



sulphur dioxide
the latest update

alcoa anglesea

environment report

2008
january



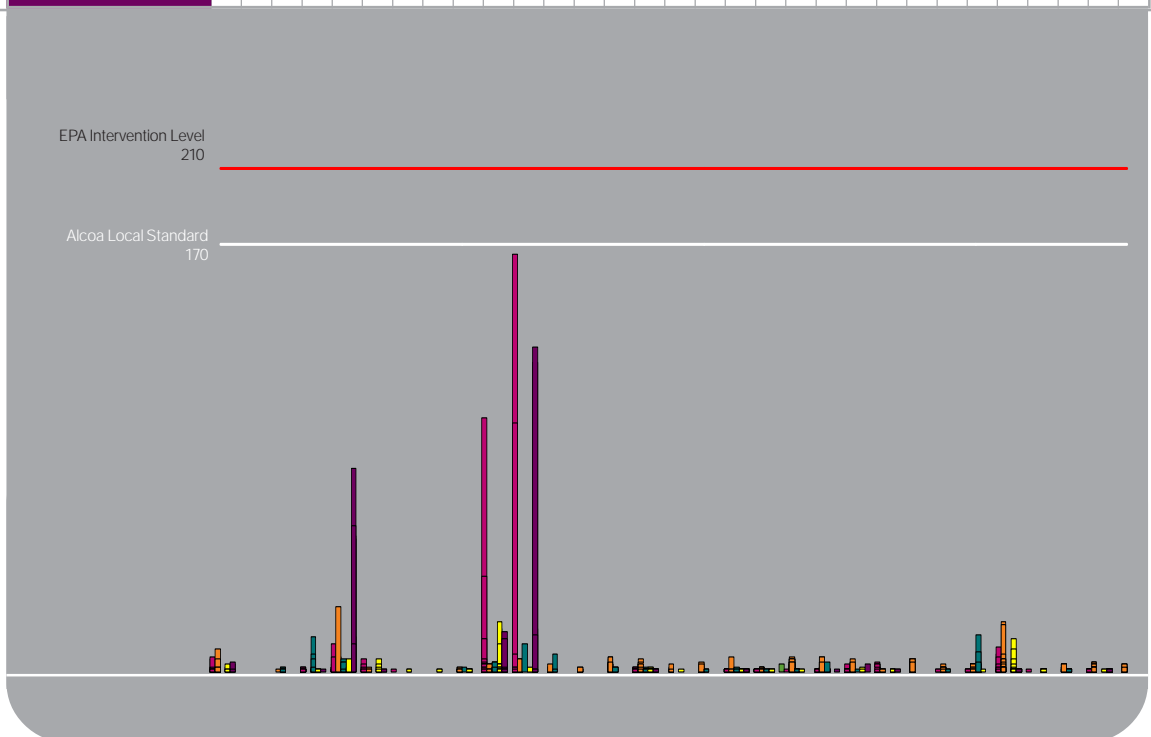
australia's aluminium

air

Air Monitoring	Average	Maximum
Stack Monitors		
Opacity g/m ³ 10-minute average	0.064	0.204
Stack SO ₂ kg/min 1-hour average Licence limit 111.34kg/min	63.41	84.20

Ambient Monitors	Average	Maximum
SO ₂ 1 hour ppb		
Community Centre	0	3
Primary School	1	166
Mt Ingoldsby	1	26
Scout Camp	0	15
Camp Wilkin	1	120
Camp Road	1	129

Ambient Monitors																															
SO ₂ Maximum 1 hour averages (ppb)																															
Date	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Community Centre	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0	0	0	0	0	0	0	0
Primary School	6	0	0	2	11	5	1	0	0	10	166	0	0	0	2	0	0	1	1	1	1	3	4	0	1	1	10	1	0	1	0
Mt Ingoldsby	9	0	1	0	26	2	0	0	2	3	5	3	2	6	5	3	4	6	2	6	6	5	1	5	3	3	20	0	3	4	3
Scout Camp	0	0	0	2	14	4	0	0	0	4	11	0	7	0	2	0	0	1	2	1	1	4	1	0	0	1	15	0	0	1	0
Camp Wilkin	3	0	0	1	5	5	1	1	1	20	2	0	0	0	2	1	0	1	1	1	0	2	1	0	0	1	13	1	0	1	1
Camp Road	4	0	0	1	8	1	0	0	0	16	129	0	0	0	1	0	0	1	0	0	1	0	0	1	3	1	0	0	0	1	0



sulphur dioxide



The investigation of management options for Alcoa Anglesea's sulphur dioxide (SO₂) ground level concentrations has been an ongoing issue for some time. In previous communications we have reviewed options for improved management of ground level concentrations of SO₂ above 200ppb detected by one of our six monitoring stations around the Anglesea township. Whilst we have at all times been in compliance with the Stack SO₂ discharge limit, one of the requirements of the new EPA licence was to submit a Sulphur Dioxide Management Plan in the latter half of 2007 to the local EPA to address ground level concentrations.

This plan outlined our commitment to current practices such as reducing power station generation during high risk times and to investigate specific options further. Among the 25 plus technical solutions reviewed, the option of scrubbing is currently being pursued via the Front End Loading (FEL3) engineering study. This study

is a highly detailed phase of the project design, which will be led by Alcoa with the help of Hatch Engineering. The project will commence in the first week of February and is due for completion in the later stages of this year.

Along with the engineering study into the scrubbing solution, an increased community consultation program is required by the EPA to ensure the community are well informed of our current management practices, performance and ongoing investigations. In the interim, work is progressing with the consultancy group Environ, to understand if a predictive modelling tool using climatic conditions, that is currently in operation in Kalgoorlie, will be a good fit for our operations here in Anglesea. We have also been running information sharing sessions with our control room employees to understand what further improvements we can make to ensure we achieve zero non-compliance for 2008.

ANIMALS OF THE ANGLESEA HEATH

RASPY CRICKET (*Apotrechus unicolor*)

Size: Up to 5 cm
 Distribution: Victoria
 Habitat: forests and woodlands, heath

The Raspy Cricket belongs to the invertebrate Order Orthoptera from the Greek *orthos* = straight and *pteron* = wing. Grasshoppers, crickets, katydids and locusts all belong to this order.

Orthopterans are easily recognisable by their hind legs, which are usually enlarged for jumping. They are often easily seen jumping away when disturbed. Many can produce sound by rubbing their legs, wings or abdomen together. It is predominantly males that produce these sounds to attract females.

As with many groups of invertebrates there isn't a lot of information on individual species. This is due to the large number of invertebrates - there are about 3000 species in Australia in the Orthoptera order alone.

RASPY CRICKET



LAND

RAINFALL (mm)

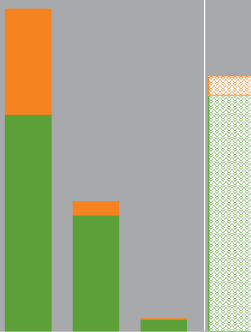
Month	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	TOTAL
2008 Rainfall	19.8												19.8
1968-2007 Average	44.5												44.5



WATER

TOWN WATER USE (ML)

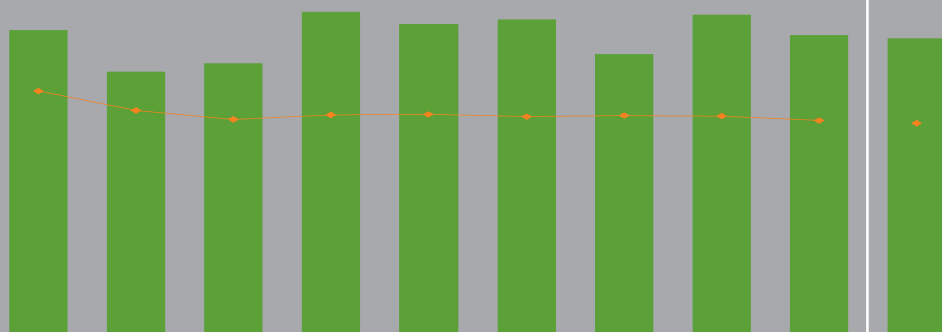
	2000	2007	2008	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
Process	23.9	12.8	1.3	1.3											
Amenity	11.6	1.5	0.1	0.1											



AIR

GREENHOUSE GAS (GHG) TOTAL (Mt) & GHG EMISSION EFFICIENCY (t/MWh)

	1990	2000	2001	2002	2003	2004	2005	2006	2007	2008
GHG Mt	1.42	1.23	1.27	1.50	1.45	1.47	1.31	1.49	1.40	1.38
GHG t/MWh	1.34	1.24	1.19	1.21	1.21	1.20	1.21	1.20	1.18	1.17



environmental improvement

Environmental Management Targets	January	2008 Total	Forecast	2008 Target
Reportable Environmental Incidents	0	0	0	0
Monthly EHS ASAT Audit Completion (%)	100	100	100	90
Air Emission Targets	January	2008 Total	Forecast	2008 Target
Ambient SO ₂ (no. readings > 210ppb)	0	0	0	0
Stack SO ₂ (no. hrs > 100kg/min)	0	0	0	0
SO ₂ Load Reductions (lost MWh)	7.5	7.5	90	N/A
GHG Efficiency (t CO ₂ e/MWh)	1.17	1.17	1.17	1.20
Opacity (10 min av > 0.25g/m ³ normal operation)	0	0	0	0
Water Targets	January	2008 Total	Forecast	2008 Target
Town Water (ML)	1.4	1.4	16.8	14.2
Bore Water (ML)	279	279	3348	2370
Waste Targets	January	2008 Total	Forecast	2008 Target
Waste to Landfill (t)	0.0	0.0	0.0	8.0
Solid Prescribed Waste to Landfill (t)	0.0	0.0	0.0	0.0
Mine Rehabilitation Targets	2008 Total		2008 Target	
2008 Area to Clear (ha)	0.0		0.0	
2008 Area to Rehabilitate (ha)	0.0		0.0	
2007 Mine Rehabilitation Species Richness (%)	N/A		100	

OUR ENVIRONMENT AND OUR EMPLOYEE

Greg, what is your role at Anglesea?

I am the Staff Engineer at the Anglesea Power Station incorporating engineering management, leading major projects and operations/maintenance support. One of my major roles this year is to lead engineering in FEL Stage Three which looks at accurately defining and costing the SO₂ scrubbing technology for Anglesea Power Station. I am the Alcoa representative on an internationally-based (Toronto), Australia-wide and site-wide team.

Where are we at with the SO₂ scrubbing and what are the next steps?

Right now we have just kicked off Stage 3 with an expected completion date of October this year. Following on from Stage 3 we need to do a rigorous business review which may lead to implementation starting in 2009.

What other environmental initiatives have you been involved with?

I have provided engineering support to water-use reduction projects, auxiliary energy-use minimisation, researching clean coal technologies and improving overall plant efficiency.

...GREG HOLLETT

