



CITY OF EKURHULENI
COMMUNITY SERVICES DEPARTMENT
ATMOSPHERIC EMISSION LICENCE AS CONTEMPLATED IN SECTION 43 OF THE NATIONAL
ENVIRONMENTAL MANAGEMENT: AIR QUALITY ACT, 2004 (ACT NO. 39 OF 2004) AS AMENDED.

Ekurhuleni Air Quality Officer
Community Services Department
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**THE ATMOSPHERIC EMISSION LICENCE AS CONTEMPLATED IN SECTION 43 OF THE NATIONAL
ENVIRONMENTAL MANAGEMENT: AIR QUALITY ACT, 2004, (ACT NO. 39 OF 2004) AS AMENDED**

This Atmospheric Emission Licence issued to **GDE services (Pty) Ltd** in terms of section 41(1) of the National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004) ("the Act"), in respect of Listed Activity No. **4.2, 4.4, and 4.14**. The Atmospheric Emission Licence has been issued on the basis of information provided in the company's application dated **30 May 2025** and information that became available during processing of the application.

The Atmospheric Emission Licence is valid until **31 July 2030**.

The reason issuance of the current licence is **Renewal**.

The Atmospheric Emission Licence is issued subject to the conditions and requirements set out below which form part of the Atmospheric Emission Licence, and which are binding on the holder of the Atmospheric Emission Licence **GDE services (Pty) Ltd**.

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Community Services Department

Date: _____

1. ATMOSPHERIC EMISSION LICENCE ADMINISTRATION

Name of the Licensing Authority	City of Ekurhuleni
Atmospheric Emission Licence Number	GTEK348
Atmospheric Emission Licence Issue Date	
Atmospheric Emission Licence Type	<i>Final</i>
Review Date, not later than	Six months before the expiry date

2. ATMOSPHERIC EMISSION LICENCE HOLDER DETAILS

Enterprise Name	GDE services
Trading as	GDE services
Enterprise Registration Number (Registration Numbers if Joint Venture)	2019/153778/07
Registered Address	33 Golden Drive, Morehill, Benoni
Postal Address	P.O. Box 13104, Benoni, 1511
Telephone Number (General)	011 425 4361
Industry Sector	Industrial
Name of Responsible Officer	Mr Adriaan Beukes
Name of Emission Control Officer	Mr Adriaan Beukes
Telephone Number	011 425 4361
Cell Phone Number	083 271 8086
Fax Number	N/A
Email Address	adriaanb@gde1.co.za
After Hours Contact Details	083 271 8086
Land Use Zoning as per Town Planning Scheme	N/A

3. LOCATION AND EXTENT OF PLANT

Physical Address of the Premises	33 Golden Drive, Morehill, Benoni
Description of Site (Erf)	Within the factory building of GDE Engineering
Coordinates of Approximate Centre of Operations	North-south: 26° 10' 26.91" S East-west: 28° 20' 49.11" E
Extent (km ²)	180sqm
Elevation Above Mean Sea Level (m)	1645

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Province	Gauteng
Metropolitan/District Municipality	Ekurhuleni
Local Municipality	Benoni
Designated Priority Area	Highveld

3.1 Description of surrounding land use (within 5 km radius)

The factory / crucibles and vent is located within the Industrial Zone known as Morehill Industrial.

Refer to: ANNEX A - Map 5km Position of the crucibles – up to 300m from the three crucibles the impact circle touches on the N12 direction eMahlaleni. Beyond the 300m radius the impact zone enters the residential area known as Morehill.

At 750 m radius only the area towards the north of the N12 Morehill and small part of the golf course is touched while to the east south and west the land is old mining areas.

At 2km radius Benoni Country club, Northmead Mall and the residential areas are involved while to the east, south and west the area is still relatively vacant.

Between 2km and 5km radius the southern area is still relative unoccupied with some of Benoni South and the Rock Raceway included. West and north of the between 2 and 5km the Lakeside Mall Farramere Northmead Rynfield and Ebotsi Golf Estate are included .

REFER: ANNEX A:

Attach map(s), satellite image(s) or aerial photograph(s) detailing location of premises in relation to surrounding community.

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4. GENERAL CONDITIONS

4.1. Process and ownership changes

- 4.1.1 The holder of the atmospheric emission licence must ensure that all unit processes and apparatus used for the purpose of undertaking the listed activity in question, and all appliances and mitigation measures for preventing or reducing atmospheric emissions, are at all times properly maintained and operated.
- 4.1.2 No building, plant or site of works related to the listed activity or activities used by the licence holder shall be extended, altered or added to the listed activity without an environmental authorisation from the competent authority.
- 4.1.3 The investigation, assessment and communication of potential impact of such an activity must follow the basic assessment procedure as prescribed in the Environmental Impact Assessment Regulations published in terms of section 24(5) of the National Environmental Management Act, 1998 (Act No. 107 of 1998) (NEMA), as amended.
- 4.1.4 Any changes in processes or production increases, by the licence holder, will require prior approval by the licensing authority.
- 4.1.5 Any changes to the type and quantities of input materials and products, or to production equipment and treatment facilities will require prior written approval by the licensing authority.
- 4.1.6 The licence holder must, in writing, inform the licensing authority of any change of ownership of the enterprise.
- 4.1.7 The licensing authority must be informed within 30 (thirty) days after the change of ownership.
- 4.1.8 The licence holder must immediately on cessation or decommissioning of the listed activity inform, in writing, inform the licensing authority.

4.2. General duty of care

- 4.2.1 The holder of the license must, when undertaking the listed activity, adhere to the duty of care obligations as set out in section 28 of the NEMA.
- 4.2.2 The licence holder must undertake the necessary measures to minimize or contain the atmospheric emissions. The measures are set out in section 28(3) of the NEMA.
- 4.2.3 Failure to comply with the above condition is a breach of the duty of care, and the licence holder will be subject to the sanctions set out in section 28 of the NEMA.

4.3. Sampling and/or analysis requirements

- 4.3.1 Measurement, calculation and/or sampling and analysis shall be carried out in accordance with any nationally or internationally acceptable standard.
- 4.3.2 A different method may be acceptable to the licensing authority as long as it has been consulted and agreed to the satisfactory documentation necessary in confirming the equivalent test reliability, quality and equivalence of analyses.
- 4.3.3 The licence holder is responsible for quality assurance of methods and performance.

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- 4.3.4 Where the holder of the licence uses external laboratories for sampling or analysis, accredited laboratories shall be used.

4.4. General requirements for licence holder

- 4.4.1 The licence holder is responsible for ensuring compliance with the conditions of this licence by any person acting on his, her or its behalf, including but not limited to, an employee, agent, sub-contractor or person rendering a service to the holder of the licence.
- 4.4.2 The licence does not relieve the licence holder to comply with any other statutory requirements that may be applicable to the carrying on of the listed activity.
- 4.4.3 A copy of the licence must be kept at the premises where the listed activity is undertaken.
- 4.4.4 The licence must be made available to the environmental management inspector representing the licensing authority who requests to see it.
- 4.4.5 The licence holder must inform, in writing, the licensing authority of any change to its details including the name of the emission control officer, postal address and/or telephonic details.

4.5. Statutory obligations

- 4.5.1 The licence holder must comply with the obligations as set out in Chapter 5 of the Act.

4.6. Payment of atmospheric emission licence processing fee

- 4.6.1 The licence holder must pay the prescribed processing fee to the licensing authority as indicated in the Annexure A of the Regulations Prescribing the Atmospheric Emission Licensing Processing Fee No.250 of 11 March 2016 before or on the date of submission of the application or as directed by the Licensing Authority.

5. NATURE OF PROCESS

5.1. Process description

Melting of; ZINC and ALUMINUM [and Brass] are melted in individual crucibles. The crucibles are fired by paraffin to obtain the correct temperature.

Already prepared metals [in ingot form] is used in the melting process.

Smoke and other emissions are drawn into the canopy above the crucibles from where it is filtered through a bag filter system before venting at the outlet on the roof. The melted metals are cast into moulds as per client requirements.

Calculation: Zinc @ 150 kg/smelling x 9 smelting's per month = 1350 kg/month // 16 200 kg/year

Aluminium @ 150 kg/smelling x 9 smelting's per month = 1350 kg/month // 16 200 kg/year

Brass @ 150 kg/smelling x 2 smelting per month = 300 kg/month // 3 6000 kg/year

The average total weight of ingots used per month is in the region of 3000kg [3 tonnes]

Emission: Oxides of Nitrogen; PM and SO₂

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5.2. Listed activity or activities

List of all Listed Activities, as published in terms of Section 21 of the AQA, authorised to be conducted at the premises by the licence holder:

Listed Activity Number	Category of Listed Activity	Sub-category of the Listed Activity	Listed Activity Name	Description of the Listed Activity
1	4	4.2 Combustion Installations	Combustion Installations	Combustion installation not used primarily for steam raising and electricity generation (except drying).
2	4	4.4 Secondary aluminium production	Secondary aluminium production	Secondary aluminium production and alloying through the application of heat (excluding metal recovery, covered under sub-4.21).
3	4	4.1.4 Production and Processing of Zinc	Production and Processing of Zinc	The extraction, processing and production of zinc, nickel, or cadmium by the application of heat excluding metal recovery.

5.3. Unit process or processes

List of all unit processes associated with the listed activities to be undertaken at the site of work.

Unit Process	Unit Process Function	Batch or Continuous Process
Zinc melting	<u>Melting</u> of zinc ingots and casting of specials products for the mining industry	Batch
Aluminium melting	<u>Melting</u> of aluminium ingots and casting of specials products for the mining industry	Batch

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5.4. Hours of operations

Indicate the hours of operation of all unit processes associated with the listed activities at the site of work.

Unit Process	Operating Hours	Days of Operation per Year
Zinc	08:00 – 16:00	± 220 [Potential] Monday to Friday
Aluminium	08:00 – 16:00	± 220 [Potential] Monday to Friday
Brass	08:00 – 16:00	± 220 [Potential] Monday to Friday

5.5. Graphical process information

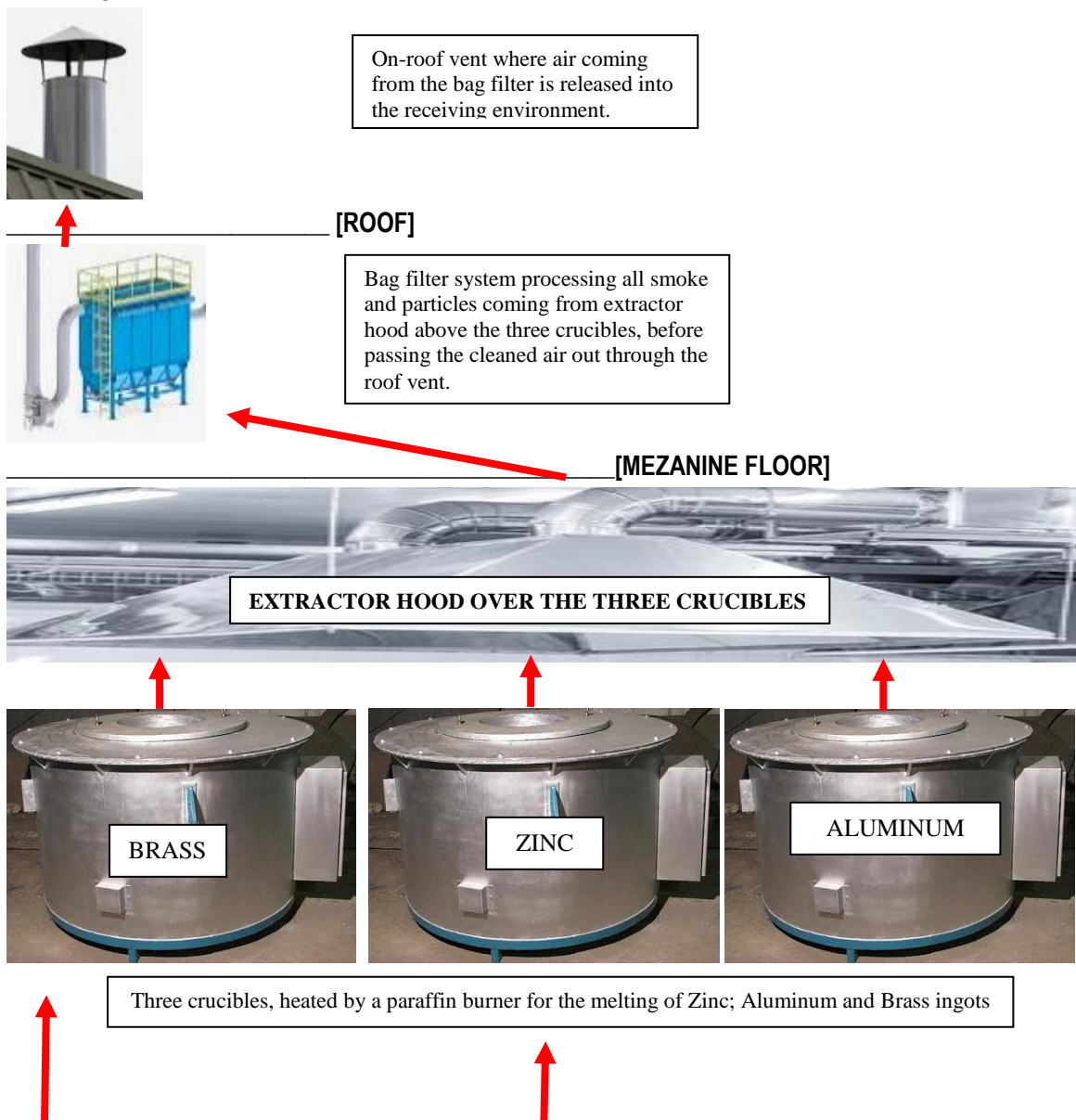
The following diagrams depicting the graphical operation for the entire operation must be attached:

- simplified diagram with the name of each unit process showing links between all unit processes or blocks;
- process flow chart indicating inputs, outputs and emissions at the site of works, including points of potential fugitive emissions and emergency releases;
- site layout diagram indicating location of unit processes, plants, buildings, stacks, stockpiles and roads; and
- any other graphical representation.

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Flow Diagram of the Operation



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Paraffin as burner fuel

BRASS



ZINC



ALUMINUM



NEM:AQA [Act 39 of 2004]
Metallurgical Industry
Category 4
Sub-Category 4.2
Combustion Installation

N/A

NEM:AQA [Act 39 of 2004]
Metallurgical Industry
Category 4
Sub-Category 4.1.4
Processing Zinc

NEM:AQA[Act 39 of 2004]
Metallurgical Industry
Category 4
Sub-Category 4.4
Secondary Aluminum

Activities Applied for in terms of NEM:AQA – Listed Activities

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6. RAW MATERIALS AND PRODUCTS

6.1. Raw materials used.

Regulated Raw Materials		
Raw Material Type	Maximum Permitted Consumption Rate (Quantity)	Units (quantity/period)
Zinc ingots	150	Tonne/year
Aluminium ingots	150	Tonne/year
Non-regulated Raw Materials		
Raw Material Type	Maximum Permitted Consumption Rate (Quantity)	Units (quantity/period)
NONE		

* **Regulated raw materials** refers to those materials when increased or decreased may result in the change of air emissions output.

* **Non-regulated raw materials** refer to those materials when increased or decreased may not result in any change of air emissions output.

6.2. Production rates

Product Name	Maximum Permitted Production Capacity (Quantity)	Units (quantity/period)
Zinc	150	Tonnes/annum
Aluminium	150	Tonnes/annum

6.3. Materials used in energy sources.

Materials for Energy Source	Actual Consumption Rate (Quantity)	Units (quantity/period)	Materials Characteristics
Paraffin fuel	1500	Litres	N/A

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6.4. Sources of atmospheric emission

6.4.1. Point source parameters

Point Source Code	Source Name	Latitude (decimal degrees)	Longitude (decimal degrees)	Height of Release Above Ground (m)	Height Above Nearby Building (m)	Diameter at Stack Tip / Vent Exit (m)	Actual Gas Exit Temperature (°C)	Actual Gas Volumetric Flow (m³/hr)	Actual Gas Exit Velocity (m/s)	Emission Hours	Type of Emission (Continuous / Batch)
		South	East								
SV001	SV024	-26.173976	28.3465373	±10.5	1.5	410	42	11.36144745	1.5	8	batch

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6.4.2. Area and/or line source parameters

Area Source Code	Source Name	Source Description	Latitude (decimal degrees) of SW corner	Longitude (decimal degrees) of SW corner	Height of Release Above Ground (m)	Length of Area (m)	Width of Area (m)	Emission Hours	Type of Emission (Continuous / Intermittent)
EU001	Crucibles	Crucibles for the melting of zinc and aluminium ingots	26° 10' 26.67" S	28° 20' 49.01" E	± 12.5m	± 15m	± 12m	8	Intermittent

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7. APPLIANCES AND MEASURES TO PREVENT AIR POLLUTION

7.1. Appliances and control measures

Associated Source Code	Appliances			Abatement Equipment Control Technology							
	Appliance / Process Equipment Number	Appliance Serial Number	Appliance Type / Description	Abatement Equipment Technology Name and Model	Abatement Equipment Technology Manufacture Date	Commission Date	Date of Significant Modification / Upgrade	Technology Type	Design Capacity	Minimum Control Efficiency (%)	Minimum Utilisation (%)
SV0001	N/A	Unit 150 kg Unit 150kg Unit 250 kg	Crucible 1 Crucible 2 Crucible 3	Dust master DM 2/18	±2015	31 October 2023	N/A	Bag Filter 2 drums each with 211L capacity	1.5m ³ @2800PA	97	100

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7.2. Point source – maximum emission rates (under normal working conditions)

Point Source Code	Pollutant Name	Maximum Release Rate				Duration of Emissions
		Sec 21 Requirements (mg/Nm ³) under normal conditions of 273 Kelvin and 101.3 kPa.	Current or Actual emission (mg/Nm ³) under normal conditions of 273 Kelvin and 101.3 kPa.	Date to be Achieved By	Average Period	
SV001 Subcategory 4.2	PM	50	8.34	Immediately	Hourly	Intermittent
	SO2	500	1.44	Immediately	Hourly	Intermittent
	NOx	500	1.52	Immediately	Hourly	Intermittent
SV001 Subcategory 4.4	PM	30	8.34	Immediately	Hourly	Intermittent
	HF	1	0.12	Immediately	Hourly	Intermittent
	TVOC	40	0.11	Immediately	Hourly	Intermittent
	NH3	30	0.07	Immediately	Hourly	Intermittent
SV001 Subcategory 4.14	Section 21 Requirements mg/m ³ under normal conditions of 6% O ₂ , 273 Kelvin and 101.3 kPa.		Current or Actual emission mg/m ³ under normal conditions of 6% O ₂ , 273 Kelvin and 101.3 kPa.			
	PM	50	48.90	Immediately	Hourly	Intermittent

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	SO2	500	8.66	Immediately	Hourly	Intermittent
	NOx	500	9.21	Immediately	Hourly	Intermittent
	Hg	0.2	0.06	Immediately	Hourly	Intermittent
	PCDD/PCDF	0.1ngTEQ	0.03	Immediately	Hourly	Intermittent

Point source – operating requirements

Facility must immediately comply with New Plant Standards.

SV001 Subcategory 4.14 - Facilities processing nickel or cadmium shall measure or estimate, using a method to the satisfaction of the licencing authority, and report the emission of Ni and Cd respectively to the licencing authority annually, commencing immediately.

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7.3. Point source – maximum emission rates (under start-up, maintenance and shut-down conditions)

Point Source Code	Pollutant Name	Maximum Release Rate		Average Period (Instantaneous, Hourly, Daily, Monthly, Annually)	Maximum Gas Volumetric Flow (m ³ /hr)	Maximum Gas Exit Velocity (m/s)	Emission Hours	Permitted Duration of Emissions
		(mg/Nm ³)	Date to be Achieved By					

Point source – operating requirements

Should normal start-up, maintenance, upset and shut-down conditions exceed a period of 48 hours, Section 30 of the National Environmental Management Act, (Act No. 107 of 1998) shall apply

All incidents to be reported to the Licencing Authority.

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7.4. Point source – emission monitoring and reporting requirements

Point Source Code	Emission Sampling / Monitoring Method	Sampling Frequency	Sampling Duration	Parameters to be Measured	Parameters to be Reported	Reporting Frequency
SV001	As amended in GN 893 of 22 November 2013, amended by GN 1207 of 31 October 2018 Section 10.	Annually	As amended in Section 18(b)(v) of GN 893 of 22 November 2013	Air pollutants listed in Section 7.2 of the licence.	Air pollutants listed in Section 7.2 of the licence.	Annual

7.5. Area and/or line source – management and mitigation measures

Area and/or Line Source Code	Area and/or Line Source Description	Description of Specific Measures	Timeframe for Achieving Required Control Efficiency	Method of Monitoring Measures Effectiveness	Contingency Measures
AREA IS PAVED					

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7.6. Routine reporting and record-keeping

7.6.1 Complaints register

- 7.6.1.1 The licence holder must maintain a complaints register at its premises, and such register must be made available for inspections.
- 7.6.1.2 The complaints register must include the following information on the complainant, namely, the name, physical address, telephone number, date and the time when the complaint was registered. The register should also provide space for noise, dust and offensive odours complaints.
- 7.6.1.3 Furthermore, the licence holder is to investigate and, monthly, report to the licensing authority in a summarised format on the total number of complaints logged.
- 7.6.1.4 The complaints must be reported in the following format with each component indicated as may be necessary:
- (a) Source code / name;
 - (b) Root cause analysis;
 - (c) Calculation of impacts / emissions associated with incidents and dispersion modelling of pollutants, where applicable;
 - (d) Measures implemented or to be implemented to prevent recurrence; and
 - (e) Date by which measure will be implemented.
- 7.6.1.5 The licensing authority must also be provided with a copy of the complaints register. The record of a complaint must be kept for at least 5 (five) years after the complaint was made.

7.6.2 Annual reporting

- 7.6.2.1 The licence holder must complete and submit to the licensing authority an annual report.
- 7.6.2.2 The report must include information for the year under review (i.e. annual year end of the company).
- 7.6.2.3 The report must be submitted to the licensing authority not later than 60 (sixty) days after the end of each reporting period.
- 7.6.2.4 The annual report must include, amongst others, the following items:
- (a) Pollutant emissions trend;
 - (b) Compliance audit report(s);
 - (c) Major upgrades projects (i.e. abatement equipment or process equipment); and
 - (d) Greenhouse gas emissions in line with relevant legislation.

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7.6.2.5 The holder of the licence must keep a copy of the annual report for a period of at least 5 (five) years.

7.7. Investigation

The following investigations are required:

Investigation	Purpose	Completion Date
NONE		

8. DISPOSAL OF WASTE AND EFFLUENT ARISING FROM ABATEMENT EQUIPMENT CONTROL TECHNOLOGY

The disposal of any waste and effluent arising from the abatement equipment control technology must comply with the relevant legislation and requirements of the relevant authorities.

Source Code / Name	Waste / Effluent Type	Hazardous Components Present	Method of Disposal
SV001	dust	PM	Landfill deposition

9. PENALTIES FOR NON-COMPLIANCE WITH LICENCE AND STATUTORY CONDITIONS OR REQUIREMENTS

Failure to comply with any of the licence and relevant statutory conditions and/or requirements is an offence, and licence holder, if convicted, will be subjected to those penalties as set out in section 52 of the AQA.

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