



CONSOLIDATED PERMIT

**POLLUTION PREVENTION & CONTROL ACT 1999
Environmental Permitting (England and Wales) Regulations 2016
(As Amended)**

**Document A
Environmental Permit
FEDERAL-MOGUL COVENTRY LIMITED
Reference Number PPC/197**

Coventry City Council (“the Council”) in accordance with Section 13(1) of the Environmental Permitting (England & Wales) Regulations 2010 (“The Regulations”), hereby permits:

FEDERAL-MOGUL COVENTRY LIMITED (Company No. 116952)

Whose registered office is:

**c/o Federal-mogul Limited,
Manchester Int’l Office Centre
Styal Road
Manchester
M22 5TN**

To operate a Part B installation involving the melting of ferrous alloys using electrical induction furnaces as prescribed in Section 2.1 Part B(b)(ii) of Schedule 1 to The Regulations at:

**FEDERAL-MOGUL COVENTRY LIMITED
Holbrook Lane
Holbrooks
Coventry
CV6 4BG**

The permit is subject to the conditions specified in this document consisting of 21 pages.

Signed.....

**Simon Brake – Assistant Director, People Directorate
A person authorised to sign on behalf of the Council**

Dated

SCOPE

The installation comprises not just any relevant unit carrying out a Part B activity listed in Schedule 1 to the Regulations, but also directly associated activities which have a technical connection with that activity and which could have an effect on pollution.

Technical Guidance documents used in the preparation of this document:

- Process Guidance Note 2/03(13) Statutory guidance for electrical furnaces (Defra, April 2013)
- Process guidance Note 2/04(13) Statutory guidance for iron, steel and non-ferrous foundry processes (Defra, April 2013)
- Secretary of State's Guidance – General Guidance Manual on Policy and Procedures for A2 and B installations (Defra April 2012).

Date annual fee required: 1st April of each financial year

Date for full Compliance: Date permit issued

Permit prepared by: Steven Dewar

LEGISLATION

1. Pollution Prevention and Control Act 1999.
2. The Environmental Permitting (England & Wales) Regulations 2016 (As Amended) (hereafter referred to as "The EP Regs.").

Definitions referred to in this permit

- An **Activity** is an industrial activity forming part of an installation. Different types of activity are listed within Schedule 1 of the EP Regulations and are broadly broken down into industrial sectors. Other “associated” activities may also form part of an installation.
- An **Installation** comprises not just any relevant unit carrying out a B activity listed within Schedule 1 to the EP Regulations, but also directly associated activities which have a technical connection with a schedule 1 activity and which could have an effect on pollution.
- An **Operator** is the person (e.g. a company or individual) who has control over the operation of an installation.
- **Authorised Officer** shall mean an officer authorised to carry out duties under the Pollution Prevention and Control Act 1999 and subordinate regulations
- **Logbook** shall mean any electronic or paper means of storage of the required information as agreed by the regulator
- **Regulator** shall mean Coventry City Council.
- **Organic solvent** shall mean any VOC which is used alone or in combination with other agents, and without undergoing a chemical change, to dissolve raw materials, products or waste materials, or is used as a cleaning agent to dissolve contaminants, or as a dissolver, or as a dispersion medium, or as a viscosity adjuster, or as a surface tension adjuster, or a plasticiser, or as a preservative.
- **Volatile organic compound (VOC)** shall mean any organic compound having at 293K a vapour pressure of 0.01 kPa or more, or having a corresponding volatility under the particular conditions of use.
- **Stack** includes structures and openings of any kind from or through which substances may be emitted to air.
- **Duct** includes enclosed structures through which gaseous substances may be conveyed.
- **Process vent** includes open terminations of ducts.
- "m" means metre
- "m/s" means metres per second
- **Due diligence** the use of these words in the odour boundary condition means that there shall not be a breach of the condition if the operator can show that he/she employed the BAT. Accordingly, any emission of offensive odour where the operator can show that he/she employed BAT ought not to give rise to the Regulator issuing proceedings against the operator for the breach of an odour boundary condition.
- **Best Available Techniques (BAT)** In relation to any aspect of the process not regulated by specific conditions in this permit, then Best Available Techniques shall be used:

For the purposes of the Environmental Permitting (England & Wales) Regulations 2010 “best available techniques” 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 basis for emission limit values designed to prevent and, where that is not practicable, generally to reduce

emissions and the impact on the environment as a whole; and for the purpose of this definition –

- a) “available techniques” means those techniques which have been developed on a scale which allows implementation in the relevant industrial sector, in the 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;
- b) “best” means, in relation to techniques, the most effective in achieving a high general level of protection of the environment as a whole;
- c) “techniques” includes both the technology used and the way in which the installation is designed, built, maintained, operated and decommissioned.
- d) Further guidance can be obtained from the Secretary of State’s Guidance - Environmental Permitting General Guidance Manual on Policy and Procedures for A2 and B Installations.

Description of Installation

Installation of a material development facility (known as an MDF) which will take virgin material in ingot form through a process comprising smelting, atomising, annealing and grinding to produce a fine metal tool steel powder; using a melting and atomizing process.

All raw materials are stored inside at ambient temperature. Two electrical induction furnaces of capacity 50kg and 300 kg (F and I **Appendix 3**) will produce molten metal which is poured through a high pressure water curtain to solidify and form a fine solid metal slurry, this then goes through a centrifuge and drier to remove water so that the slurry dries into powder form. This is then sintered in a vacuum furnace, followed by milling, grinding and sizing to achieve the required powder specification. The process is mostly a closed loop system extracting emissions of metal fume and particulate matter from the furnaces; and dust from the grinding/milling plant through one main stack via abatement plant consisting of a bag filtration unit fitted with heat resistant fabric filters before discharging to atmosphere.

The arrestment plant (marked “Main Stack” on the site plan **Appendix 1a**) serving the main stack comprises an AAF Fabripulse M6-168 bag filtration unit (BFU) fitted with Ryton high temperature material (sulfar) fabric filters for abatement of particulate matter and metal fumes.

Lip extraction on the furnace lids and a mobile extraction hood will be used. Emissions of dust and metals will be tested annually by a manual extractive test and staff from the site will carry out regular visual and olfactory (odour/smell) assessments to ensure there are no problems beyond the site boundary.

The location of the MDF (the installation) showing the installation boundary is shown in **Appendix 1a**, with **Appendix 1b** (aerial view) plus the attached plans; site schematic, process flow and layout plan show the production steps and extraction points in the area.

The melt is a combination of the listed ingots depending on the product “recipe” (see “Raw material listing” **Appendix 5**) and raised to the required temperature. Metal fumes are given off during the heating up and melting stage and these are captured by the lip extraction on the furnace lids. Lids are kept closed during the melting stage until the metal is ready for pouring. The movable extraction hood will be in place to capture and extract fumes when the furnace lids are opened (see **Appendix 4** – fume extraction).

The metal is then poured into a methane preheated tundish; the tundish casings are fabricated from mild steel to house a tundish crucible and designed to be lined with a castable ceramic material. From the tundish the molten metal flows in a controlled stream into the high pressure water jets within the purged atomiser vessel; hydrogen and nitrogen gas is expelled at this point. Any emissions at this pouring stage will be captured by the movable extractor hood which swivels on an arm to extract from above either furnace when they are being opened at the end of a melt and molten metal is poured out into the water jets. The movable extraction hood will also be used above the pouring area if any metal loads from the furnaces have to be poured into dump moulds.

As the molten metal is poured into the high pressure water jets, it solidifies into small metal particles which form a wet powder metal slurry (the slurry is the product, not to be confused with waste slurry). The resulting slurry product is then pumped continuously by the slurry pump to the water separation part of the system (centrifuge, marked J on plan). ‘Dirty warm’ water is transferred from the centrifuge to a header tank via a filter and a heat exchanger; it can then be recycled back through the system (in a closed loop) once the water has cooled down. The “dirty” cool water then runs through a magnetic separator to remove any metal and the water is reused; it does not get discharged. Once dewatered the product can be

lifted out of the centrifuge and transferred to the double cone drying system (marked “K” on plan).

From the drying system the product is then transferred to the screening system (marked as a sieve “L” on plan) where particles over 180-250 microns are screened out and the powder is loaded into suitable sized drums with a dispensing valve; this is an enclosed process. The drums of powder will then have a small amount of carbon added (<1kg) and blended in a contained unit (marked as “M” blender on plan).

When in powder form the product is transferred between parts of the process in IBC’s or steel trays. The powder will be enclosed for the majority of the process, but where it is possible for dust emissions to escape from the dry powder, extraction units are installed to contain the dust (see **Appendix 4** Layout plan with dust prevention measures).

At the dispensing (marked “N” on plan). , dry powder is dispensed into steel trays, with the use of a diffuser that enables the even spreading of the material, but also contains the dust in the tray negating the need for extraction at this point. The steel trays will be coated with a stable silicon based release (which is water based) and does not emit fumes during use (marked “S” on plan)The trays are loaded in batches into a nitrogen purged vacuum furnace (marked “W”) which heats and bakes (sintering) the powder above 1000°C. The vacuum furnace’s gases do not contain harmful pollutants but consist of carbon dioxide and nitrogen (used at the end of the process for cooling the powder). The gases from this part of the process are vented out into the atmosphere but do not require monitoring or abatement as it consists of inert nitrogen.

When the powder is taken out of the furnace it is in a solid form and must then be sized to bring it back to the fine powder form. This happens in the stages marked S,T&U, consisting of crushing, milling and magnetic separator.

In the pre-crushing process dry powder dust will be emitted upon exit from the machine, however this will enter an enclosed hopper which will keep the unit dust tight. Classifying will follow this to reduce the size of the powder, however this is a closed process with no leakage points.

The final process will be dispensing the sized powder through a screening system where particles over 180-250 microns are screened out and into a bulk bag for transfer onto the next manufacturing stage or storage. As dust may be created at this point, an extraction unit will be present, marked on the plan showing dust prevention measures from the unit marked T.

List of Appendices

- 1a - Site location showing process boundary and main stack
- 1b - Aerial view of plant
- 2 - Process flow diagram
- 3 - Layout plan & process flow
- 4 – Layout plan with fume extraction & dust prevention measures
- 5 - Raw material listing
- 6 – External stack, dust collection and sampling point
- 7 – Bag Filtration Unit (BFU) & Filter Specification

DOCUMENT B

CONDITIONS

All conditions shall have immediate effect unless stated otherwise.

1 EMISSION LIMITS AND CONTROLS

- 1.1 Emissions from the process shall be controlled according to the requirements listed in Table 1.

2.0 MONITORING, SAMPLING AND MEASUREMENT OF EMISSIONS

- 2.1 The external emission points and sampling locations on the main stack are identified in Appendix 6 – external stack and sampling points. Any changes to the sampling points must have prior approval from the Authority before use.
- 2.2 The Authority shall be notified 7 days in advance of any periodic monitoring to demonstrate compliance with the requirements of Table 1. This notification shall include the provisional date, and time of the monitoring, pollutants to be tested, and the methods to be used.
- 2.3 The results of the monitoring to demonstrate compliance with Table 1 shall be forwarded to the Regulator within 8 weeks of the monitoring taking place preferably as an electronic version.
- 2.4 Any adverse results or breach of emission limits determined from the monitoring required in Table 1 shall be followed up immediately by the investigation of the cause of the emission and any corrective action taken, with this also being recorded in the process log. Corrective action shall include shutting down the process if the problem cannot be immediately rectified. Any adverse emission likely to have an impact on the local community shall be notified to the local authority with immediate effect.
- 2.5 If the monitoring required in Table 1 indicates that the emission concentrations exceed the emission limits specified the operator shall notify the local authority with immediate effect.

Table 1 – Emission Limits, Monitoring and other Provisions

Machinery Identification & Emission Point	Pollutants Emitted	Emission Limit in Permit and Monitoring Requirements	Abatement Plant Required
2 Induction furnaces & Milling and magnetic separator extraction discharging via main stack marked on the site plan Appendix 1a	Particulates	<p>20 mg/m³</p> <p>Extractive monitoring in accordance with a test method approved by the local authority shall be undertaken annually during normal operating conditions/production.</p> <p>The main stack efflux velocity shall not exceed 15 m/s at the point of discharge when tested annually</p> <p>Recorded indicative monitoring of pressure drop on filtration units with visual and audible alarms with weekly testing of the alarm system using the manual test switch.</p> <p>Weekly visual inspection of filtration units to ensure correct functioning.</p>	AAF Fabripulse M6-168 bag filtration unit (BFU) fitted with Ryton high temperature material (sulfar) fabric filters
2 Induction furnaces discharging metal fumes via main stack marked on the site plan Appendix 1a	Nickel, cobalt, chromium and their compounds	<p>5 mg/m³ (total emission in combination)</p> <p>Extractive monitoring in accordance with a test method approved by the local authority shall be undertaken annually during normal operating conditions/production.</p> <p>The main stack efflux velocity shall not exceed 15 m/s at the point of discharge when tested annually</p> <p>Recorded indicative monitoring of pressure drop on filtration units with visual and audible alarms with weekly testing of the alarm system using the manual test switch.</p> <p>Weekly visual inspection of filtration units to ensure correct functioning.</p>	AAF Fabripulse M6-168 bag filtration unit (BFU) fitted with Ryton high temperature material (sulfar) fabric filters

3) All process areas and emission points (including fugitive emissions)	1) All emissions other than steam or condensed water vapour	No persistent visible emissions	None
	2) Odour	No offensive odour as perceived by the local authority inspector outside the installation boundary outlined in red on the site plan in Appendix 1a	None

3.0 OPERATIONAL CONTROLS & MATERIALS HANDLING

- 3.1 Incoming scrap metal shall be clean (meaning free from significant amounts of contamination such as dirt, foreign material, oily residues, paint or other organic materials) and visual checks by competent staff shall take place to ensure that only clean scrap is melted. Significantly contaminated loads shall be rejected and returned to the supplier.
- 3.2 If contaminated feedstock is used, the details shall be kept and recorded in the process log.
- 3.3 Immediate corrective action shall be taken if the arrestment plant alarm outlined in Table 1 is activated to prevent any adverse emissions to atmosphere. Corrective action shall include shutting down the process if the problem cannot be immediately rectified. All details of the incident including action taken shall be recorded in the process log
- 3.4 Emissions from the furnaces shall be captured by the lip extraction system. Lids to the induction furnaces shall be in a closed position whilst melting takes place or molten metal is within the vessels and ducted to the abatement plant identified in Table 1.
- 3.5 The mobile extraction hood shall also be used for the capture of emissions when the furnace lids are opened and the mobile extraction shall be ducted to the abatement plant identified in Table 1.
- 3.6 The rough mill shall be ducted to the abatement plant identified in Table 1.
- 3.7 The method of collection of waste from the arrestment plant identified in Table 1 shall be such that dust emissions are minimised.
- 3.8 Dusty wastes shall be stored in closed containers and handled in a manner that avoids emissions of dust.
- 3.9 Suitable equipment and spillage kits shall be provided for the collection and containment of spillages. Any spillages shall be cleared as soon as possible; solids by vacuum cleaning, wet methods, or other appropriate techniques. Dry sweeping of dusty spillages shall not be permitted.

4.0 STACKS, DUCTS AND PROCESS VENTS

- 4.1 The main external stack (marked "Main Stack" on the site plan **Appendix 1a**) serving the filtration and bag arrestment plant shall be maintained at a height of 7 metres above ground level and shall not be fitted with caps, cowls or other restrictive devices.

5.0 GENERAL OPERATIONS

- 5.1 Operators shall put in place a form of structured environmental management system (EMS), whether by adopting published standards (ISO 14001 or the EU Eco Management and Audit Scheme [EMAS]) or by setting up an EMS tailored to the nature and size of the particular process.
- 5.2 Staff at all levels shall receive the necessary training and instruction in their duties relating to control of the activities and emissions to air. The training of all staff with responsibility for operating the activity shall include:

- awareness of their responsibilities under the Permit; in particular how to deal with conditions likely to give rise to emissions, such as in the event of spillage;
 - minimising emissions on start up and shut down; and
 - action to minimise emissions during abnormal conditions.
 - the containment and cleaning up of any spillages of dust or materials which have odorous components.
- 5.3 The operator shall maintain a statement of training requirements for each operational post and keep a record of the training received by each person whose actions may have an impact on the environment. These documents shall be made available to the regulator on request and be retained by the operator for up to 2 years.
- 5.4 Spares and consumables in particular those that are subject to continual use or wear shall be held on site or shall be available at short notice. Such plant or equipment shall not be used unless that plant or equipment is capable of working in accordance with the conditions of this permit.
- 5.5 The operator shall keep records of inspections, breakdowns, malfunctions, repairs, tests and monitoring, including all non-continuous monitoring, inspections and visual assessments in a process log which can be paper based or electronic.. The records shall be kept on site by the operator for at least two years and made available for the regulator to examine.
- 5.6 Where solvents are used for cleaning, cleaning operations, cleaning techniques and cleaning substances shall be reviewed annually to identify:
- Steps which could be eliminated or automated;
 - Substances which can be substituted;
 - The technical and economic feasibility of changing to different cleaning solutions.
- 5.7 The written programme provided for the preventative maintenance of all pollution control equipment shall be adhered to and shall include the inspection and cleaning of process flues, duct work and stacks.
- 5.8 The operator shall make available on demand and without charge any of the records required to be kept by this permit.
- 5.9 The best available techniques (BAT) 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 (see definitions for explanation of BAT).
- 5.10 If the operator proposes to make a change in operation of the installation, he must, at least 14 days before making the change, notify the regulator in writing. The notification must contain a description of the proposed change in operation. It is not necessary to make such a notification if an application to vary this permit has been made and the application contains a description of the proposed change. In this condition 'change in operation' means a change in the nature or functioning, or an extension, of the installation, which may have consequences for the environment.

END OF PERMIT CONDITIONS

SUPPLEMENTARY NOTES

These notes do not comprise part of the Permit but contain guidance relevant to the Permit.

Inspections and Powers of Entry

Regular inspections will be carried out by officers of the Council (the Local Authority Inspectors) to check and ensure full compliance with the Permit conditions and residual duties. These inspections may be carried out without prior notice.

Under section 108(6) of the Environment Act 1995 authorised Local Authority Inspectors have been granted powers of entry into any premises for the purposes of discharging relevant duties.

Reviews

The Local Authority has a statutory duty to review the permit at least once every 6 years or in the following circumstances set out in Regulation 34(1) of the Environmental Permitting (England and Wales) Regulations 2010:

- a) The pollution from the installation is of such significance that the existing emission limit values for the permit need to be revised or new emission limit values need to be included in the permit
- b) Substantial changes in BAT make it possible to reduce emissions from the installation or mobile plant significantly without imposing excessive costs; or
- c) Operational safety of the activities carried out in the installation or mobile plant requires other techniques to be used

Health and Safety

This Permit is given in relation to the requirements of the Environmental Permitting (England and Wales) Regulations 2010. It must not be taken to replace any workplace responsibilities the operator has under Health & Safety legislation. Whenever emission limits quoted in this Permit conflict with occupational exposure limits set under the Health and Safety at Work Act 1974 to secure the health, safety or welfare of persons at work, the tighter limit should prevail. The Installation must be operated in order to protect persons at work as well as the environment. In achieving conditions in this Permit the operator must not adopt any course of action that would put at risk the health, safety or welfare of persons at work.

Other Statutory Requirements

This Permit does not detract from any other statutory requirement, such as the need to obtain planning permission, hazardous substances consent, discharge consent from the Environment Agency, building regulations approval, or a waste disposal licence.

This Permit does not authorise a contravention of any other enactment or any order made, granted or issued under any enactment, nor does it authorise a contravention of any rule or breach of any agreement. The Operator is advised to consult the relevant Planning Department regarding changes that may be required as a result of this Permit (e.g. stack heights) as they may require planning permission.

Transfer of Permits

Where the operator of an installation wishes to transfer, in whole or in part, his permit to another person, the operator and the proposed transferee shall jointly make an application to the regulator to effect the transfer. Such an application shall be accompanied by the permit and any fee prescribed in respect of the transfer.

In the case of partial transfer, where the original operator retains part of the permit, the application must make clear who will retain control over the various parts of the

installation. The application must include a plan identifying which parts of the site and which activities the operator proposes transferring.

The local authority will then determine whether to allow the transfer within a two-month period, unless the local authority and the applicants agree a longer period.

Where the local authority approves the transfer, the transfer will take effect from the date requested by the operator or a date that may be agreed by the local authority and the applicants.

Variation to Permits

Variation to permits may be initiated either by the local authority or the operator, either in response to changes in the operation of an installation or if new conditions are needed to deal with new matters. Variations may be required in response to the following.

- In response to the findings of a periodic review of conditions.
- In response to the findings of an inspection.
- New or revised sector guidance notes

The operator should apply to the Local Authority in order to vary a permit under Regulation 20(1) of the Regulations. The application must be in writing and, in accordance with Part 1 of Schedule 5 to the Regulations contain:

- The name, address and telephone number of the operator.
- The address of the installation.
- A correspondence address.
- A description of the proposed changes.
- An indication of the variations the operator would like to make.
- Any other information the operator wants the authority take account of.

Substantial Change

A substantial change means, in relation to an installation, a change in operation, which in the opinion of the local authority may have significant negative effects on human beings or the environment.

Where the local authority deems that a proposed variation constitutes a substantial change, the operator will be informed of the process to follow.

Noise

This Permit does not include reference to noise. Statutory noise nuisance is regulated separately under the provisions of Part III of the 1990 Act.

Appeals

An Appeal can be made against the conditions in, or variations to this Permit as per Part IV of the Regulations. Appeals are made to the Planning Inspectorate who acts on behalf of the Secretary of State. Appeals against conditions within a Permit must be submitted within 6 months of the date of issue of the permit.

Appeals against variation notices must be submitted within 2 months of the date of issue of the notice. Appeals should be despatched on the day they are dated and sent to:

The Planning Inspectorate, Environment Team, Major and Specialist Casework,

Room 4/19 – Kite Wing, Temple Quay House, 2 The Square,

Temple Quay, BRISTOL, BS1 6PN

Appendix 1a - Site location showing process boundary



City Services Directorate, Environmental Health,
Coventry City Council Room 314,
Broadgate House, Coventry, CV1 1NH
Tel: 0500 834 3333
Fax: 024 7683 1840



Appendix 1b – Aerial View



Material Development Facility location – Aerial View



Federal
Mogul

Proposed
location of
installation

Appendix 2 – Process Flow Diagram



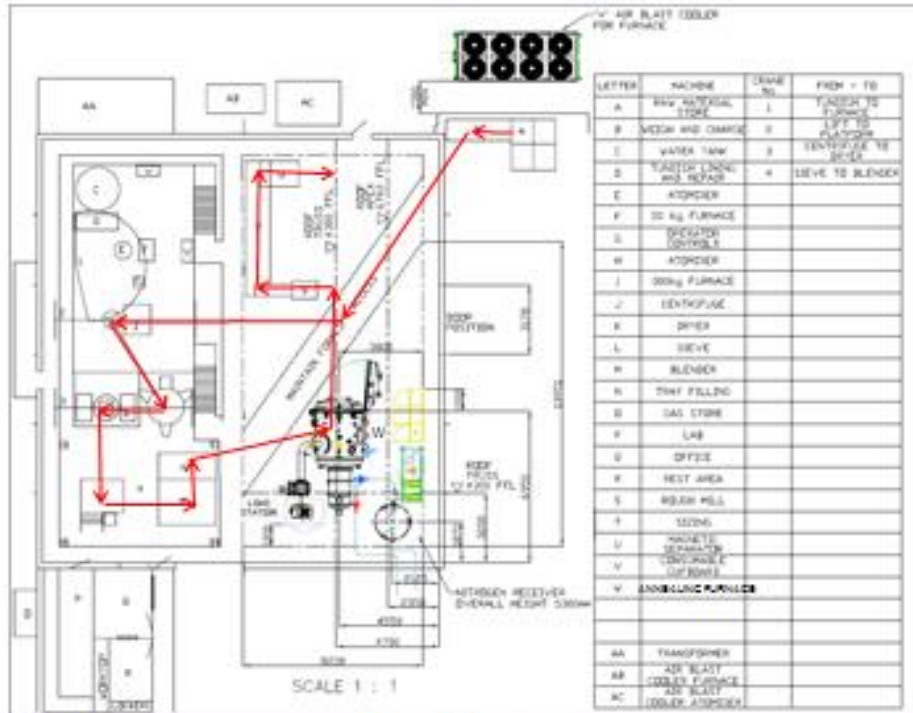
Material Development Facility – Process Flow



Appendix 3 – Layout Plan and Process Flow

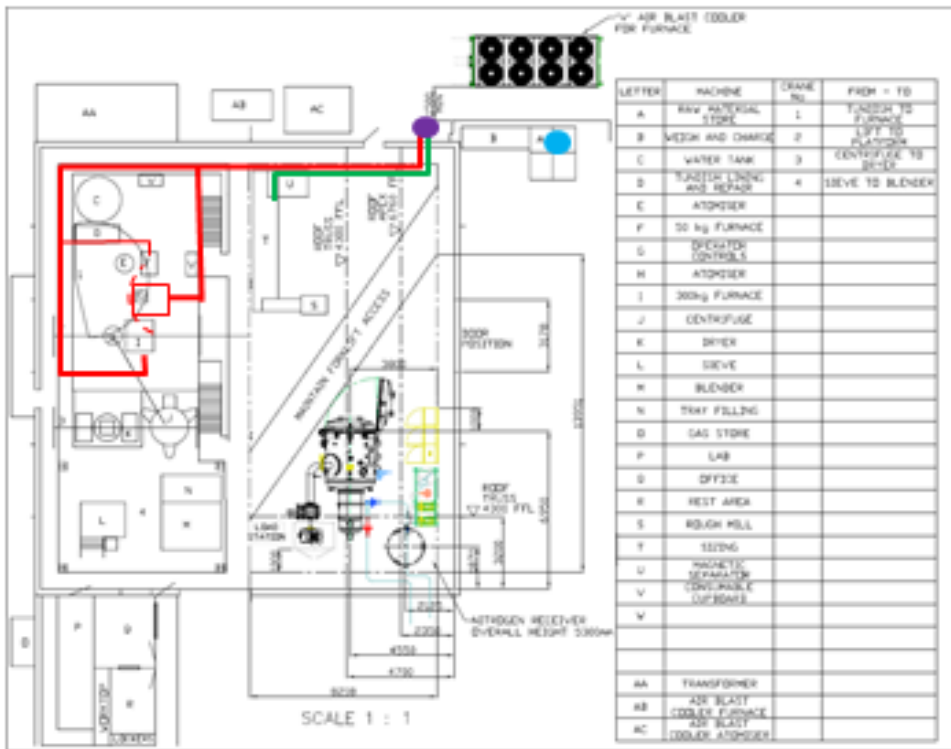


Material Development Facility – Layout Plan + Flow



Appendix 4 – Layout plan with fume extraction and dust prevention measures

Material Development Facility location – Layout Plan with Fume Extraction and Dust prevention measures



Fume Extraction System

Dust Extraction System

External Stack position/Filter Position

Raw Material Store

Appendix 5 – Raw Material Listing



Raw Material Listing

Material	Main Constituents
Iron Billet	Fe
Iron Flake	Fe
High Carbon Ferro Chrome	Fe, Cr, C
Ferro Tungsten	Fe, W
Ferro Vanadium	Fe, V
Silicon	Si
Ferro Manganese	Fe, Mn
Ferro Molybdenum	Fe, Mo
Carbon	C

Material	Batch	Fe	Al	B	C	Ca	Cr	Cu	Mn	Mo	Nb	Ni	O	P & S	Si	Sn	Ti	V	W	Other
Low Carbon Billet	02/0009	99.99	0.00	0.00	0.00	0.00	0.01	0.01	0.04	0.00	0.00	0.02	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Low NC Iron Punchings	0/0011	99.97	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00
Low NC Ferro Manganese	12/0012	4.02	0.00	0.00	0.05	0.00	0.00	0.00	95.16	0.00	0.00	0.00	0.00	0.05	0.01	0.00	0.00	0.00	0.00	0.00
Ferro-Tungsten	F1/0030	25.35	0.00	0.00	0.06	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.07	0.01	0.00	0.00	0.00	0.00	0.00
Ferro-Molybdenum	FA/0069	36.13	0.00	0.00	0.01	0.00	0.00	0.00	0.00	99.99	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00
Ferro Vanadium	Fv/0009	28.03	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00
High NC Ferro-Chrome	HFC/0048	22.15	0.00	0.00	7.74	0.00	48.58	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.01	0.00	0.00	0.00	0.00	0.00
Silicon	S/0211	0.29	0.12	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00	99.32	0.00	0.00	0.00	0.00	0.11
Carbon	Carbon1	0.00	0.00	0.00	99.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.05
Cobalt	Co/0080	0.00	0.00	0.00	0.00	99.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Coventry – Powertrain Energy

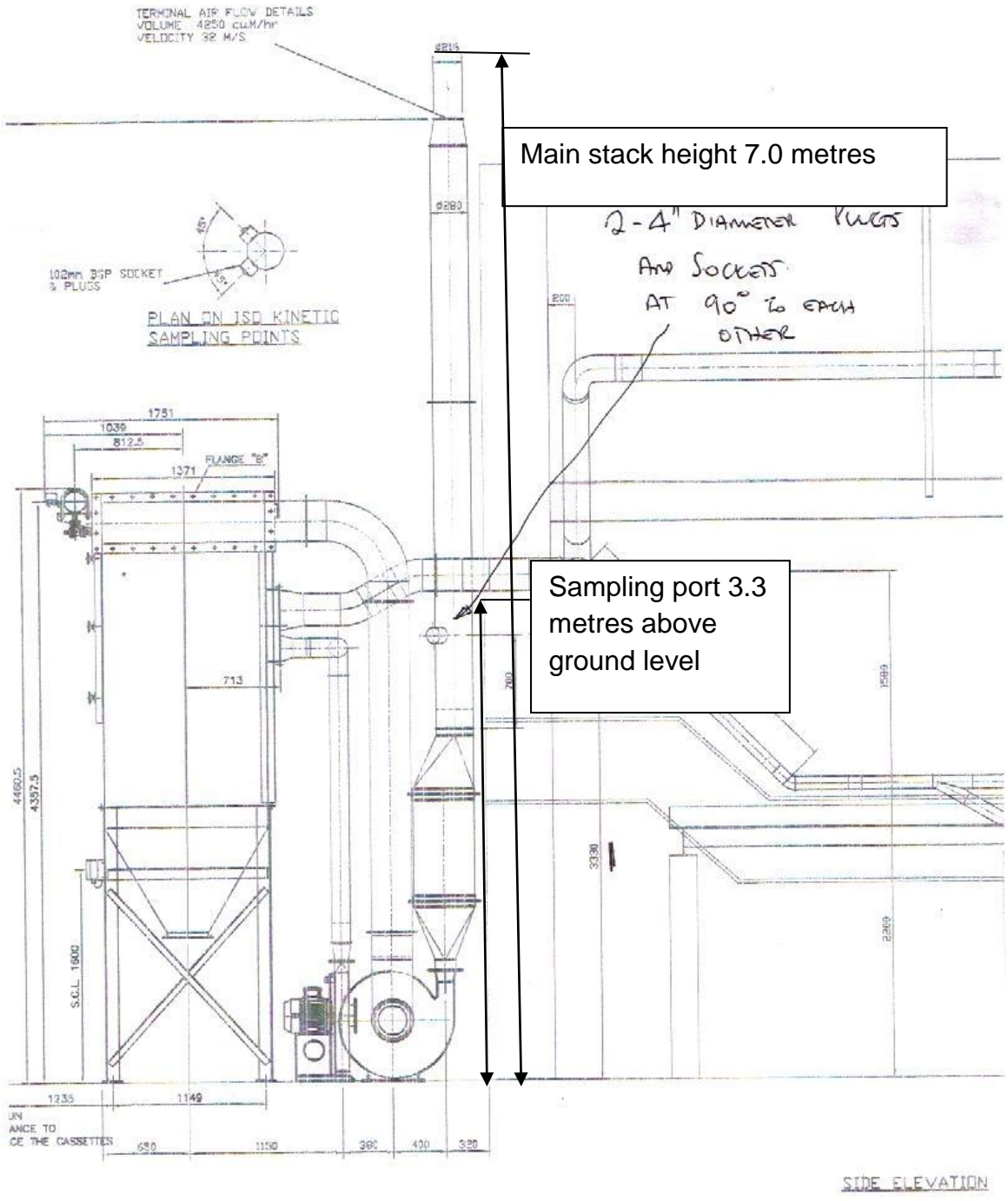
Date classification: Internal

27th Aug 2010

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Appendix 6 – External Stack and Dust Collection

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Appendix 7 – Bag Filtration Unit (BFU) & Filter Specification

Bag Filter Unit

Make AAF (American Air Filter)

Model Fabripulse M6-168

Serial Number 118302-M

Area 55.8m²

Filter Type

Ryton high temperature material (sulfar) fabric filters

Chemical composition, Polyphenylene Sulphide

Quoted efficiency is around 99.9% at 0.5 microns.