Ref LEV 13 on site plan
VIRTO Sieves 1 & 2 + Russell Sieve 2 Big Gas	JEC VAC	Cyclone Filter	150344-87377	LEV 14	This is internally vented – Ref LEV 14 on site plan
Inside & outside of both Labs + UHP Charge area	LAJAC	Cyclone Filter	160291-92516	LEV 15	This is internally vented – Ref LEV 15 on site plan
Line 2 Centrifuge platform & Dryers 3&4	JEC VAC	Cyclone Filter	150345-87377	LEV 16	This is internally vented – Ref LEV 16 on site plan
Line 3 Platform & Dryers 5&6	LAJAC	Cyclone Filter	160563-94959	LEV 17	This is internally vented – Ref LEV 17 on site plan (not connected electrically yet)