PART-A General Information Please complete all sections. Mark with an X in spaces where applicable. If the space provided is insufficient, the required information may be submitted in the form of a memorandum. Attach required maps and sketches. Graphics must be clear, labelled and, where applicable, should include a true north arrow and scale. EIA Reference Construction or Modification Date: EIA Reference Number: Competent Authority: Have you been issued with an Environmental Authorization? No

The plant requires NEMA authorisation. An

underway.

application for NEMA authorisation is currently

Application for a new Atmospheric Emissions

Licence: GeT Alloys Aluminium and copper

alloy production foundry, Gemiston.

If you have been issued with an "Environmental Authorization", please upload it in the "Attachment" section.

A.1 Application Information

If no, please explain:

Project Description:

Date of Receiving an Environmental Authorization:

Curr	rent Atmospheric Emission Licence Number:	N/A
X	New Application	Transfer
	Renewal	Variation/Amendment Review
	Section 22A	

Licensing Authority:	Ekurhuleni Metropolitan Municipality

A.2 Facility Information	
Facility/Property:	Get Alloys (Pty) Ltd
Original ID:	GTEK319
Facility Address 1:	Remainder of Portion 1 of farm Driefontein No. 87-IR, situated at No. 51 Shaft Road,
Facility Address 2:	Germiston
Province:	Gauteng
District Municipality:	Ekurhuleni Metropolitan Municipality
Local Municipality:	18
Cell Phone Number:	0829079407
Zip:	1400
Email:	wikus@getalloys.co.za
Company Registration Number:	

After Hours Contact Details:	0829079407
Land Use Zoning as per Town Planning Scheme:	Industrial 1
Latitude:	-26.196714
Longitude:	28.184152
Phone Number (55-555-5555 Ext.):	021-879-3367
Fax:	
Does your facility have a complaint's register? *If "To Be Initiated" is selected, then additional requirements will added to the attachment section at the end of the application.	yes be
SIC Code:	24202-4 (Description: Production of aluminium alloys)
A.3 Location & Extent of Plant	
Latitude of Approximate Centre of Operations:	-26.196714
Longitude of Approximate Centre of Operations:	28.184152
Extent (km²):	0.37
Elevation Above Mean Sea Level (m)	1658
Designated Priority Area (if applicable):	

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

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

The maps should preferably be in both electronic format and hard copy format showing the entire site with the areas surrounding the site, thus a regional map / aerial photo.

The proposed aluminium and copper alloy production facility will be located within the Knights industrial area off Shaft Road on the remainder of Portion 1 of the farm Driefontein 87-IR, Germiston. The site is surrounded by land uses within a 5km radius as follows:

There are several national and regional roadways, industrial, commercial, and residential areas, as well as historical gold tailings disposal areas, within 5 km of the property.

The property is bordered to the south by gold tailings disposal areas in the process of being reclaimed. Other industries of Knights (including motor parts and repairs, metal works, scrapyards etc.) lie directly to the west and north. The R29, Main Reef Road, passes ~130 m to the north of the property. To the north, directly opposite the R29, are industries, a shooting range, and reclaimed gold tailings disposal areas.

Industrial areas further afield include Jet Park $^{\sim}3$ km to the north and north-east, and Jupiter $^{\sim}3.5$ km to the south-west. Transnet Germiston, the Germiston train station, and taxi rank is located $^{\sim}1.5$ km south-west of the property. The N12 passes in an east-west direction approximately 3.5 km to the north of the property.

Although there are several residential suburbs of Germiston within 5 km of the property, the closest include Primrose to the north- and north-west, Woodmere to the north, Marlands to the North-west, Berton Park to the east, Balmoral and Delmore Park to the south-east, Germiston South to the south, and Residential clusters of Driefontein IR-87 to the south and west. All these areas have residences within 1 to 2 km from the property.

A.4 Nature of Process

Overview Facility-wide Process Description:

Process flow diagram is required, please go to the Attachment page to upload.

Scrap aluminium (2 400 tons per month) and copper (250 tons per month) arrives on site via truck. Aluminium scrap arrives as bales, briquettes, hammered, shredded, or loose, and may contain plastic, oils, grease, dust, and/or laminates. Copper scrap is from industrial and domestic used. Scrap is sorted manually. Some aluminium scrap may require pre-heating in oil fired pre-heater. Copper scrap will not require pre-heating.

Aluminium scrap is fed to one of three oil fired melting furnaces (two 8-ton reverberatory and one 10-ton vortex pump furnace) in batches using charging machines. Molten aluminium is tapped from the furnaces into one of three oil fired 10-ton holding furnaces. Alloy is then cast into moulds via one of two casting machines and cooled to form ingots. The plant will produce 2 000 tons of aluminium alloy per month.

The 4-ton box type oil fired furnace is charged with copper scrap in a batch process. Copper alloy is tapped and cast into moulds on a mould trolley and allowed to cool to form copper ingots. The plant will produce 200 tons of copper alloy per month. Both aluminium and copper alloy ingots are packed and dispatched via truck.

Note: The pre-heater and all furnaces may also be fired with natural gas. For this application, the use of low sulphur fuel oil, with higher sulphur and PM content, is assumed.

All furnaces are fitted with fume extraction, both from the furnaces itself and via hoods to capture fumes during charging and/or tapping. Fugitive emissions are furthermore be extracted from the building roof at its apex. All extracted fumes/air (30 000 Nm3/h) are mixed to lower the temperature of the off gas before it passes through a bagfilter to reduce the PM load. It is then vented to atmosphere 30 m above ground level. Bagfilter dust is bagged and disposed of by a waste disposal contractor.

Dross (450 tons per month) from the aluminium furnaces is tapped or skimmed from the molten material surface and cooled in the dross recovery plant. Aluminium is recovered from dross by a cold process at a 10% recovery rate. Cooled dross is passed through a vibratory screen, and, depending on size, passed through a ball mill or pulveriser. Aluminium is separated from other metals in the dross with a magnetic drum. Recovered aluminium is returned to the melting process. Materials remaining after the recovery of Al (approximately 405 tons per month) is bagged and disposed of by a waste disposal contractor. The entire dross recovery process takes place within an enclosed building.

The dross recovery plant ball mill and pulveriser are fitted with dust extraction. Extracted dust laden air will be passed through a bagfilter to reduce the particulate matter load before being vented to atmosphere via a stack at 24 m above ground level. Bagfilter dust will be bagged disposed of by a waste disposal contractor.

Please see attached process flow diagram.

A.5 Facility Wide Listed Activities with Regulatory Applicability

Facility Wide Activities with Regulatory Applicability:

SEC21 Code	Category Name	Subcategory Name	Description	Application
SA0404	4. Metallurgical Industry	4.4 Secondary Aluminium Production	Secondary aluminium production and alloying through the application of heat (excluding metal recovery, covered under Subcategory 4.21)	All installations.
SA0402	4. Metallurgical Industry	4.2 Combustion Installations	Combustion installations not used primarily for steam raising and electricity generation (except drying)	All combustion installations (except test or experimental).

Facility Wide Air Pollutant Emissions:

Specify whether or not an Allowable Limit is being requested. Enter the rest of the row if applicable.

SEC21 Subcategory	Pollutant Name	Minimum Emissions Standards (mg/Nm3) (Existing)	Minimum Emissions Standards (mg/Nm3) (New)	Reference Conditions
SA0404	AMMONIA	100.00	30.00	mg/Nm3 under normal conditions of 273 Kelvin and 101.3 kPa.
SA0404	FLUORIDE	5.00	1.00	mg/Nm3 under normal conditions of 273 Kelvin and 101.3 kPa.
SA0404	PM	100.00	30.00	mg/Nm3 under normal conditions of 273 Kelvin and 101.3 kPa.
SA0404	VOC	40.00	40.00	mg/Nm3 under normal conditions of 273 Kelvin and 101.3 kPa.
SA0402	OXIDES OF NITROGEN	2000.00	500.00	mg/Nm3 under normal conditions of 273 Kelvin and 101.3 kPa.
SA0402	PM	100.00	50.00	mg/Nm3 under normal conditions of 273 Kelvin and 101.3 kPa.
SA0402	SO2	500.00	500.00	mg/Nm3 under normal conditions of 273 Kelvin and 101.3 kPa.

PART-B Contact Information				
First Name	Wikus			
Last Name	Du Plessis			
Job Title	ACO			
Responsibility	Emission Invertory Primary			
Email	wikus@getalloys.co.za			
Phone Number	0218793367			
Phone Extension	2005			
After Hours Phone Number	0218793367			
Fax				
Address 1	13 Glenhurst Street Beaconvale Parow			
Address 2				
Province	Western Cape			
District Municipality	City of Cape Town Metropolitan Municipality			
Local Municipality	City of Cape Town Metropolitan Municipality			
Zip Code	7499			

PART-C Raw Materials & Production

C.1 Raw Materials	Used			
Material Type	Design Consumption Rate	Actual Consumption Rate	Unit	Specific Unit Type
Scrap Metal	28800		Tons/Year	
Scrap Metal	3000		Tons/Year	
C.2 Production Rate	es			
Production Name	Design Production Capacity	Actual Production Capacity	Unit	Specific Unit Type
ALUMINUM	24000		Tons/Year	
COPPER	2400		Tons/Year	
C.3 By Product Rat	es			
Product Name	Design Production Capacity	Actual Production Capacity	Unit	Specific Unit Type
SLAG	4860	4860	ton/yr	

C.4 Materials Used in	Energy Sources					
Material	Design Consumption Rate	Actual Consumption Rate	Unit	Specific Unit Type	Sulphur %	Ash %
FUEL OIL	3000		Other	Litres/day	1	

PART-D Control Device

Control Device General Information:

Control Device General Information:

Control Device			Control Device Detail Information							
Device Type	Control Unit ID	Control Unit Name	Description	Date Manufactur ed	Model Number		Significant	Control Eff Design Capacity	Control	Overall Min. Utilization (%)
Baghouse	CD0001	CDMain foundry baghouse	Main foundry baghouse	N/A	N/A	N/A	N/A			
Baghouse	CD0002	CDDross recovery plant baghouse	Dross recovery plant baghouse	N/A	N/A	N/A	N/A			

Associated Controlled Pollutant List:

Co	ontrol Device	Controlled Pollutant List			
Control Unit ID	Control Unit Name	Pollutant Type	Pollutant Code	Pollutant Name	Control Efficiency
CD0001	CDMain foundry baghouse		PM	PM	100
CD0002	CDDross recovery plant baghouse		РМ	РМ	100

Disposal of Waste and Effluents Arising from Control Device

Waste Effluent Type	Hazardous Components Present	Method Of Disposal	Description

PART-E Stack

Stack Detail Information:

Stack ID	SV0001
Stack Name	SVMain foundry baghouse stack
Stack Orientation	Vertical
Stack Height (meter)	30
Stack Diameter (meter)	1.2
Height Above Nearby Building (meter) (Check Detail View)	10
Exit Gas Velocity (meter/min)	12.2902983832078
Exit Gas Flow Rate (cu.meter/sec)	13.9
Exit Gas Temperature (Celsius)	100
Latitude Measure	-26.196627
Longitude Measure	28.184093
Stack ID	SV0002
Stack Name	SVDross Recovery Baghouse Stack
Stack Orientation	Vertical
Stack Height (meter)	24
Stack Diameter (meter)	0.4
Height Above Nearby Building (meter) (Check Detail View)	10
Exit Gas Velocity (meter/min)	10.0267614147897
Exit Gas Flow Rate (cu.meter/sec)	1.26
Exit Gas Temperature (Celsius)	21
Latitude Measure	-26.196874
Longitude Measure	28.184435

PART-F Emission Unit

General Information:

Emission Unit ID	Emission Unit Name	Emission Unit Type	New Emission Unit?	Installation Date	Description	Batch/Continuous Specification
EU0001	EUScrap pre- treatment	Other fugitive	New	Installation Date N/A	Manual cleaning, sizing, and sorting of aluminium and copper scrap metal	Batch
EU0002	EUScrap pre- heater	Other fugitive	New	N/A	Pre-heating of aluminium scrap before charging to furnace	Batch
EU0003	EU8-ton reverberatory melting furnace (MF01)	Other fugitive	New	N/A	Melting of aluminium scrap (MF01)	Batch
EU0004	EU8-ton reverberatory melting furnace (MF02)	Other fugitive	New	N/A	Melting of aluminium scrap (MF02)	Batch
EU0005	EU10-ton vortex pump furnace (PF01)	Other fugitive	New	N/A	Melting of aluminium scrap (PF01)	Batch
EU0006	EU10-ton holding furnace (HF01)	Other fugitive	New	N/A	Holding of molten alloy before casting (HF01)	Batch
EU0007	EU10-ton holding furnace (HF02)	Other fugitive	New	N/A	Holding of molten alloy before casting (HF02)	Batch
EU0008	EU10-ton holding furnace (HF03)	Other fugitive	New	N/A	Holding of molten alloy before casting (HF03)	Batch
EU0009	EU4-ton box- type melting furnace (CF01)	Other fugitive	New	N/A	Melting of copper scrap (CF01)	Batch
EU0010	EUCasting machine (CM01)	Other fugitive	New	N/A	Casting and cooling of aluminium alloy ingots (CM01)	Batch
EU0011	EUCasting machine (CM02)	Other fugitive	New	N/A	Casting and cooling of aluminium alloy ingots (CM01)	Batch

EU0012	EUCasting mould trolley	Other fugitive	New	N/A	Casting and cooling of copper alloy ingots	Batch
EU0013	EUProduct handling and dispatch	Other fugitive	New	N/A	Packing and loading of aluminium and copper ingots for dispatch	Batch
EU0014	EUCooling	Other fugitive	New	N/A	Cooling of dross prior to cold processing and recovery	Batch
EU0015	EUVibrating screen	Other fugitive	New	N/A	Screening of cooled dross into various size fractions	Batch
EU0016	EUBall mill	Other fugitive	New	N/A	Sizing of dross to recover aluminium	Batch
EU0017	EUPulveriser	Other fugitive	New	N/A	Sizing of dross to recover aluminium	Batch
EU0018	EUMagnetic drum separator	Other fugitive	New	N/A	Separating aluminium from other metallics	Batch
EU0019	EUWaste handling and disposal	Other fugitive	New	N/A	Bagging and loading of waste and baghouse dust for disposal by contractor	Batch

Source Info:

Emission Unit ID	Emission Unit Name	Area/Line Source	Length	Width	Angle of Rotation Relative for True North	Operation Time (Hour/Day)
EU0001	EUScrap pre-treatment	Υ				24
EU0002	EUScrap pre-heater	Υ				24
EU0003	EU8-ton reverberatory melting furnace (MF01)	Y				24
EU0004	EU8-ton reverberatory melting furnace (MF02)	Y				24
EU0005	EU10-ton vortex pump furnace (PF01)	Y				24
EU0006	EU10-ton holding furnace (HF01)	Y				24
EU0007	EU10-ton holding furnace (HF02)	Y				24
EU0008	EU10-ton holding furnace (HF03)	Y				24
EU0009	EU4-ton box-type melting furnace (CF01)	Y				24
EU0010	EUCasting machine (CM01)	Υ				24
EU0011	EUCasting machine (CM02)	Υ				24

EU0012	EUCasting mould trolley	Υ		24
EU0013	EUProduct handling and dispatch	Υ		24
EU0014	EUCooling	Υ		24
EU0015	EUVibrating screen	Υ		24
EU0016	EUBall mill	Υ		24
EU0017	EUPulveriser	Υ		24
EU0018	EUMagnetic drum separator	Υ		24
EU0019	EUWaste handling and disposal	Υ		24

Associated Control Device List:

Emission Unit ID	Emission Unit Name	Control Device ID	Control Device Type	Commission Date

Associated Stack List:

Emission Unit ID	Emission Unit Name	Stack ID	Stack Orientation	Latitude	Longitude	Height

PART-G Reporting Group

General Information::

Reporting Group Identifier	Reporting Group Type	Description
RG0006	Multi-Unit Reporting Group	Main Foundry Building
RG0007	Multi-Unit Reporting Group	Reporting Group 2 – Dross recovery

Emission Unit List:						
Reporting Group Identifier	up Emission Unit ID Emission Unit Type		Installation Date	Description		
RG0006	EU0001	Other fugitive	Installation Date N/A	Manual cleaning, sizing, and sorting of aluminium and copper scrap metal		
RG0006	EU0002	Other fugitive	N/A	Pre-heating of aluminium scrap before charging to furnace		
RG0006	EU0003	Other fugitive	N/A	Melting of aluminium scrap (MF01)		
RG0006	EU0004	Other fugitive	N/A	Melting of aluminium scrap (MF02)		
RG0006	EU0005	Other fugitive	N/A	Melting of aluminium scrap (PF01)		
RG0006	EU0006	Other fugitive	N/A	Holding of molten alloy before casting (HF01)		
RG0006	EU0007	Other fugitive	N/A	Holding of molten alloy before casting (HF02)		
RG0006	EU0008	Other fugitive	N/A	Holding of molten alloy before casting (HF03)		
RG0006	EU0009	Other fugitive	N/A	Melting of copper scrap (CF01)		
RG0006	EU0010	Other fugitive	N/A	Casting and cooling of aluminium alloy ingots (CM01)		
RG0006	EU0011	Other fugitive	N/A	Casting and cooling of aluminium alloy ingots (CM01)		
RG0006	EU0012	Other fugitive	N/A	Casting and cooling of copper alloy ingots		
RG0006	EU0013	Other fugitive	N/A	Packing and loading of aluminium and copper ingots for dispatch		
RG0007	EU0014	Other fugitive	N/A	Cooling of dross prior to cold processing and recovery		
RG0007	EU0015	Other fugitive	N/A	Screening of cooled dross into various size fractions		
RG0007	EU0016	Other fugitive	N/A	Sizing of dross to recover aluminium		

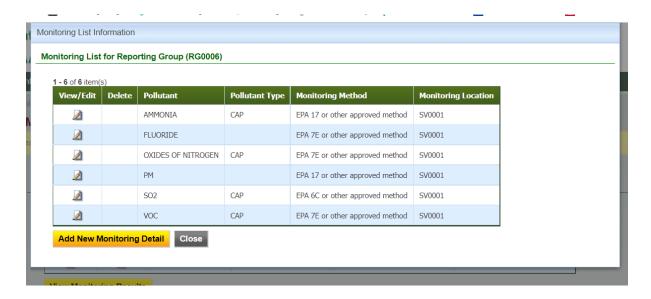
RG0007	EU0017	Other fugitive	N/A	Sizing of dross to recover aluminium
RG0007	EU0018	Other fugitive	N/A	Separating aluminium from other metallics
RG0007	EU0019	Other fugitive		Bagging and loading of waste and baghouse dust for disposal by contractor

PART-H Activity and Emission

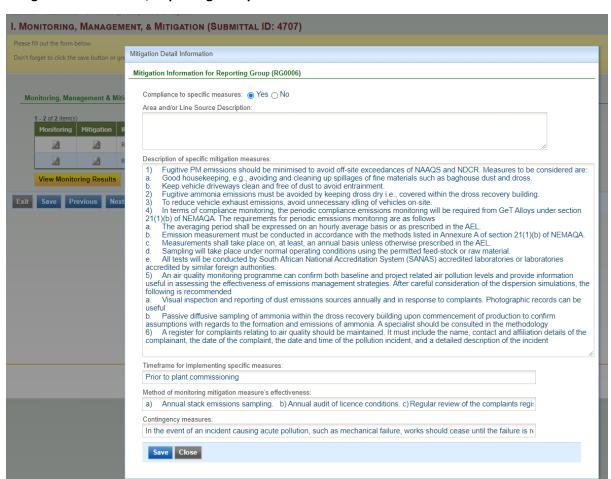
Reporting Group ID	Pollutant Name	Existing Plant Minimum Emission Standards	New Plant Minimum Emission Standards	Maximum Release Rate (mg/Nm³)	Potential to Emit Value	Past Actual Daily Average	Units
RG0006	AMMONIA	100.00	30.00	30			mg/Nm3
RG0006	FLUORIDE	5.00	1.00	1			mg/Nm3
RG0006	OXIDES OF NITROGEN	2000.00	500.00	500			mg/Nm3
RG0006	PM	100.00	30.00	30			mg/Nm3
RG0006	SO2	500.00	500.00	500			mg/Nm3
RG0006	VOC	40.00	40.00	40			mg/Nm3
RG0007	AMMONIA	100.00	30.00	30			mg/Nm3
RG0007	FLUORIDE	5.00	1.00	1			mg/Nm3
RG0007	PM	100.00	30.00	30			mg/Nm3
RG0007	VOC	40.00	40.00	40			mg/Nm3

Section I: Monitoring, Management & Mitigation

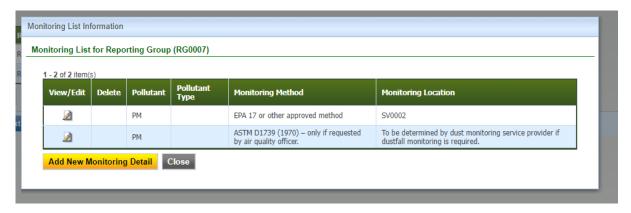
Monitoring information, Reporting Group RG0006:



Mitigation information, Reporting Group RG0006:



Monitoring information, Reporting Group RG0007:



Mitigation information, Reporting Group RG0007:

