

Environment Protection Licence



Licence - 6163

Licence Details

Number:	6163
Anniversary Date:	29-October

Licensee

TOMAGO ALUMINIUM COMPANY PTY LTD

PO BOX 405

RAYMOND TERRACE NSW 2324

Premises

TOMAGO ALUMINIUM COMPANY PTY LIMITED

35 & 45 TOMAGO ROAD

TOMAGO NSW 2322

Scheduled Activity

Metallurgical activities

Waste Processing (non-thermal treatment)

Waste Storage

Fee Based Activity

Scale

Aluminium production (alumina)	> 10000 T processed
Metal waste generation	> 100 T generated or stored
Non-thermal treatment of hazardous and other waste	Any T treated
Waste storage - hazardous, restricted solid, liquid, clinical and related waste and asbestos waste	> 0 T stored

Region

North - Hunter

Ground Floor, NSW Govt Offices, 117 Bull Street
NEWCASTLE WEST NSW 2302

Phone: (02) 4908 6800

Fax: (02) 4908 6810

PO Box 488G NEWCASTLE

NSW 2300

Environment Protection Licence

Licence - 6163



INFORMATION ABOUT THIS LICENCE	4
Dictionary	4
Responsibilities of licensee	4
Variation of licence conditions	4
Duration of licence	4
Licence review	4
Fees and annual return to be sent to the EPA	4
Transfer of licence	5
Public register and access to monitoring data	5
1 ADMINISTRATIVE CONDITIONS	6
A1 What the licence authorises and regulates	6
A2 Premises or plant to which this licence applies	6
A3 Other activities	6
A4 Information supplied to the EPA	7
2 DISCHARGES TO AIR AND WATER AND APPLICATIONS TO LAND	7
P1 Location of monitoring/discharge points and areas	7
3 LIMIT CONDITIONS	8
L1 Pollution of waters	8
L2 Load limits	9
L3 Concentration limits	9
L4 Volume and mass limits	10
L5 Waste	11
L6 Potentially offensive odour	12
L7 Other limit conditions	12
4 OPERATING CONDITIONS	13
O1 Activities must be carried out in a competent manner	13
O2 Maintenance of plant and equipment	13
O3 Effluent application to land	13
O4 Emergency response	13
O5 Processes and management	14
O6 Waste management	14
5 MONITORING AND RECORDING CONDITIONS	15
M1 Monitoring records	15
M2 Requirement to monitor concentration of pollutants discharged	16

Environment Protection Licence



Licence - 6163

M3	Testing methods - concentration limits	18
M4	Testing methods - load limits	18
M5	Environmental monitoring	18
M6	Weather monitoring	19
M7	Recording of pollution complaints	20
M8	Telephone complaints line	20
M9	Requirement to monitor volume or mass	21
6	REPORTING CONDITIONS	22
R1	Annual return documents	22
R2	Notification of environmental harm	23
R3	Written report	23
R4	Other reporting conditions	23
7	GENERAL CONDITIONS	24
G1	Copy of licence kept at the premises or plant	24
8	POLLUTION STUDIES AND REDUCTION PROGRAMS	24
U1	PRP 2 - Noise Auditing and Reporting	24
	DICTIONARY	26
	General Dictionary	26

Environment Protection Licence

Licence - 6163



Information about this licence

Dictionary

A definition of terms used in the licence can be found in the dictionary at the end of this licence.

Responsibilities of licensee

Separate to the requirements of this licence, general obligations of licensees are set out in the Protection of the Environment Operations Act 1997 ("the Act") and the Regulations made under the Act. These include obligations to:

- ensure persons associated with you comply with this licence, as set out in section 64 of the Act;
- control the pollution of waters and the pollution of air (see for example sections 120 - 132 of the Act);
- report incidents causing or threatening material environmental harm to the environment, as set out in Part 5.7 of the Act.

Variation of licence conditions

The licence holder can apply to vary the conditions of this licence. An application form for this purpose is available from the EPA.

The EPA may also vary the conditions of the licence at any time by written notice without an application being made.

Where a licence has been granted in relation to development which was assessed under the Environmental Planning and Assessment Act 1979 in accordance with the procedures applying to integrated development, the EPA may not impose conditions which are inconsistent with the development consent conditions until the licence is first reviewed under Part 3.6 of the Act.

Duration of licence

This licence will remain in force until the licence is surrendered by the licence holder or until it is suspended or revoked by the EPA or the Minister. A licence may only be surrendered with the written approval of the EPA.

Licence review

The Act requires that the EPA review your licence at least every 5 years after the issue of the licence, as set out in Part 3.6 and Schedule 5 of the Act. You will receive advance notice of the licence review.

Fees and annual return to be sent to the EPA

For each licence fee period you must pay:

- an administrative fee; and
- a load-based fee (if applicable).

Environment Protection Licence

Licence - 6163



The EPA publication “A Guide to Licensing” contains information about how to calculate your licence fees. The licence requires that an Annual Return, comprising a Statement of Compliance and a summary of any monitoring required by the licence (including the recording of complaints), be submitted to the EPA. The Annual Return must be submitted within 60 days after the end of each reporting period. See condition R1 regarding the Annual Return reporting requirements.

Usually the licence fee period is the same as the reporting period.

Transfer of licence

The licence holder can apply to transfer the licence to another person. An application form for this purpose is available from the EPA.

Public register and access to monitoring data

Part 9.5 of the Act requires the EPA to keep a public register of details and decisions of the EPA in relation to, for example:

- licence applications;
- licence conditions and variations;
- statements of compliance;
- load based licensing information; and
- load reduction agreements.

Under s320 of the Act application can be made to the EPA for access to monitoring data which has been submitted to the EPA by licensees.

This licence is issued to:

TOMAGO ALUMINIUM COMPANY PTY LTD

PO BOX 405

RAYMOND TERRACE NSW 2324

subject to the conditions which follow.

Environment Protection Licence

Licence - 6163



1 Administrative Conditions

A1 What the licence authorises and regulates

A1.1 This licence authorises the carrying out of the scheduled activities listed below at the premises specified in A2. The activities are listed according to their scheduled activity classification, fee-based activity classification and the scale of the operation.

Unless otherwise further restricted by a condition of this licence, the scale at which the activity is carried out must not exceed the maximum scale specified in this condition.

Scheduled Activity	Fee Based Activity	Scale
Metallurgical activities	Aluminium production (alumina)	> 10000 T processed
Metallurgical activities	Metal waste generation	> 100 T generated or stored
Waste Processing (non-thermal treatment)	Non-thermal treatment of hazardous and other waste	Any T treated
Waste Storage	Waste storage - hazardous, restricted solid, liquid, clinical and related waste and asbestos waste	> 0 T stored

A2 Premises or plant to which this licence applies

A2.1 The licence applies to the following premises:

Premises Details
TOMAGO ALUMINIUM COMPANY PTY LIMITED
35 & 45 TOMAGO ROAD
TOMAGO
NSW 2322
LOT 3232 DP 618103, LOT 301 DP 634536, LOT 3 DP 808004, LOT 104 DP 1125747
EXCLUDES AREA LEASED TO REGAIN SERVICES PTY LTD SHOWN ON THE PLAN TITLED "SITE LAYOUT AND SERVICES", DRAWING NUMBER 0010M22-001, WHICH IS FILED ON EPA FILE LIC07/2263-06.

A3 Other activities

A3.1 This licence applies to all other activities carried on at the premises, including:

Ancillary Activity
Sewage Treatment Systems

Environment Protection Licence

Licence - 6163



A4 Information supplied to the EPA

A4.1 Works and activities must be carried out in accordance with the proposal contained in the licence application, except as expressly provided by a condition of this licence.

In this condition the reference to "the licence application" includes a reference to:

a) the applications for any licences (including former pollution control approvals) which this licence replaces under the Protection of the Environment Operations (Savings and Transitional) Regulation 1998; and

b) the licence information form provided by the licensee to the EPA to assist the EPA in connection with the issuing of this licence.

2 Discharges to Air and Water and Applications to Land

P1 Location of monitoring/discharge points and areas

P1.1 The following points referred to in the table below are identified in this licence for the purposes of monitoring and/or the setting of limits for the emission of pollutants to the air from the point.

<i>Air</i>			
EPA identification no.	Type of Monitoring Point	Type of Discharge Point	Location Description
1	Dry scrubber stack	Dry scrubber stack	Line 1 West
2	Dry scrubber stack	Dry scrubber stack	Line 1 East
3	Dry scrubber stack	Dry scrubber stack	Line 2 west
4	Dry scrubber stack	Dry scrubber stack	Line 2 east
5	Anode Plant 1 - Dry scrubber stack	Anode Plant 1 - Dry scrubber stack	Anode plant 1
6	Anode Plants 2 & 3 - Dry scrubber stack	Anode Plants 2 & 3 - Dry scrubber stack	Anode plant 2 & 3
7	Dry scrubber stack	Dry scrubber stack	Line 3 west
8	Dry scrubber stack	Dry scrubber stack	Line 3 east
9	Dry scrubber stack	Dry scrubber stack	Line 1 & 2 extension
10	Roof vent	Roof vent	Potroom A manifold
11	Roof vent	Roof vent	Potroom B manifold
12	Roof vent	Roof vent	Potroom C manifold
13	Roof vent	Roof vent	Pot room D manifold
14	Roof vent	Roof vent	Potroom E manifold
15	Roof vent	Roof vent	Potroom F manifold
18	Weather monitoring and sulphur dioxide monitoring		Meteorological monitoring station
20	Ambient fluoride monitor		Site 80 - HWC Offices
21	Ambient fluoride monitor		Site 84 - 6 Old Punt Road Tomago, 1.25 km West of smelter
22	Ambient fluoride and sulphur dioxide monitors		Site 179 - Lot D Tomago Road (374 Tomago Rd, Tomago) 1.75 km E of smelter.

Environment Protection Licence



Licence - 6163

23	Ambient fluoride monitor		Site 188 - Woodbury, 5 km NW of smelter
24	Ambient fluoride and sulphur dioxide monitors		Site 181 The Farm 1.5 km SE of smelter
25	Ambient fluoride monitor		Site 122 - Botanic Gardens, 2.5 km N of smelter
26	Ambient fluoride monitor		Site 83 - Detention Centre, 1 km S of smelter
27	Ambient fluoride and Sulphur Dioxide monitor		Site 85 - Pacific Highway Tomago, 1.5 km NW of smelter
30	Total smelter emissions sum of point sources	Total smelter emissions sum of point sources	Total smelter emissions, sum of point sources
31	Stack emissions from the No1 paste plant.	Stack emissions from the No1 paste plant.	Pitch circuit stack
32	Stack emission from the No1 paste plant.	Stack emission from the No1 paste plant.	Proportioning circuit stack
33	Stack emission from the No2 paste plant	Stack emission from the No2 paste plant	Pitch circuit stack
34	Stack emission from the No2 paste plant	Stack emission from the No2 paste plant	Proportioning circuit stack
36	Ambient Monitoring - Sulphur Dioxide		Laverick Ave (378600E 6467200N)
38	Discharge to air and monitoring	Discharge to air and monitoring	Deline/Regain Spent Potliner Dust Filter

P1.2 The following points referred to in the table are identified in this licence for the purposes of the monitoring and/or the setting of limits for discharges of pollutants to water from the point.

P1.3 The following utilisation areas referred to in the table below are identified in this licence for the purposes of the monitoring and/or the setting of limits for any application of solids or liquids to the utilisation area.

Water and land

EPA Identification no.	Type of Monitoring Point	Type of Discharge Point	Location Description
16	Stormwater discharge quality and volume monitoring Discharge to waters	Stormwater discharge quality and volume monitoring Discharge to waters	The point of discharge to the Hunter River from the stormwater pond ref Drawing 0040 0C0 500
17	Effluent quality and volume monitoring Discharge to utilisation area	Effluent quality and volume monitoring Discharge to utilisation area	Utilisation area
35	Stormwater overflow		Overflow from first flush system

3 Limit Conditions

L1 Pollution of waters

L1.1 Except as may be expressly provided in any other condition of this licence, the licensee must comply with section 120 of the Protection of the Environment Operations Act 1997.

Environment Protection Licence

Licence - 6163



L2 Load limits

L2.1 The actual load of an assessable pollutant discharged from the premises during the reporting period must not exceed the load limit specified for the assessable pollutant in the table below.

Note: An assessable pollutant is a pollutant which affects the licence fee payable for the licence.

L2.2 The actual load of an assessable pollutant must be calculated in accordance with the relevant load calculation protocol.

Assessable Pollutant	Load limit (kg)
Coarse Particulates (Air)	192045.00
Fine Particulates (Air)	174685.00
Fluoride (Air)	298000.00
Lead (Air)	
Nitrogen Oxides (Air)	186620.00
Sulfur Oxides (Air)	11900000.00

Note: On 7 December 2009, the Minister for Planning granted development consent to authorize a continued increase in aluminium production at the smelter from 530,000 tpa to 575,000 tpa. To protect air quality it was negotiated at this time that the maximum annual Fluoride load limit for the premises must not exceed 298 tpa.

L3 Concentration limits

L3.1 For each monitoring/discharge point or utilisation area specified in the table below (by a point number), the concentration of a pollutant discharged at that point, or applied to that area, must not exceed the concentration limits specified for that pollutant in the table.

L3.2 Where a pH quality limit is specified in the table, the specified percentage of samples must be within the specified ranges.

L3.3 To avoid any doubt, this condition does not authorise the pollution of waters by any pollutant other than those specified in the table.

L3.4 Air Concentration Limits

POINT 1,2,3,4,5,6,7,8,9

Pollutant	Units of measure	100 percentile concentration limit	Reference conditions	Oxygen correction	Averaging period
Total Solid Particles	milligrams per cubic metre	50	dry, 273 K, 101.3 kPa		1 hour

Environment Protection Licence

Licence - 6163



Nitrogen Oxides	grams per cubic metre	2.0	dry, 273 K, 101.3 kPa	1 hour
-----------------	-----------------------	-----	-----------------------	--------

POINT 30

Pollutant	Units of measure	100 percentile concentration limit	Reference conditions	Oxygen correction	Averaging period
Fluoride	kilograms of Fluoride per tonne of Aluminium produced	0.8	dry, 273 K, 101.3 kPa		

POINT 31,32,33,34

Pollutant	Units of measure	100 percentile concentration limit	Reference conditions	Oxygen correction	Averaging period
Total Solid Particles	milligrams per cubic metre	50	dry, 273 K, 101.3 kPa		1 hour
Benzo(a)pyrene	milligrams per cubic metre	0.05	dry, 273 K, 101.3 kPa		1 hour
Total PAHs	milligrams per cubic metre	2.0	dry, 273 K, 101.3 kPa		1 hour

POINT 38

Pollutant	Units of measure	100 percentile concentration limit	Reference conditions	Oxygen correction	Averaging period
Total Solid Particles	milligrams per cubic metre	20			
Fine Particulates	milligrams per cubic metre	10			

L3.5 Water and/or Land Concentration Limits

POINT 16

Pollutant	Units of Measure	50 percentile concentration limit	90 percentile concentration limit	3DGM concentration limit	100 percentile concentration limit
Fluoride	milligrams per litre				40
Total suspended solids	milligrams per litre				50

L4 Volume and mass limits

Environment Protection Licence

Licence - 6163



- L4.1 For each discharge point or utilisation area specified below (by a point number), the volume/mass of:
- liquids discharged to water; or;
 - solids or liquids applied to the area;
- must not exceed the volume/mass limit specified for that discharge point or area.

Point	Unit of Measure	Volume/Mass Limit
16	kilolitres per day	4320
17	millimetres per week	30

- L4.2 The discharge limit for Point 16 in condition L4.1 may be exceeded under wet weather conditions provided that all practical measures are taken to minimise additional pollution caused by the wet weather.

- L4.3 Total fluoride emissions from the smelter must not exceed:

The equivalent of 0.8 kilogram of total fluoride per tonne of aluminium produced as a monthly average.

The equivalent of 0.56 kilograms of total fluoride per tonne of aluminium produced as an annual average.

and

The equivalent of 0.6 kilograms of total fluoride per tonne of aluminium produced, as an annual average, for more than one year out of every five years.

L5 Waste

- L5.1 The licensee must not cause, permit or allow any waste to be received at the premises, except the wastes expressly referred to in the column titled "Waste" and meeting the definition, if any, in the column titled "Description" in the table below.

Any waste received at the premises must only be used for the activities referred to in relation to that waste in the column titled "Activity" in the table below.

Any waste received at the premises is subject to those limits or conditions, if any, referred to in relation to that waste contained in the column titled "Other Limits" in the table below.

This condition does not limit any other conditions in this licence.

Code	Waste	Description	Activity	Other Limits
NA	Dross		Metallurgical Activities	NA
NA	Spent Pot Lining		Metallurgical Activities	NA
NA	Oily Water		Metallurgical Activities	NA
NA	Filter Bags		Metallurgical Activities	NA
NA	General or Specific exempted waste	Waste that meets all the conditions of a resource recovery exemption under Clause 51A of the Protection of the Environment Operations (Waste) Regulation	As specified in each particular resource recovery exemption	NA

Environment Protection Licence

Licence - 6163



		2005		
NA	Waste	Any waste received on site that is below licensing thresholds in Schedule 1 of the POEO Act, as in force from time to time	-	NA
NA	Aluminium Casting Waste and By-products		Metallurgical Activities	NA
NA	Aluminium Smelter Maintenance Waste		Metallurgical Activities	NA
NA	Waste Water and Sludges		Metallurgical Activities	NA
NA	Smelter Waste	Smelter waste generated on the premises	Metallurgical Activities	NA
NA	Smelter Waste	Smelter wastes generated on the premises of Hydro Kurri Kurri Smelter Pty Ltd.	Waste processing (non-thermal treatment)	NA
NA	Carbon Dust		Metallurgical Activities	NA
NA	Oil Absorbent Materials		Metallurgical Activities	NA
NA	Pitch Waste		Metallurgical Activities	NA
NA	Iron Contaminated Bath		Metallurgical Activities	NA
NA	Aluminium Potline Wastes and By-products		Metallurgical Activities	NA
NA	Electrode Manufacture Waste and By-products		Metallurgical Activities	NA

L5.2 Asbestos.

The licensee must comply with the conditions as specified in this licence or where no specific conditions are outlined in this licence, the licensee must comply with the Protection of the Environment Operations (Waste) Regulation 2005.

L6 Potentially offensive odour

L6.1 No condition of this licence identifies a potentially offensive odour for the purposes of section 129 of the Protection of the Environment Operations Act 1997.

Note: Section 129 of the Protection of the Environment Operations Act 1997, provides that the licensee must not cause or permit the emission of any offensive odour from the premises but provides a defence if the emission is identified in the relevant environment protection licence as a potentially offensive odour and the odour was emitted in accordance with the conditions of a licence directed at minimising odour.

L7 Other limit conditions

L7.1 Polychlorinated Biphenyls (PCBs)

The licensee must comply with the conditions as specified in this licence or where no specific conditions

Environment Protection Licence

Licence - 6163



are outlined in this licence, the licensee must comply with the "Chemical Control Order in Relation to Materials and Wastes Containing Polychlorinated Biphenyl, 1997".

L7.2 Sulphur Content of Pitch

The sulphur content of the pitch used in anode manufacture must not exceed 0.5% by weight.

L7.3 Sulphur Content of Coke

The sulphur content of the coke used in anode manufacture must not exceed 3.5 % by weight.

4 Operating Conditions

O1 Activities must be carried out in a competent manner

O1.1 Licensed activities must be carried out in a competent manner.

This includes:

- a) the processing, handling, movement and storage of materials and substances used to carry out the activity; and
- b) the treatment, storage, processing, reprocessing, transport and disposal of waste generated by the activity.

O2 Maintenance of plant and equipment

O2.1 All plant and equipment installed at the premises or used in connection with the licensed activity:

- a) must be maintained in a proper and efficient condition; and
- b) must be operated in a proper and efficient manner.

O3 Effluent application to land

O3.1 The quantity of effluent/solids applied to the utilisation area must not exceed the capacity of the area to effectively utilise the effluent/solids.

For the purposes of this condition, 'effectively utilise' includes the use of the effluent/solids for pasture or crop production, as well as the ability of the soil to absorb the nutrient, salt, hydraulic load and organic material.

O3.2 Effluent application to the utilisation area(s) must not occur in a manner that causes surface run-off from the utilisation area(s).

O3.3 Spray from effluent application to the utilisation area(s) must not drift beyond the boundary of the utilisation area(s) to which it has been applied.

O4 Emergency response

O4.1 The licensee must maintain, and implement as necessary, a current Pollution Incident Response Management Plan (PIRMP) for the premises. The PIRMP must be developed in accordance with the

Environment Protection Licence

Licence - 6163



requirements in Part 5.7A of the *Protection of the Environment Operations* (POEO) Act 1997 and POEO regulations. The licensee must keep the incident response plan on the premises at all times. The incident response plan must document systems and procedures to deal with all types of incidents (e.g. spills, explosions or fire) that may occur at the premises or that may be associated with activities that occur at the premises and which are likely to cause harm to the environment. The PIRMP must be tested at least annually or following a pollution incident.

- O4.2 The licensee must nominate to the EPA a representative of the licensee that is available at all times and is capable of providing immediate assistance or response during emergencies or any other incidents at the premises. The name of the nominated representative and their contact details, including their telephone number, must be current at all times. The nomination and contact details must be provided to the EPA's Regional Manager- Hunter at hunter.region@epa.nsw.gov.au or to PO Box 488G, Newcastle NSW 2300.

O5 Processes and management

- O5.1 All above ground tanks containing material that is likely to cause environmental harm must be bunded or have an alternative spill containment system in place.
- O5.2 Bunds must:
- have walls and floors constructed of impervious materials;
 - be of sufficient capacity to contain 110% of the volume of the tank (or 110% volume of the largest tank where a group of tanks are installed);
 - have floors graded to a collection sump; and
 - not have a drain valve incorporated in the bund structure,

or be constructed and operated in a manner that achieves the same environmental outcome.

O6 Waste management

- O6.1 The licensee must ensure that any liquid and/or non liquid waste for generating, processing, storage, resource recovery or disposal at the premises is assessed and classified in accordance with EPA Waste Classification Guidelines as in force from time to time.
- O6.2 The licensee must ensure that waste identified for recycling is stored separately from other waste.
- O6.3 All above ground tanks containing material that is likely to cause environmental harm must be bunded or have an alternative spill containment system in place.
- O6.4 The licensee must ensure that suitable measures (e.g. high/low alarms, control valves with interlock control, one way valves) are installed on all tanks, ponds or clarifiers and associated pipes and hoses to prevent the spillage of waste.
- O6.5 a) Aluminium smelter waste containing fluoride and/or cyanide must be kept on the Premises in such a manner that no leachate nor wind borne material can escape from the Premises and in the manner detailed in the Licensee's Environmental Impact Statement of 21 August, 1983.

b) The storage site for the aluminium smelter waste must be maintained in good order and condition.

Environment Protection Licence

Licence - 6163



c) The Premises must be provided with physical security to prevent unauthorised access to the aluminium smelter waste containing leachable fluoride and/or leachable cyanide.

d) No visible dust is to be generated to atmosphere from any storage of aluminium smelter waste containing fluoride or cyanide. To avoid any uncertainty this condition does not apply to waste stored within buildings but does apply to any dust generated from any storage buildings to atmosphere external to the building.

O6.6 a) Aluminium smelter waste containing fluoride and/or cyanide may be processed for the purpose of research into, and development of, environmentally acceptable methods for reducing the levels of leachable fluoride and/or leachable cyanide in such wastes.

b) Aluminium smelter waste containing fluoride and/or cyanide may be processed on the Premises, for the recovery of components, the making of other products or to reduce the leachable fluoride and/or leachable cyanide content.

c) Aluminium smelter waste containing fluoride and/or cyanide may be processed on the Premises, by treatment with any waste, with water, or, other with any material so as to facilitate handling and, except for wastes with leachable fluoride and/or leachable cyanide, to facilitate disposal.

O6.7 Fluoridated smelter wastes deposited at the Tomago Aluminium Company Pty Ltd Solid Waste Class 2 landfill at Wallaroo must be immobilised with gypsum to reduce leachable fluoride to less than 150 mg/l prior to being transported from the premises.

For determining leachable fluoride in approved smelter wastes, distilled water is the approved leachant.

5 Monitoring and Recording Conditions

M1 Monitoring records

M1.1 The results of any monitoring required to be conducted by this licence or a load calculation protocol must be recorded and retained as set out in this condition.

M1.2 All records required to be kept by this licence must be:

- a) in a legible form, or in a form that can readily be reduced to a legible form;
- b) kept for at least 4 years after the monitoring or event to which they relate took place; and
- c) produced in a legible form to any authorised officer of the EPA who asks to see them.

M1.3 The following records must be kept in respect of any samples required to be collected for the purposes of this licence:

- a) the date(s) on which the sample was taken;
- b) the time(s) at which the sample was collected;
- c) the point at which the sample was taken; and
- d) the name of the person who collected the sample.

Environment Protection Licence



Licence - 6163

M2 Requirement to monitor concentration of pollutants discharged

M2.1 For each monitoring/discharge point or utilisation area specified below (by a point number), the licensee must monitor (by sampling and obtaining results by analysis) the concentration of each pollutant specified in Column 1. The licensee must use the sampling method, units of measure, and sample at the frequency, specified opposite in the other columns:

M2.2 Air Monitoring Requirements

POINT 1,2,3,4,7,8,9

Pollutant	Units of measure	Frequency	Sampling Method
Gaseous fluoride	milligrams per cubic metre	Continuous	In line instrumentation
Sulphur dioxide	milligrams per cubic metre	Quarterly	TM-4
Total Fluoride	kilograms of Fluoride per tonne of Aluminium produced	Special Frequency 1	TM-9
Total Solid Particles	milligrams per cubic metre	Yearly	TM-15

POINT 5,6

Pollutant	Units of measure	Frequency	Sampling Method
Gaseous fluoride	milligrams per cubic metre	Continuous	In line instrumentation
Nitrogen Oxides	grams per cubic metre	Yearly	TM-11
Sulphur dioxide	milligrams per cubic metre	Yearly	TM-4
Total Fluoride	kilograms of Fluoride per tonne of Aluminium produced	Special Frequency 1	TM-9
Total PAHs	milligrams per cubic metre	Yearly	OM-6
Total Solid Particles	milligrams per cubic metre	Yearly	TM-15

POINT 10,11,12,13,14,15

Pollutant	Units of measure	Frequency	Sampling Method
Total Fluoride	kilograms of Fluoride per tonne of Aluminium produced	Monthly	TM-10

POINT 18,22,24,27,36

Pollutant	Units of measure	Frequency	Sampling Method
Sulphur dioxide	parts per hundred million	Continuous	AM-20

Environment Protection Licence



Licence - 6163

POINT 20,21,22,23,24,25,26,27

Pollutant	Units of measure	Frequency	Sampling Method
Fluoride	micrograms per cubic metre	Weekly	AM-8

POINT 31,32,33,34

Pollutant	Units of measure	Frequency	Sampling Method
Total PAHs	milligrams per cubic metre	Yearly	OM-6
Total Solid Particles	milligrams per cubic metre	Yearly	TM-15

POINT 38

Pollutant	Units of measure	Frequency	Sampling Method
Fine Particulates	milligrams per cubic metre	Yearly	OM-5
Total Solid Particles	milligrams per cubic metre	Yearly	TM-15

M2.3 Water and/ or Land Monitoring Requirements**POINT 16**

Pollutant	Units of measure	Frequency	Sampling Method
Conductivity	microsiemens per centimetre	Daily during any discharge	Grab sample
Fluoride	milligrams per litre	Daily during any discharge	Grab sample
pH	pH	Daily during any discharge	Grab sample
Total suspended solids	milligrams per litre	Daily during any discharge	Grab sample

POINT 17

Pollutant	Units of measure	Frequency	Sampling Method
Biochemical oxygen demand	milligrams per litre	Quarterly	Grab sample
Fluoride	milligrams per litre	Weekly	Grab sample
pH	pH	Weekly	Grab sample
Total suspended solids	milligrams per litre	Quarterly	Grab sample

POINT 35

Environment Protection Licence

Licence - 6163



Pollutant	Units of measure	Frequency	Sampling Method
Fluoride	milligrams per litre	Each overflow event	Grab sample
pH	pH	Each overflow event	Grab sample

M2.4 For the purposes of the tables above, Special Frequency 1 mean samples are to be collected and analysed twice per quarter.

M2.5 For the purposes of sampling at Point 16, daily sampling means samples collected at a minimum of twelve hourly intervals during any discharge event.

M3 Testing methods - concentration limits

- M3.1 Monitoring for the concentration of a pollutant emitted to the air required to be conducted by this licence must be done in accordance with:
- any methodology which is required by or under the Act to be used for the testing of the concentration of the pollutant; or
 - if no such requirement is imposed by or under the Act, any methodology which a condition of this licence requires to be used for that testing; or
 - if no such requirement is imposed by or under the Act or by a condition of this licence, any methodology approved in writing by the EPA for the purposes of that testing prior to the testing taking place.

Note: The *Protection of the Environment Operations (Clean Air) Regulation 2010* requires testing for certain purposes to be conducted in accordance with test methods contained in the publication "Approved Methods for the Sampling and Analysis of Air Pollutants in NSW".

M3.2 Subject to any express provision to the contrary in this licence, monitoring for the concentration of a pollutant discharged to waters or applied to a utilisation area must be done in accordance with the Approved Methods Publication unless another method has been approved by the EPA in writing before any tests are conducted.

M4 Testing methods - load limits

M4.1

Note: Division 3 of the *Protection of the Environment Operations (General) Regulation 2009* requires that monitoring of actual loads of assessable pollutants listed in L2.2 must be carried out in accordance with the relevant load calculation protocol set out for the fee-based activity classification listed in the Administrative Conditions of this licence.

M5 Environmental monitoring

M5.1 The licensee must conduct a monitoring program capable of measuring the environmental impact of emissions from the smelter on the surrounding environment.

Environment Protection Licence

Licence - 6163



- M5.2 The licensee must maintain a list of the monitoring sites and sampling frequency used to assess the impact of the smelter on surface water, groundwater, native vegetation and a map showing the locations of the smelter and the monitoring sites used.
- M5.3 Copies of the list(s) of monitoring sites and the map(s) showing their locations must be presented as part of the licensee's annual report.
- M5.4 Copies of the list of monitoring sites and the map showing their locations must be made available to any authorised officer of the EPA who ask to see them.
- M5.5 Data must be presented in time series that allows year to year comparison.
- M5.6 The environmental monitoring program must include the following:
- a) The licensee must monitor fluoride levels in native vegetation within 10 kilometres of the smelter. Monitoring results must be reported every two years (each odd numbered year).
 - b) The licensee must monitor fluoride and visual assessment of foliar damage during the growing season at commercial orchards, vineyards and market gardens within 10 kilometres of the smelter. Monitoring results must be reported every two years (each odd numbered year).
 - c) The licensee must monitor fluoride levels in pasture grasses and forage crops within 10 kilometres of the smelter. Monitoring results must be reported every two years (each odd numbered year).
 - d) The licensee must monitor fluoride, pH and conductivity levels of surface waters within 16.5 kilometres of the smelter. Monitoring results must be reported annually.
 - e) The licensee must monitor fluoride pH and conductivity levels of groundwaters within 16.5 kilometres of the smelter. Monitoring results must be reported annually.
- M5.7 **Ecological Monitoring**
The licensee must undertake a program of ecosystem monitoring relevant to the discharge of atmospheric emissions. This program must include an ecological study of the major ecosystems within the influence of the smelter to the satisfaction of the EPA.
- The ecological study must include an assessment of vegetation species composition and vigour.
- The monitoring and the results of the monitoring must be reported every two years (each odd numbered year).
- M6 Weather monitoring**
- M6.1 For each monitoring point specified in the table below the licensee must monitor (by sampling and obtaining results by analysis) the parameters specified in Column 1. The licensee must use the sampling method, units of measure, averaging period and sample at the frequency, specified opposite in the other columns.

Environment Protection Licence

Licence - 6163



Point 18

Parameter	Units of Measure	Frequency	Averaging Period	Sampling Method
Wind direction at 10m	°	Continuous	1 hour	AM-2 & AM-4
Wind speed at 10m	m/s	Continuous	1 hour	AM-2 & AM-4
Ambient Temperature at 5m	°C	Continuous	1 hour	AM-4
Wind direction at 30m	°	Continuous	1 hour	AM-2 & AM-4
Sigma Theta at 10m	°	Continuous	1 hour	AM-2 & AM-4
Ambient temperature at 30m	°C	Continuous	1 hour	AM-4
Additional requirements				
Siting				AM-1 & AM-4
Measurement				AM-1 & AM-4

M7 Recording of pollution complaints

M7.1 The licensee must keep a legible record of all complaints made to the licensee or any employee or agent of the licensee in relation to pollution arising from any activity to which this licence applies.

M7.2 The record must include details of the following:

- a) the date and time of the complaint;
- b) the method by which the complaint was made;
- c) any personal details of the complainant which were provided by the complainant or, if no such details were provided, a note to that effect;
- d) the nature of the complaint;
- e) the action taken by the licensee in relation to the complaint, including any follow-up contact with the complainant; and
- f) if no action was taken by the licensee, the reasons why no action was taken.

M7.3 The record of a complaint must be kept for at least 4 years after the complaint was made.

M7.4 The record must be produced to any authorised officer of the EPA who asks to see them.

M8 Telephone complaints line

M8.1 The licensee must operate during its operating hours a telephone complaints line for the purpose of receiving any complaints from members of the public in relation to activities conducted at the premises or by the vehicle or mobile plant, unless otherwise specified in the licence.

Environment Protection Licence

Licence - 6163



M8.2 The licensee must notify the public of the complaints line telephone number and the fact that it is a complaints line so that the impacted community knows how to make a complaint.

M8.3 The preceding two conditions do not apply until 3 months after:

- the date of the issue of this licence or
- if this licence is a replacement licence within the meaning of the Protection of the Environment Operations (Savings and Transitional) Regulation 1998, the date on which a copy of the licence was served on the licensee under clause 10 of that regulation.

M9 Requirement to monitor volume or mass

M9.1 For each discharge point or utilisation area specified below, the licensee must monitor:

- the volume of liquids discharged to water or applied to the area;
- the mass of solids applied to the area;
- the mass of pollutants emitted to the air;

at the frequency and using the method and units of measure, specified below.

POINT 16

Frequency	Unit of Measure	Sampling Method
Daily	kilolitres per day	No method specified

POINT 17

Frequency	Unit of Measure	Sampling Method
Weekly	millimetres per week	No method specified

POINT 35

Frequency	Unit of Measure	Sampling Method
Continuous during discharge	kilolitres per day	Weir structure and level sensor

M9.2 For the purposes of the table/s above Special Frequency 1 and Measure 1 means:

- Measuring the total flow to sewage treatment plant daily in kL/day;
- Measuring the available capacity in stormwater detention basin three times weekly in kilolitres; and
- Measuring the volume of effluent applied to the irrigation area weekly in mm/week.

M9.3 Mass emissions of fluoride are to be calculated from fluoride concentration and production data for primary and secondary emissions for each pot room group and the anode plant monthly. The relevant aluminium production figures for each pot room group based on total daily aluminium production from the smelter and the calculated aluminium equivalent corresponding to anode production used in the above calculation must be supplied to the satisfaction of the EPA.

Environment Protection Licence



Licence - 6163

6 Reporting Conditions

R1 Annual return documents

R1.1 The licensee must complete and supply to the EPA an Annual Return in the approved form comprising:
a) a Statement of Compliance; and
b) a Monitoring and Complaints Summary.
At the end of each reporting period, the EPA will provide to the licensee a copy of the form that must be completed and returned to the EPA.

R1.2 An Annual Return must be prepared in respect of each reporting period, except as provided below.

Note: The term "reporting period" is defined in the dictionary at the end of this licence. Do not complete the Annual Return until after the end of the reporting period.

R1.3 Where this licence is transferred from the licensee to a new licensee:
a) the transferring licensee must prepare an Annual Return for the period commencing on the first day of the reporting period and ending on the date the application for the transfer of the licence to the new licensee is granted; and
b) the new licensee must prepare an Annual Return for the period commencing on the date the application for the transfer of the licence is granted and ending on the last day of the reporting period.

Note: An application to transfer a licence must be made in the approved form for this purpose.

R1.4 Where this licence is surrendered by the licensee or revoked by the EPA or Minister, the licensee must prepare an Annual Return in respect of the period commencing on the first day of the reporting period and ending on:
a) in relation to the surrender of a licence - the date when notice in writing of approval of the surrender is given; or
b) in relation to the revocation of the licence - the date from which notice revoking the licence operates.

R1.5 The Annual Return for the reporting period must be supplied to the EPA by registered post not later than 60 days after the end of each reporting period or in the case of a transferring licence not later than 60 days after the date the transfer was granted (the 'due date').

R1.6 Where the licensee is unable to complete a part of the Annual Return by the due date because the licensee was unable to calculate the actual load of a pollutant due to circumstances beyond the licensee's control, the licensee must notify the EPA in writing as soon as practicable, and in any event not later than the due date. The notification must specify:
a) the assessable pollutants for which the actual load could not be calculated; and
b) the relevant circumstances that were beyond the control of the licensee.

R1.7 The licensee must retain a copy of the Annual Return supplied to the EPA for a period of at least 4 years after the Annual Return was due to be supplied to the EPA.

R1.8 Within the Annual Return, the Statement of Compliance must be certified and the Monitoring and Complaints Summary must be signed by:
a) the licence holder; or
b) by a person approved in writing by the EPA to sign on behalf of the licence holder.

Environment Protection Licence



Licence - 6163

R2 Notification of environmental harm

- R2.1 Notifications must be made by telephoning the Environment Line service on 131 555.
- R2.2 The licensee must provide written details of the notification to the EPA within 7 days of the date on which the incident occurred.

Note: The licensee or its employees must notify all relevant authorities of incidents causing or threatening material harm to the environment immediately after the person becomes aware of the incident in accordance with the requirements of Part 5.7 of the Act.

R3 Written report

- R3.1 Where an authorised officer of the EPA suspects on reasonable grounds that:
- a) where this licence applies to premises, an event has occurred at the premises; or
 - b) where this licence applies to vehicles or mobile plant, an event has occurred in connection with the carrying out of the activities authorised by this licence, and the event has caused, is causing or is likely to cause material harm to the environment (whether the harm occurs on or off premises to which the licence applies), the authorised officer may request a written report of the event.
- R3.2 The licensee must make all reasonable inquiries in relation to the event and supply the report to the EPA within such time as may be specified in the request.
- R3.3 The request may require a report which includes any or all of the following information:
- a) the cause, time and duration of the event;
 - b) the type, volume and concentration of every pollutant discharged as a result of the event;
 - c) the name, address and business hours telephone number of employees or agents of the licensee, or a specified class of them, who witnessed the event;
 - d) the name, address and business hours telephone number of every other person (of whom the licensee is aware) who witnessed the event, unless the licensee has been unable to obtain that information after making reasonable effort;
 - e) action taken by the licensee in relation to the event, including any follow-up contact with any complainants;
 - f) details of any measure taken or proposed to be taken to prevent or mitigate against a recurrence of such an event; and
 - g) any other relevant matters.
- R3.4 The EPA may make a written request for further details in relation to any of the above matters if it is not satisfied with the report provided by the licensee. The licensee must provide such further details to the EPA within the time specified in the request.

R4 Other reporting conditions

R4.1 Monthly Emission and Pollution Control Equipment Reporting

Within four weeks of the end of each month the stack and roof vent emission monitoring results for that

Environment Protection Licence

Licence - 6163



month shall be forwarded to the EPA. This data must be presented as a time series that shows the level of emission and the trend.

R4.2 The licensee must monitor and record the availability of pollution control equipment installed on the premises and report the results this monitoring as part of the monthly emission report.

The report must include the date, time, duration and reason for every outage of pollution control equipment, a cumulative total of outage times for each piece of equipment during the licence period and details of any action taken to prevent a recurrence of the pollution control equipment outage.

Note: The pollution control equipment specified in this requirement includes all scrubber systems installed on authorised discharge points 1,2,3,4,5,6,7, 8 and 9 for the purpose of removing fluoride, solid particles and polycyclic aromatic hydrocarbons from emissions to atmosphere.

Note: For the purpose of this condition an outage means any period of time exceeding 20 minutes when the pollution control equipment is not available for its intended purpose, for any reason.

7 General Conditions

G1 Copy of licence kept at the premises or plant

G1.1 A copy of this licence must be kept at the premises to which the licence applies.

G1.2 The licence must be produced to any authorised officer of the EPA who asks to see it.

G1.3 The licence must be available for inspection by any employee or agent of the licensee working at the premises.

8 Pollution Studies and Reduction Programs

U1 PRP 2 - Noise Auditing and Reporting

U1.1 The licensee must undertake a pre and post modification noise audits to ensure the production increase to 575,000 tpa does not increase noise emissions from the transformers. The auditing must be undertaken by a suitably qualified and experienced person, and include:

a) a pre modification noise audit and report which must:

i) be provided to the EPA prior to commencement of the expansion;

ii) be undertaken during a period when the facility is operating under normal operating conditions;

iii) identify the existing noise levels produced by the transformers; and

iv) report any noise complaints received in the past 12 months.

Environment Protection Licence

Licence - 6163



b) a post modification noise audit and report which must:

i) be provided to the EPA;

ii) be undertaken by 7 December 2014, or once the facility is operational at a capacity of 575,000 tpa production, whichever comes sooner;

iii) identify the noise levels produced by the transformers;

iv) compare the transformer noise levels with the levels identified in the pre modification noise audit in (a) above;

v) report any noise complaints received since undertaking the pre modification noise audit;

vi) assess whether any noise management or mitigation measures are required;

vii) describe any measures proposed to be implemented, including a timetable for the implementation; and

viii) detail how the effectiveness of these measures would be assessed and reported.

Environment Protection Licence



Licence - 6163

Dictionary

General Dictionary

3DGM [in relation to a concentration limit]	Means the three day geometric mean, which is calculated by multiplying the results of the analysis of three samples collected on consecutive days and then taking the cubed root of that amount. Where one or more of the samples is zero or below the detection limit for the analysis, then 1 or the detection limit respectively should be used in place of those samples
Act	Means the Protection of the Environment Operations Act 1997
activity	Means a scheduled or non-scheduled activity within the meaning of the Protection of the Environment Operations Act 1997
actual load	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
AM	Together with a number, means an ambient air monitoring method of that number prescribed by the <i>Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales</i> .
AMG	Australian Map Grid
anniversary date	The anniversary date is the anniversary each year of the date of issue of the licence. In the case of a licence continued in force by the Protection of the Environment Operations Act 1997, the date of issue of the licence is the first anniversary of the date of issue or last renewal of the licence following the commencement of the Act.
annual return	Is defined in R1.1
Approved Methods Publication	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
assessable pollutants	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
BOD	Means biochemical oxygen demand
CEM	Together with a number, means a continuous emission monitoring method of that number prescribed by the <i>Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales</i> .
COD	Means chemical oxygen demand
composite sample	Unless otherwise specifically approved in writing by the EPA, a sample consisting of 24 individual samples collected at hourly intervals and each having an equivalent volume.
cond.	Means conductivity
environment	Has the same meaning as in the Protection of the Environment Operations Act 1997
environment protection legislation	Has the same meaning as in the Protection of the Environment Administration Act 1991
EPA	Means Environment Protection Authority of New South Wales.
fee-based activity classification	Means the numbered short descriptions in Schedule 1 of the Protection of the Environment Operations (General) Regulation 2009.
general solid waste (non-putrescible)	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997

Environment Protection Licence



Licence - 6163

flow weighted composite sample	Means a sample whose composites are sized in proportion to the flow at each composites time of collection.
general solid waste (putrescible)	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
grab sample	Means a single sample taken at a point at a single time
hazardous waste	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
licensee	Means the licence holder described at the front of this licence
load calculation protocol	Has the same meaning as in the Protection of the Environment Operations (General) Regulation 2009
local authority	Has the same meaning as in the Protection of the Environment Operations Act 1997
material harm	Has the same meaning as in section 147 Protection of the Environment Operations Act 1997
MBAS	Means methylene blue active substances
Minister	Means the Minister administering the Protection of the Environment Operations Act 1997
mobile plant	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
motor vehicle	Has the same meaning as in the Protection of the Environment Operations Act 1997
O&G	Means oil and grease
percentile [in relation to a concentration limit of a sample]	Means that percentage [eg.50%] of the number of samples taken that must meet the concentration limit specified in the licence for that pollutant over a specified period of time. In this licence, the specified period of time is the Reporting Period unless otherwise stated in this licence.
plant	Includes all plant within the meaning of the Protection of the Environment Operations Act 1997 as well as motor vehicles.
pollution of waters [or water pollution]	Has the same meaning as in the Protection of the Environment Operations Act 1997
premises	Means the premises described in condition A2.1
public authority	Has the same meaning as in the Protection of the Environment Operations Act 1997
regional office	Means the relevant EPA office referred to in the Contacting the EPA document accompanying this licence
reporting period	For the purposes of this licence, the reporting period means the period of 12 months after the issue of the licence, and each subsequent period of 12 months. In the case of a licence continued in force by the Protection of the Environment Operations Act 1997, the date of issue of the licence is the first anniversary of the date of issue or last renewal of the licence following the commencement of the Act.
restricted solid waste	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
scheduled activity	Means an activity listed in Schedule 1 of the Protection of the Environment Operations Act 1997
special waste	Has the same meaning as in Part 3 of Schedule 1 of the Protection of the Environment Operations Act 1997
TM	Together with a number, means a test method of that number prescribed by the <i>Approved Methods for the Sampling and Analysis of Air Pollutants in New South Wales</i> .

Environment Protection Licence



Licence - 6163

TSP	Means total suspended particles
TSS	Means total suspended solids
Type 1 substance	Means the elements antimony, arsenic, cadmium, lead or mercury or any compound containing one or more of those elements
Type 2 substance	Means the elements beryllium, chromium, cobalt, manganese, nickel, selenium, tin or vanadium or any compound containing one or more of those elements
utilisation area	Means any area shown as a utilisation area on a map submitted with the application for this licence
waste	Has the same meaning as in the Protection of the Environment Operations Act 1997
waste type	Means liquid, restricted solid waste, general solid waste (putrescible), general solid waste (non - putrescible), special waste or hazardous waste

Mr Grahame Clarke

Environment Protection Authority

(By Delegation)

Date of this edition: 20-April-2000

Environment Protection Licence

Licence - 6163



End Notes

- 1 Licence varied by notice V/M upgrade, issued on 08-Jul-2000, which came into effect on 08-Jul-2000.
- 2 Licence varied by notice 1014382, issued on 25-Jan-2002, which came into effect on 19-Feb-2002.
- 3 Licence varied by notice 1016532, issued on 18-Apr-2002, which came into effect on 13-May-2002.
- 4 Licence varied by notice 1018042, issued on 05-Nov-2003, which came into effect on 30-Nov-2003.
- 5 Licence varied by notice 1041989, issued on 12-Nov-2004, which came into effect on 07-Dec-2004.
- 6 Licence varied by notice 1044367, issued on 08-Mar-2005, which came into effect on 02-Apr-2005.
- 7 Licence varied by notice 1056839, issued on 17-Mar-2006, which came into effect on 11-Apr-2006.
- 8 Licence varied by notice 1061531, issued on 31-Aug-2006, which came into effect on 31-Aug-2006.
- 9 Condition A1.3 Not applicable varied by notice issued on <issue date> which came into effect on <effective date>
- 10 Licence varied by notice 1097536, issued on 24-Apr-2009, which came into effect on 24-Apr-2009.
- 11 Licence varied by notice 1102846, issued on 11-Aug-2009, which came into effect on 11-Aug-2009.
- 12 Licence varied by notice 1107277, issued on 01-Jul-2010, which came into effect on 01-Jul-2010.
- 13 Licence varied by notice 1119919, issued on 11-Feb-2011, which came into effect on 11-Feb-2011.
- 14 Licence varied by notice 1501708 issued on 26-Oct-2011
- 15 Licence varied by notice 1504909 issued on 15-May-2012
- 16 Licence varied by notice 1509839 issued on 05-Nov-2012
- 17 Licence varied by notice 1517795 issued on 30-Oct-2014