Submission No 18

INQUIRY INTO HEALTH IMPACTS OF AIR POLLUTION IN THE SYDNEY BASIN

Organisation: Western Clean Air & Water Action Group

Name: Ms Angelika Lange

Telephone:

Date Received: 4/08/2006

Subject:

Summary

WESTERN SYDNEY CLEAN AIR & WATER ACTION GROUP
PO BOX 42 GUILDFORD, NSW 2161
AUSTRALIA

3 August 2006

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The Director
General Purpose Standing Committee No 2
Legislative Council
Parliament House
Macquarie Street
Sydney NSW 2000

Dear Sir/Madam

The Western Sydney Clean Air and Water Action Group together with Concerned Residents from Guildford are pleased to provide a submission to the NSW Inquiry into the health impacts of air pollution in the Sydney basin.

The Western Sydney Clean Air and Water Action Group and Concerned Residents from Guildford also requests to formally appear before the inquiry to provide testimony. We recommend the following members of our group:

- Chaplain Len Stephens (Chair);
- Mr Eric Cameron, both from Western Sydney Clean Air & Water Action Group; &
- Mr Hugh Nguyen
- Ms Angelika Lange, both concerned residents from Guildford

The submission addresses a) to h) of the terms of reference.

Yours sincerely

Chaplain Len Stephens
Chairperson
Western Sydney Clean Air and Water Action Group

WESTERN SYDNEY CLEAN AIR AND WATER ACTION GROUP
&
CONCERNED RESIDENTS OF GUILDFORD

Inquiry into the health impacts of air pollution in the Sydney basin

August 2006

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EXECUTIVE SUMMARY

The Western Sydney Clean Air and Water Action Group together with Concerned Residents from Guildford have documented adverse impacts by the Alcoa Yennora plant emissions on the health of the local community.

This submission addresses a)-h) of the terms of reference, and provides recommendations for a health study, for monitoring and to improve air quality.

Action group and residents are concerned that some plants operating in the Sydney basin have been operating for decades emitting toxic pollutants adversely impacting the health of residents.

The action group and residents welcome the opportunity to provide this submission and convey our concerns on this important matter.

INQUIRY INTO THE HEALTH IMPACTS OF AIR POLLUTION IN THE SYDNEY BASIN

SUBMISSION BY WESTERN SYDNEY CLEAN AIR & WATER ACTION GROUP & CONCERNED RESIDENTS OF GUILDFORD

1. Introduction

The Western Sydney Clean Air & Water Action group and Concerned Residents of Guildford welcome the opportunity to provide a submission to the NSW Inquiry into the health impacts of air pollution in the Sydney basin.

The submission provides background information about our organisation and instances of serious health impacts of air pollution. The submission addresses the Committee's terms of reference a) to h).

The effect of air pollution on health has become a major concern in recent years. Epidemiological research into air pollution over the past 20 years has demonstrated cardio-respiratory health effects ranging from minor respiratory symptoms to increased hospital admissions and mortality.

The submission recognises that exposure to adverse air quality is generally involuntary, and that governments have a duty of care. Reduced exposure to air pollution has multiple benefits, including reduced health costs - an increasingly significant burden on the community.

2. Western Sydney Clean Air & Water Action Group

The Western Sydney Clean Air & Water Action Group was formed in November 2004 to advocate on behalf of local residents to improve local air and water quality. The action group is chaired by Chaplain Len Stephens, who was nominated by Westmead Hospital in 2006 for Australian of the Year.

Around 190 members of the local community are supporting this group by

- writing letters to Holroyd Council opposing Alcoa's DA
- signing letters to Holroyd Council opposing the DA
- attending a Community Meeting on 29.7.2006 to talk about their experiences with Alcoa

The action group was formed to help protect the community from air and water pollutants affecting Prospect Creek and Prospect Reservoir which directly affects Sydney's drinking water.

The action group is concerned that the Alcoa Yennora plant emits a wide range of toxic pollutants including dioxins. These pollutants have adverse health impacts on the local community as many residents have reported skin rashes, respiratory problems and other changes in their health which they attribute to Alcoa's pollution. The residents complain about smells from the factory, increased amounts of dust on their houses and cars and report the emission of dark clouds from Alcoa's chimneys especially at night-time. There seems to be higher proportion of asthma among children in the local schools surrounding Yennora. Whether the area has an increased number of residents suffering or dying of Leukaemia can only be investigated by a health-study.

The Action group therefore demands a health study in the area in comparison to NSW average data.

Some residents in the action group have resided in the area for around 40 years, before the Alcoa plant was established in 1969. They report changes of the air, indicating acidic smell at night or early in the morning in the last years.

This indicates, that Alcoa's reassurances of not polluting the area cannot be accepted by residents. Aloca reports their own measurements of pollution to the EPA, which are taken over by the EPA without further checks or measurements.

3. Alcoa's Yennora plant

3.1 Location and activities of the plant

Alcoa's Yennora plant is located within Western Sydney's basin and a key contributor to pollution in the local area. The plant has been operating since 1969.

Alcoa has a DA application before Holroyd Council and is seeking retrospective approval for the last 6 years and for the future to expand operations to process unlimited tonnes of contaminated aluminium scrap, dross and smelter waste. This matter is also being examined by the Environment Protection Authority (EPA).

The plant is in a basin of the lower old Guildford, Yennora and Fairfield area. The plant is used by Alcoa to melt aluminium and recycle aluminium scrap and dross imported from Victoria. This recycling process uses most pollution-intense material: The Aluminium scrap contains plastic lining and paint, is often contaminated with oil and other plastics, comes on wooden or plastic crates also inserted into the remelt furnaces. There are 3 remelt furnaces of 40, 40 and 60 tons of remelt capacity. This scrap-metal together with dross (a highly toxic powder-like by-product of Aluminium smelting, see Appendix IV) are the main source of pollution. The remelt furnaces have currently no dust collectors on their chimneys. Therefore all emissions are propelled unfiltered into the air and blown by the wind into the area of Prospect reservoir, which supplies Sydney with drinking water. Therefore all dust and pollution including dioxins ends up into our drinking water in Prospect Reservoir.

The rotary furnace at the Yennora plant has one bag house processing 25,000 tonnes of material per annum. There are another three furnaces at the remelt in Loftus Street which melt up to 90,000 tonnes of aluminium scrap, a large portion of which is contaminated scrap melted with no dust collectors.

Alcoa's EIS states they would like to melt dross, pot bottoms and other by-products of aluminium smelting over and above the aluminium cans and clean mill scrap (i.e. scrap from their own plant, not used or contaminated before). This will result in unchecked tonnage of material being brought to the plant from across Australia and may be imported from overseas. Alcoa reports that the Yennora plant is the biggest recycler of aluminium scrap in Australia.

The emissions from the production are distributed by air in the surrounding area of Guildford, Fairfield and Chester Hill, a residential area of around 130 000 residents. It is also carried via the Prospect Creek behind the factory into Georges River and down into Botany Bay.

The Yennora factory has a history of explosions (in 1997 the furnace exploded) and is a primary concern for terrorist attacks: A single serve of carbonated soft-drink can explode a big furnace with devastating results in the plant and the surrounding area including schools and nursing homes.

3.2 Emission levels and its effects

The following table describes the emissions from Alcoa from 1999 to 2003. For data in 2004 see Alcoa's report "Sustainability profile including environment improvement plan 2006 – 2007" at http://www.alcoa.com/australia/en/info_page/EIP.asp.

Corrected Load Based Limits for Alcoa for 1999 to 2003, published by the EPA on 12 7. 2006 (EPA reference SRFI 5598)

Assessable Pollutants	1999/2000	2000/2001	2001/2002	2002/2003
Coarse Particulate	17,557 kg	18,470 kg	20,136 kg	20,180 kg
Fine Particulate	7,205 kg	7,588 kg	8,263 kg	8,584 kg
Fluoride	705 kg	742 kg	808 kg	839 kg
Nitrogen Oxides	65,546 kg	69,028 kg	75,173 kg	78,676 kg
Sulphur Oxides	20,380 kg	21,462 kg	23,373 kg	24,195 kg
Volatile Organic Compounds	87,323 kg	91,962 kg	100,148 kg	103,826 kg

Alcoa reported in their report from 8. May 2006 for the year 2004/2005 an output of 241 tons of pollution to the EPA.

Mr Ross Carter from the Department of Environment and Conservation has admitted to the action group on Monday 3 July 2006 that pollution levels could be three times higher than those declared in the above diagram. He indicated the figures may have been estimated from only "one shed" or building.

The reason for this estimate can be that Alcoa originally processed aluminium sheets and recycled only their own scrap and dross from the early 1980's to 2001, but then expanded operations from 2001/02 to include imported aluminium dross and contaminated scrap without development consent. he Department's figures clearly reveal increases in emission levels, particularly in coarse particulates over 1999-2004. This has resulted in increased pollution levels in the local area.

The following emission data are taken from ALCOA's report called "Sustainability profiles including environment improvement plan 2006 – 2007". It is part of a list of 20 substances which Alcoa reports to the NPI (National Pollutant Inventory).

ALCOA emitted per year:

Substance	2002/2003	2003/2004	2004/2005	Changes 2002 to 2005
Carbon Monoxide	36 913 kg	58 241 kg	63 207 kg	Nearly doubled
Hydrochloric Acid	(no data)	3 171 kg	7 698 kg	More than doubled
Oxides of Nitrogen	76 589 kg	80 568 kg	82 322 kg	Increase
Sulphur Dioxide	28 439 kg	25 757 kg	26 369 kg	Slight decrease
Volatile Organic Compounds	120 000 kg	103 970 kg	109 134 kg	Slight decrease then increase
Chrome (III)	0.07 kg	9.38 kg	26.98 kg	More than 385 times as much

According to HLA-Envirosciences Pty Ltd (a company involved in environmental chemistry in Newcastle) the emission from aluminium plants pollution result in the following health effects:

Pollutant	Short term	Long term
Coarse particulates	Increased mortality	Increased rates of bronchitis, reduced lung function, reduced survival, reduced life expectancy
Fine particulates	Asthma, reduced lung function	Increased rates of bronchitis, reduced lung function, reduced survival, reduced life expectancy
Fluorides	Reduced lung capacity, respiratory tract irritation, asthma, cough, bronchitis, emphysema	Asthma, lung function disorders, emphysema, teeth and bone disorders, occupational asthma.
Dioxins	Bioaccumulation, skin lesions, chlor-acne, liver function damage	Immune system impact, endocrine disruption, DNA modification in foetus, known carcinogen.
Sulphur Dioxide	Increased mortality, asthma, pulmonary disease	Chronic respiratary disease, increased mortality, asthma.
Volatile Organic compounds (air toxics)	Known carcinogens	Chronic pulmonary disease, bone marrow depression, leukaemia, human carcinogen.

Source: Christopher McClung, HLA-Envirosciences Pty Limited, 18 Warabrook Boulevarde, Warabrook, NSW 2304 (2005).

On around 60 percent of days in a month there has been significant smoke emitting from the Rotary furnace building and the remelt building, so much so that it pours out of the eaves of the buildings and the whole area is shrouded like a fog. This activity is very often observed at night.

Alcoa has also revealed in correspondence to the action group dated 3 March 2006 that and verbally during Community-network meetings that:

- Fumes have escaped through the eaves of the building; and
- Use of wooden pallets and plastic film in scrap metal, as causes of fuming.

At the last community network meeting on 8 June 2006 Alcoa reported 15 complaints from the community to Alcoa regarding bad odour and smoke emissions since 6. April. Alcoa admits that partly standard procedures were not followed by their personnel (See Appendix VIII : Minutes of the community consulting meeting on 8. June 2006)

The Western Sydney Clean Air and Water Action group is vehemently against Alcoa's development application due to the amount of pollution and its impact on the local area.

The Western Sydney Clean Air and Water Action Group have many **serious concerns regarding the Yennora plant and the health impacts of the air pollution it emits including:**

- since 2001/2002 Alcoa has recycled imported aluminium dross and mixed contaminated aluminium scrap without development approval.
- an incomplete EIS has been prepared and the unlawful activity continues without development approval from Holroyd Council.
- Increased reports of residents about smell, clouds of dark smoke from chimneys, skin-rashes, respiratory problems and cancer-ocurrences in young people.
- proximity of the plant to the large population in Guildford, Yennora, Fairfield and Chester Hill areas and its location near a river basin, a creek running directly into the Georges River;
- proximity of the plant to community facilities used by children including eight schools, Guildford Leagues Club, six sports grounds and ten nursing homes (refer to Appendix III);
- wind blowing pollution particulates into the Prospect reservoir;
- concerns that Fluoride, Sulphur Oxide, and Nitrogen, are not being independently monitored from the stack of the rotary furnace No 3 and from Exhaust Stack No 8 Remelt, particularly at night when emissions increase;
- concerns that other pollutants including dioxins are not being independently measured from the No 3 Remelt furnace which does not have pollution control equipment ie dust collectors;
- concerns that solid particles are not being independently monitored continuously;
- concerns that pollutant levels are not independently verified nor monitored;

In particular, residents have noticed that on occasion Alcoa has been releasing large clouds of emissions late at night which has been verified by many residents and in a statutory declaration (refer Appendix I). The local residents have the impression that these emissions are done at night to make them less noticeable.

For literature about the health effects of pollution from aluminium smelters please refer to Appendix IX.

3.3 Chronology of Alcoa environmental concerns in Yennora

The plant in Yennora was given development consent in 1968.

The rolling mills and a small melting plant were located at the railway lines beside Yennora Railway station, which is near Yennora Public School.

An explosion happened in 1979 which resulted in an explosion whereby the smelter furnaces were decimated and two workers being injured. The explosion spread debris as far as the Yennora Public School and numerous school playgrounds.

In the early 1980's, an application was submitted to Holroyd City Council to relocate furnaces to Loftus Street.

In 1997, an application licence was approved to melt cans and aluminium scrap from the rolling mill section of the plant.

From 2001/02 operations were expanded without development consent to include processing aluminium dross and contaminated scrap. Since then there has been a noticeable increase in smog, dust and smell, which occurs around three kilometres from the mill.

In May 2006 Alcoa had to supply **corrected pollution values** for the years 1999 and 2000 to EPA. Originally the data supplied in November 2005 showed only 1/20 of the data supplied later. They had no explanation for the reason they **underreported** so blatantly in November 2005.

In August 2006 the Land and Environment Court held that Alcoa did not have development approval to melt materials in their rotary furnaces except part of their own internal dross and internal scrap.

In a record of a conversation between Pastor Len Stephen, Chair of the action group, and Alcoa employee Ms Helen Campbell, Community Relations Officer, on 14 February 2006. Ms Campbell confirmed that the plant at Yennora had been operating, *"40-60 percent over its pollution limits."* Ms Campbell no longer remains in that position (refer to Appendix I).

The following table displays similar events at other Alcoa factories in Australia:

Date	Project
1995 to current	Alcoa's Bauxite production south east of Perth has resulted in the clearing of Western Australia's Jarrah forests. Darling Range bauxite is the lowest grade ore mined on a commercial scale anywhere in the world. Jarrah forests are unique and under threat from many areas.
2001/02	Operations at the Yennora plant, Western Sydney were expanded to include processing aluminium dross and contaminated scrap without development consent.
March 2002	Arsenic was detected in Kwinana refinery ambient air.

2003	Alcoa lost its self-policing rights for dust after it was disclosed that an employee had falsified dust level recordings on a database and Alcoa was fined for breaching dust emissions.
2004	Alcoa's expansion of its Wagerup alumina refinery south of Perth has a history of emitting noxious odours, noises and dust pollution and was subject to a WA Parliamentary Inquiry. The inquiry found: *"Alcoa's refinery at Wagerup is still emitting large quantities of chemicals ... In fact the average daily benzene emissions has increased to more than double the rate than the first half of 2002"* *"The Committee notes that noise is currently the most common cause of complaint in relation to Alcoa's refinery at Wagerup. The Committee is of the view that noise emissions from the refinery are having an adverse impact on the lives of some people living in close proximity."*
September 2005	Salt slag waste, including sodium chloride, potassium chloride and heavy metals fluorides, dumped along the Great Barrier Reef, Queensland, at Port Alma.
December 2005	ABC Online documents that the State Department of Environment of Western Australia said that three chemical compounds have been found at levels higher than previously measured at the Alcoa plant near Wagerup. It says the concentration of formaldehyde is approaching a level likely to cause irritation.

4. Terms of reference

Against the background provided above, the Western Sydney Clean Air & Water Action group and Concerned residents of Guildford make the following comments on the specific paragraphs of the terms of reference:

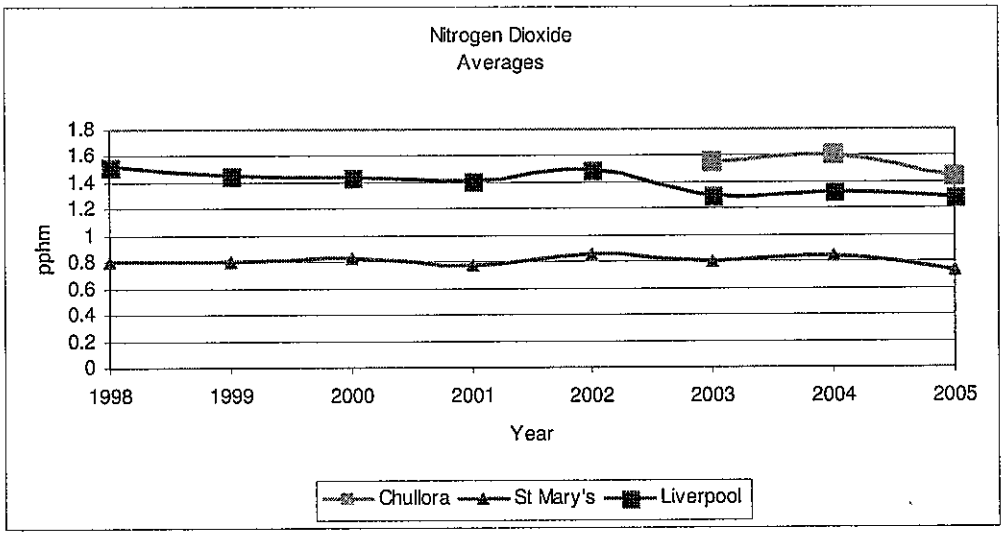
a) Changes in the emissions of various air pollutants and the impact of those changes on air quality in the Sydney basin over the past three decades, including any hotspots where pollution is concentrated.

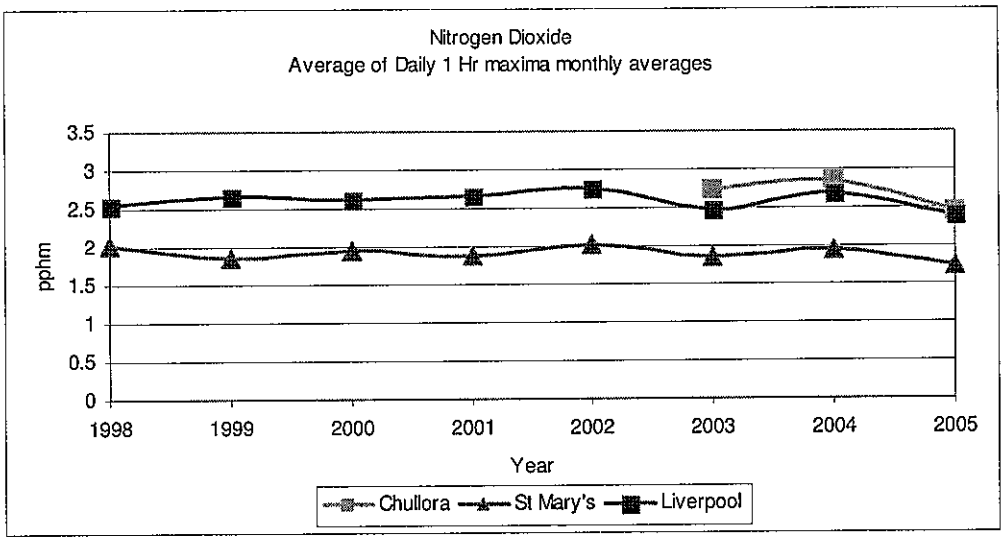
The NSW Environment and Protection Authority (EPA), operates a number of ambient air quality monitoring stations within the Sydney Basin. Air pollutants monitored at the sites in Chullora, Liverpool and St Mary's include:

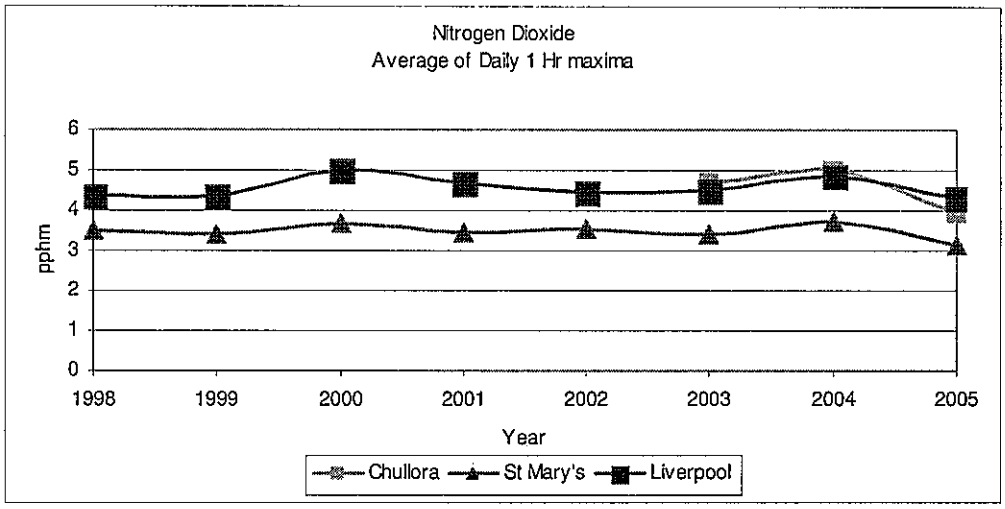
- ozone;
- oxides of nitrogen, including nitrous oxide (NO), nitrogen dioxide (NO_2) and total oxides of nitrogen (NOx);
- particulate matter, including Total Suspended Particulates, (TSP), PM_{10} and $PM_{2.5}$ (particulate matter with an aerodynamic diameter of less than 10 □m and 2.5 □m respectively);
- sulphur dioxide (SO_2);
- carbon monoxide (CO);
- metals (including cadmium and lead); and
- regional Pollution Index (RPI).

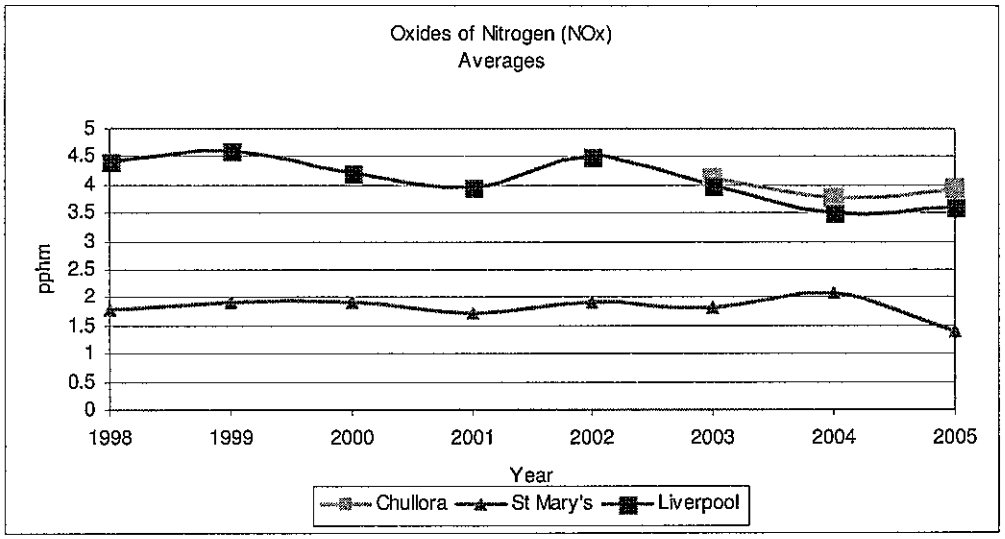
Air quality monitoring has been performed to varying degrees since 1975. Most recent data (from 1998 on) is available in the form of quarterly reports from the NSW EPA website (http://www.epa.nsw.gov.au/air/datareports.htm).

Ambient air quality monitoring data for the period 1998 to mid-2005 were reviewed from three sites in the vicinity of Yennora, and along the dominant northwest-southeast wind axis. These sites were Chullora, Liverpool and St Mary's. Changes observed in ground-level concentrations of key pollutants (including oxides of nitrogen and particulate matter) are of particular interest to the residents of Yennora. A summary of these annual monitoring data is presented below.


Nitrogen Dioxide
Averages
pphm
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
1998
1999
2000
2001
2002
2003
2004
2005
Year
Chullora
St Mary's
Liverpool


Nitrogen Dioxide
Average of Daily 1 Hr maxima monthly averages
pphm
3.5
3
2.5
2
1.5
1
0.5
0
1998
1999
2000
2001
2002
2003
2004
2005
Year
Chullora
St Mary's
Liverpool


Nitrogen Dioxide
Average of Daily 1 Hr maxima
pphm
6
5
4
3
2
1
0
1998
1999
2000
2001
2002
2003
2004
2005
Year
Chullora
St Mary's
Liverpool


Oxides of Nitrogen (NOx)
Averages
pphm
5
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
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2000
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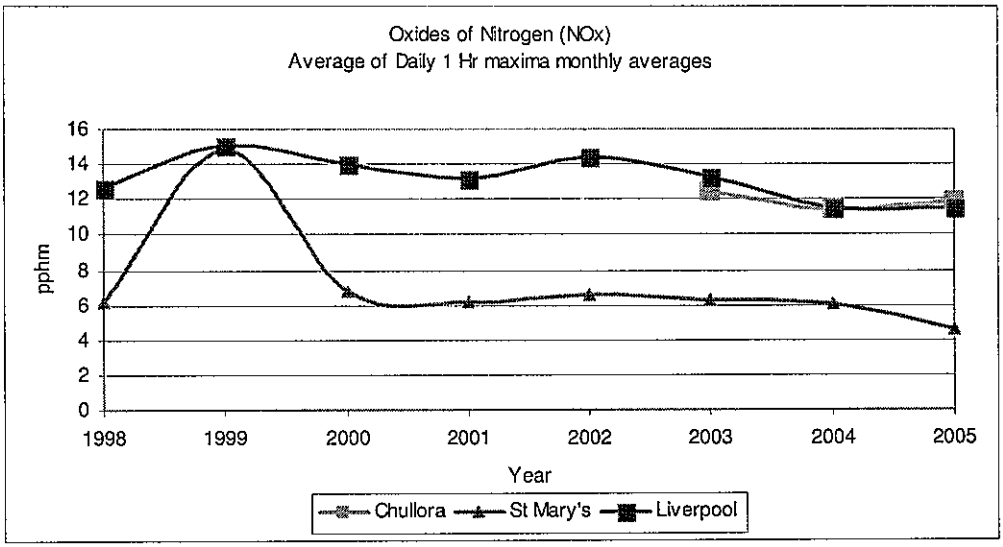
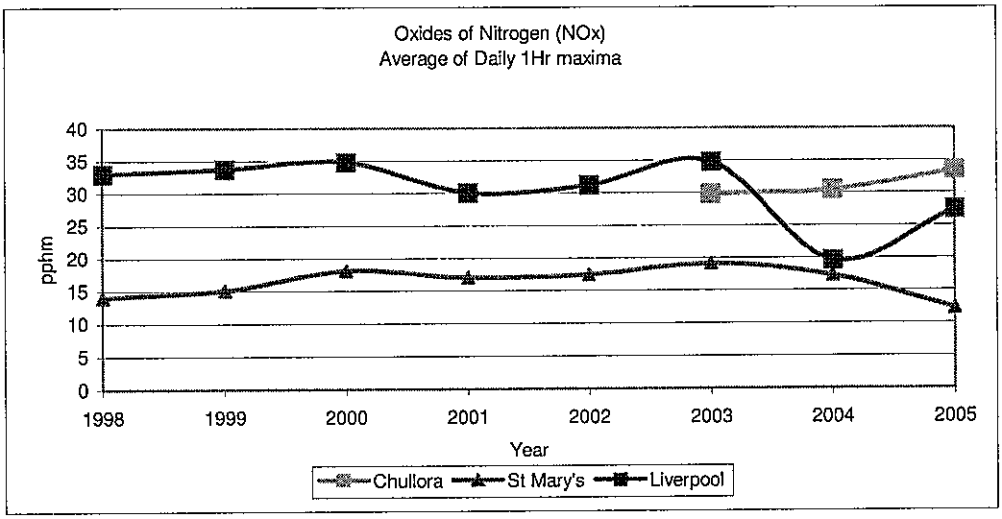
St Mary's
Liverpool


Oxides of Nitrogen (NOx)
Average of Daily 1 Hr maxima monthly averages
pphm
16
14
12
10
8
6
4
2
0
1998
1999
2000
2001
2002
2003
2004
2005
Year
Chullora
St Mary's
Liverpool


Oxides of Nitrogen (NOx)
Average of Daily 1Hr maxima
pphm
40
35
30
25
20
15
10
5
0
1998
1999
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Year
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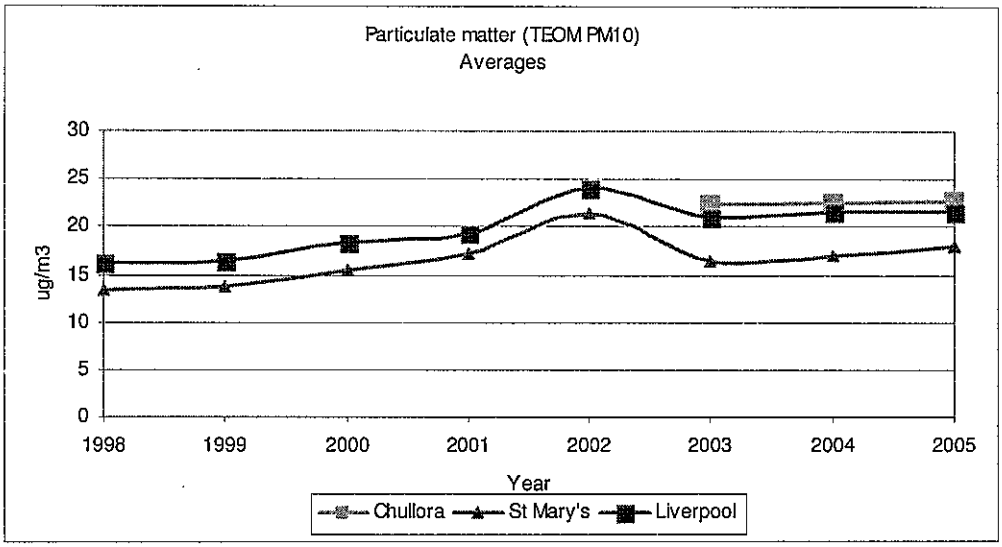
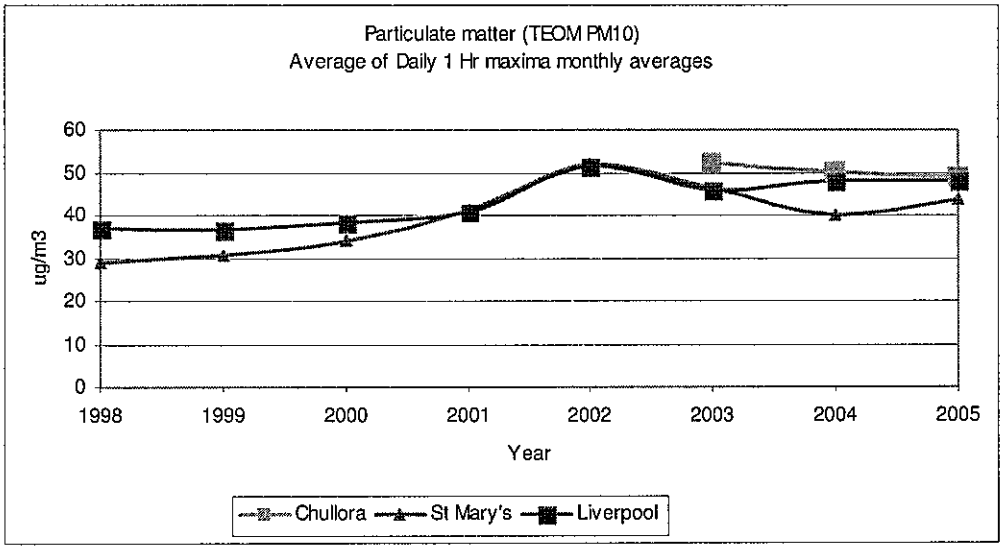
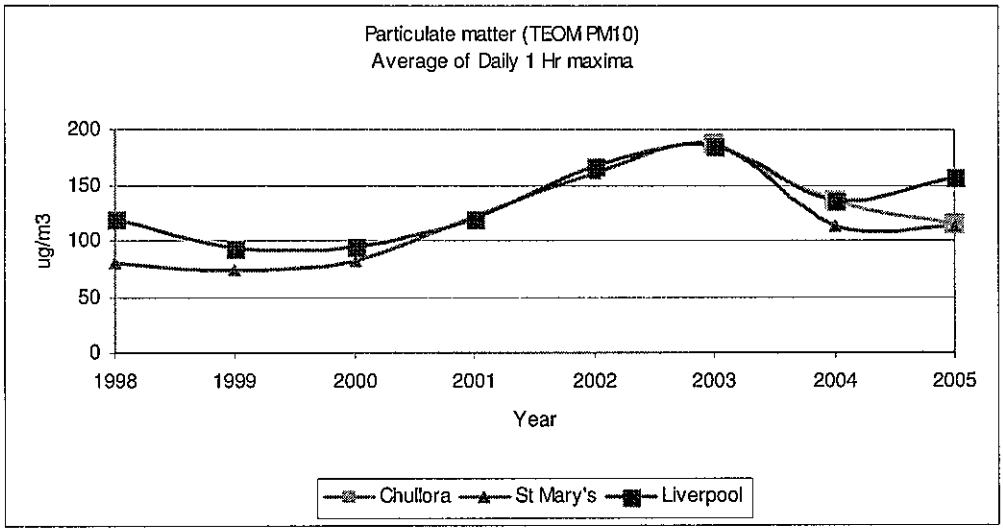
St Mary's
Liverpool


Particulate matter (TEOM PM10)
Averages
30
25
20
15
10
5
0
ug/m3
1998
1999
2000
2001
2002
2003
2004
2005
Year
Chullora
St Mary's
Liverpool


Particulate matter (TEOM PM10)
Average of Daily 1 Hr maxima monthly averages
60
50
40
30
20
10
0
ug/m3
1998
1999
2000
2001
2002
2003
2004
2005
Year
Chullora
St Mary's
Liverpool



A review of the 1998 – 2005 monitoring data reveals the following:

- Average PM_{10} levels have gradually increased since 1998 at Liverpool and St Mary's. Overall increases in average PM_{10} levels at Liverpool and St Mary's are approximately 32% and 35% respectively.
- Average PM_{10} concentrations were highest during 2002.
- Reports of levels exceeding the NEPM Standard of 50 □g/m^3 of PM_{10} have been made at Chullora (8 events during 2003 - 2004), St Mary's (22 events during 1999 - 2003) and at Liverpool (24 events during 2001 - 2005).

These data should also be considered in the context of emission loads and regulatory non-compliances reported to the NSW EPA for the Alcoa Australian Rolled Products (AARP) Yennora facility.

Air Pollutant Emission Loads of Alcoa:

- Total emission loads of coarse and fine particulates from the Alcoa Yennora facility have consistently increased annually during the period 2003 to 2005 from 20,180 kg to 24,074 kg. This translates to an increase of 19 percent of total particulate emissions from the facility.
- Annual increases in loads of oxides of nitrogen emissions have also been reported by Alcoa Yennora during this period from 78,676 kg to 83,806 kg.
- Sulphur oxide emission loads from the Alcoa Yennora facility have increased annually from 24,195 kg in 2003 to 26,294 kg in 2005. Increases have been significantly compared to 1999/2000 figures.
- Volatile Organic Compound (VOC) emission loads from the Alcoa Yennora facility are

significant - 103,826 kg in 2003, 105,511 kg in 2004 and 108,810 kg in 2005.

Regulatory Non-Compliances Relating to Air Pollutants

2000 Reporting Period:

- Condition L2.2 of Alcoa Yennora's Environment Protection Licence (EPL No. 642) was breached for the 2000 reporting period whereby the actual load of assessable pollutants were not assessed in accordance with the relevant load calculation protocol.
- Records for obscuration monitoring have not been kept for four years.
- Percent opacity was not monitored continuously throughout the licence period.
- Opacity records for two smelters were not date marked every 24 hours.

2003 Reporting Period:

- Section 120 of the Protection of the Environment Operations Act, 1997, was breached during the period November 2002 and November 2003 whereby fumes and smoke was emitted from the AARP premises as a result of slag being poured into thermitting slag.

2005 Reporting Period:

- Condition L3.3 of EPL 642 was breached on two occasions in 2005 whereby the opacity limit of 20 percent specified in the EPL was exceeded (22.5 percent on 3 August and 55.5 percent on 9 October).

Such absolute emission loads, notable increases of emissions and nature of regulatory non-compliance suggests that Alcoa Yennora facility may be a significant contributor of air pollutant emissions in the local area. The finding that emission loads of air pollutants from the Alcoa Yennora facility are the highest reported of all licence holders in the Yennora area further supports the assertion that Alcoa Yennora is an air quality **'hot spot'**.

It is therefore reasonable to expect that greater regulatory attention should be given to significant air polluters to closely monitor emission performance, enforce the utilisation of best available technologies to minimise air quality contributions, and closely monitor the community exposed to air pollutants to better assess the associated impacts to human health.

These emissions are expected to cause health effects. A health study in 1994 revealed, that hospital admissions showing respiratory diseases were up to two times higher in residents near a primary aluminium smelter plant compared with the NSW average.

(Source: http://www.hnehealth.nsw.gov.au/hneph/EHM/SmelterKurri.htm)

b) The impact of NSW air pollution laws (including the Clean Air Act 1961, the Protection of the Environment Operations Act 1997 and any regulations made under those Acts) on air quality over the past three decades.

The Western Sydney Clean Air and Water Action group is of the view the influence of the air pollution laws have had limited impact, and are not enforced properly.

The EPA amended the Alcoa licence three times between 2001-2003 without a reference to a DA, which was necessary. Such behaviour undermines the whole legal process where companies can start activities which can cause pollution without following the proper planning process.

The EPA should take action against breaches of its licence. The EPA currently does not take any action. The EPA hotline for complaints is nearly daily recording complaints about the Alcoa smelter and doesn't seem to be willing to follow up the complaints or install their own investigations.

Holroyd City Council as the community's elected body should be enforcing planning laws. They should have taken action to stop Alcoa from acting illegally. They did not take any action against Alcoa.

The ability for the EPA to police compliance has significantly reduced. EPA's role has changed from working with polluters to reduce emissions to relatively inexperienced people implementing policies and guidelines. For example when our group reported Alcoa's Yennora plant was emitting smoke when melting contaminated scrap at night, no checks were done at night, rather than during the daytime.

This has resulted in the impression those that abuse the laws remain unpunished and unchecked.

c) The causes of air pollution in the Sydney basin over the past three decades.

The Alcoa plant in Yennora is one of the causes of air pollution in the Western Sydney over the past three decades.

Further pollution emitting from the Yennora plant has **increased substantially** since 2000/2001 after operations were expanded to include **imported** processing aluminium dross and contaminated scrap without development consent without proper pollution equipment.

d) The health impacts of air pollution on any 'at risk' groups.

'At risk' groups in the case of Alcoa in Yennora are:

1. all residents within a radius of 3,000 meters around the plant, who are experiencing odour from the factory, see the smoke coming from the chimneys and are gutted with heavy smoke from the factory.
2. all children in the surrounding eight schools.
3. all residents with pre-existing illnesses
4. all old people living in the area or in nursing homes within 5 kms radius of the factory
5. all residents within 5 km radius who experience 'acidic' air and dust from the factory
6. 'At risk' is also the **drinking water reservoir Prospect**, which lies at a distance of 3.5 km from the factory and provides drinking Water for major areas of Sydney.
7. Therefore not only thousands but maybe a million of residents in Sydney belong to the 'at risk' group.

The Western Sydney Clean Air and Water Action group **recommends that a health study be undertaken** on local residents concerning the health impacts. Anecdotal evidence gathered by the group has revealed high incidence of eye and skin irritation, skin rashes, respiratory complaints, and also a higher than normal incidence of cancers including leukaemia and other blood-anomalies.

According to independent HLA-Envirosciences Pty Ltd, emission of pollutants by the Alcoa plant in Yennora can lead to serious health effects in the short to long term including:

- Eye and skin irritations
- Skin rashes
- increased rates of bronchitis;
- reduced lung function;
- asthma;
- respiratory tract irritation;
- bronchitis;
- emphysema;
- pulmonary disease;
- leukeamia;
- liver function damage;
- Bioaccumulation;
- skin rashes and skin lesions;
- chlor-acne;
- endocrine disruption;
- DNA modification in foetus;
- known carcinogen;
- teeth and bone disorders;
- bone marrow depression;
- human carcinogen; and
- reduced life expectancy.

e) The financial impacts of air pollution on the NSW health system.

Information derived from the NSW DEC's 2005 publication, *Air Pollution Economics: Health Costs of Air Pollution in the Greater Sydney Metropolitan Region*, is offered below.

- Continuous exposure to elevated levels of air pollutants such as ozone, oxides of nitrogen, carbon monoxide and particulate matter is of great concern. Those living within capital cities,

including the elderly, the very young and those with pre-existing health conditions are particularly at risk of cardiovascular and respiratory diseases and even premature death.

- The financial impact associated with air pollution is quite significant, resulting from premature deaths, quality of life impacts, healthcare costs and lost productivity.
- A summary of health cost of air pollution in the Greater Sydney Metropolitan Region is reproduced below (Source: NSW DEC, 2005).

Assumptions	Estimated annual health cost of 2000–2002 mean ambient pollution levels		
	Low	High	Midpoint
Cost based on PM10 indicator with threshold of 7.5 □g/m3	$1.0 billion	$8.4 billion	$4.7 billion
Cost per capita	$192	$1,594	$893
Cost as percentage of gross state product	0.4%	3.4%	1.9%

Notes:
1. Costs are given in year 2003 dollars.
2. Costs primarily reflect long-term mortality, for which a value of statistical life of $1m to $2.5m is used.
3. Resident population of GMR for study period estimated at 5.27 million
4. The range of costs shown is calculated by multiplying low and high estimates of (a) the statistical likelihood of an adverse health outcome per unit increase in air pollution by (b) the economic cost estimated for each health endpoint.

- As identified above, the total health cost is quite significant, estimated at between $1 billion and $8.4 billion per annum. It is noted that the cost of pain and suffering is not included in these estimates, and can in fact be many times the cost of treatment.
- The purpose of the study was to gain an improved understanding of the costs of air pollution. This information is intended for use to assist with planning and environmental impact assessment processes and for the development of improved regulatory processes and practical measures designed to reduce emissions of air pollutants.

f) The effectiveness of current laws and programs for mitigating air pollution.

Older plants are permitted to operate under lower performance standards and high emission rates which is a concern of current laws.

Alcoa's Yennora plant expansion was approved in the EPA licence when a DA was not issued for the proposed works.

EPA audits and inspections of the Yennora facility have not been undertaken after 12 midnight,

when excessive emissions and breaches are taking place.

The ability for the EPA to police compliance has significantly reduced. The EPA role has changed from working with polluters to reduce emissions to relatively inexperienced people implementing policies and guidelines. For example when our group reported Alcoa's plant was melting contaminated scrap at night, no checks were done at night, rather during the daytime.

Proposed changes to environmental legislation will require among other things, Government and industry to consult with the community on their activities. In proposed changes to planning legislation, a health impact assessment should play a much greater role when assessing new developments.

An issue of concern is the apparent lack of relationship between the Development Approval Process of the Department of Planning (DoP) and the licence requirement of the DEC.

This lack of complementary development application and licensing approval was and is still evident at the Alcoa Australia Rolled Products Pty Ltd (AARP) Yennora facility.

The activities that have been found by the Land and Environment Court not to have been approved at the Alcoa Yennora site include the following:

- The transportation, storage and processing of up to 5,000 tonnes per annum of primary aluminium smelter dross generated by the Alcoa Smelters in Victoria. Primary aluminium smelter dross is classified as a hazardous material (refer to Appendix IV).
- Processing of approximately 2,252 tonnes of dross generated on-site by Remelt 3 furnace.
- The melting and processing of more than 10,000 tonnes per annum of contaminated aluminium scrap.
- The generation and storage of approximately 7,500 per annum tonnes of salt slag produced during the processing of non-approved dross and non-approved aluminium scrap.
- The disposal of approximately 7,500 tonnes of hazardous salt slag whether by storage or by transport off-site for further processing and ultimate disposal.

Schedule 3 of the Environmental Planning and Assessment Regulation 2000 defines Designated Developments. Part 1 of the Schedule lists a series of Designated Developments. In Item 24 of Schedule 1 Mineral Processing or Metallurgical Works are defined. In paragraph 24(b) designated developments are those that smelt, process, coat, reprocess or recover more than 10,000 tonnes per year of ferrous or non-ferrous metals, alloys or ore concentrates. Alcoa Yennora are processing or reprocessing or recovering more than 10,000 tonnes per year of aluminium from non-approved aluminium scrap. This would therefore make the non-approved activity Designated Development, requiring the preparation of an EIS to support a Development Application associated with the approval of non-approved activities at the Alcoa Yennora facility.

Item 32 of Part 1 Schedule 3 of the Environmental Planning and Assessment Regulation 2000 defines Waste Management Facilities or Works. Section 32(1)(a)(i) defines a Waste Management Facility as a Designated Development if it disposes by storing any substance classified in the Australian Dangerous Goods Code. Salt slag is included within the Australian Dangerous Goods

Code as a hazardous material, and therefore the storage of significant quantities of salt slag on-site would require the preparation of an EIS to support a DA for such an activity.

Under 32(1)(b)(i) facilities that sort, consolidate or temporarily store waste for transfer to another site for final disposal and that handle substances classified in the Australian Dangerous Goods Code would also be classified as a Designated Development. Should Alcoa Yennora produce salt slag for ultimate disposal off-site they would be required to prepare an EIS to support a development application to approve of this activity.

Alcoa Yennora may consider that the proposed activities that are not approved could be considered as "Alterations or Additions" to their existing facility.

Part 2 of Schedule 3 of the Environmental Planning and Assessment Regulation 2000 defines the criteria to be taken into consideration when determining whether proposed "Alterations and Additions" can be carried out without the need for an EIS. It is important to reflect upon the words used in Clause 35 of the part of this legislation. Clause 35 includes among other things that if the alterations or additions do not significantly increase the environmental impacts of the total development then the proposed development is not 'Designated' and an EIS would not be required.

In Jarasius Hemmings J considered, but without deciding the matter, that "significantly" should be given its ordinary English definition meaning "important". The meaning of "significantly" and the use of the ordinary English meaning of the word was further considered by Stein J in Drummoyne Versus RTA. His Honour stated among other things that "significant effect must be an important or notable effect on the environment as compared with an effect which is something which is less than that, that is, non-significant or non-notable". The activities that are currently being undertaken by Alcoa Yennora that are not approved cannot be considered to be "insignificant". [1]

The transportation, storage and processing of 5,000 tonnes of hazardous waste from Victoria, the processing of 2,252 tonnes of dross from remelt furnace 3, the melting of more than 10,000 tonnes per annum of aluminium scrap, the generation, storage and ultimate disposal of 7,500 tonnes of salt slag and all of the associated environmental impacts must be considered to be "significant". Therefore, Part 2 of Schedule 3 of the Environmental Planning and Assessment Regulation 2000 cannot be used to justify that the proposed development activities that are not approved could be undertaken without the preparation of a comprehensive environmental impact statement.

It would appear that AARP have been able to expand the capacity and the type of material to be processed without both DoP (Department of Planning) and DEC (Department of Environment and Conservation) acknowledgement and approval. The key legislators need to educate existing and potential facilities and developers to ensure that appropriate environmental assessments, approvals and licenses are obtained.

Failure to obtain such approvals and licenses should result in strong action by the authorities including cessation of operation of the non-approved facility or activity and appropriate fines. No action has been taken to restrict Alcoa Yennora's illegal operation.

[1] NSW Land and Environment Court, Drummoyne Municipal Council vs RTA of NSW, 22 March 1989.

Alcoa Yennora is now seeking consent to clearly define the nature of feedstock that can be used in Rotary Furnace 3 (RF3). It is interesting to note the Alcoa Yennora have in fact implemented the matters they are now seeking approval for prior to any DA being lodged or any approval being issued by Holroyd City Council. Alcoa Yennora is therefore now acknowledging that a complete review of environmental issues associated with the development has not been undertaken prior to the development being implemented.

Are the EPA inspection programs working?

The residents in close proximity to the Alcoa Yennora facility have been assured by the DEC that the Yennora facility operation is in compliance with operational and licence requirements.

There are a number of questions to be asked:

- When carrying out inspections of facilities are the Officers aware of what equipment and operations are approved? For the Alcoa Yennora inspections this has been proven not to be the case.
- Do the Officers inspecting the facilities review community issues and concerns prior to any inspections so that appropriate questions can be asked and answers solicited? DEC Officers have not involved the community in understanding their concerns. They seem to have the needs of the industry at heart and discount community concerns, whether real or perception.
- DEC Officers are not always available to investigate concerns after hours. Many of the pollution issues of concern with the Alcoa Yennora operation relate to after hours operations. It is important that DEC Officers attend the site, discuss and observe concerns with the community and then inspect the premises to establish the cause of the concern. In this way the validity or otherwise of concerns can be addressed immediately.
- Complaints made to the pollution hot-line are often being redirected to the company making the pollution. This is obviously not the intent of the hot-line. DEC Pollution Control Officers should be required to investigate the concerns of the community.
- It would appear that DEC Officers are often not technically familiar with the industry or process they are inspecting and that the polluter can "hide" the failings of the facility. DEC Officers need to be more experienced across many areas of activity rather than relying on guidelines and the pollution to tell them what is happening. The shortage of experienced professionals is letting down the community and DEC as well as allowing some polluters to continue to pollute.

g) Strategies to reduce the health impacts of air pollution.

The Western Sydney Clean Air and Water Action group recommends a number of strategies to reduce health impacts of air pollution, these include:

- NSW Health to undertake a health study on local residents to monitor health impacts.
- community ambient monitoring station run by independent consultants and paid for by local industry focussing on pollutants of concern generated by the local industries should be established. Review of results obtained would establish if pollution guidelines/standards are being exceeded and assist in focusing pollution control effort on a particular pollutant or

industry. Eliminating exceedances of guidelines/standards on a local/regional level or by focusing on a particular industry will reduce pollution levels and associated health impacts. The community will also be better informed about pollution levels and would assist the DEC in ensuring compliance.

- the community ambient monitoring stations would also help to **target pollution control.** If a particular industry is causing concern then it could become the focus for control. The limited DEC resources could then be directed towards the control (or ultimate closure) of poorly performing facilities.
- land-use planning to take into account the **health impacts of industrial emissions**—for example, separation distances between what are now recognised as incompatible land uses, such as close proximity to drinking water;
- environmental impact assessment of industrial expansion and urban growth or encroachment; and
- **community members** who raise issues about the health impacts of pollution find it very difficult to get anyone to take their concern seriously. The people being exposed to the pollutants are the true receptors. There must be an avenue established to permit health concerns to be raised. The local medical practitioners are not able to have such an overview due to limited resources. Resources should be provided to allow health concerns to be raised, reviewed and acted upon.

h) Any other relevant matters

The Western Sydney Clean Air and Water Action group is concerned of the responsiveness of the EPA .

- Although the EPA act lists the duty of the EPA to protect the health of individuals and the general public, the group has the impression that the EPA just rubber-stamps the data reported by the plant.
- handling complaints on the EPA hotline confidential, not just forwarding them to Alcoa;
- satisfactorily addressing views of local residents surrounding facility;
- prosecuting companies that violate its legislation; and
- effectively monitoring and auditing known pollutants.

We are also concerned about Alcoa's community relations:

According to Alcoa's licence 642 under paragraph M5.2 and M5.3 the plant is required to notify the public of the complaints line telephone number, so that the impacted community know how to make a complaint. Alcoa has not done that so far. Alcoa's complaints line connects the caller to their security guard and Alcoa doesn't follow up the call to explain to the caller what the issue was and what action had been taken about the complaint.

5. Recommendations for action:

The Western Sydney Clean Air and Water Action group and Concerned Residents of Guildford are strongly against increased levels of pollution being emitted from the Alcoa Yennora plant which is resulting in harmful health effects on local residents. Alcoa has a history of environmental violations and local residents are extremely concerned of the health impacts of the plant in Yennora.

The Western Sydney Clean Air & Water Action Group and Concerned Residents of Guildford ask the inquiry to consider the following recommendations as part of their report:

- Independently audited **EPA monitoring station placed at Yennora Public school.**
- That **NSW Health undertake a health study** on local residents to monitor health impacts.
- Improved planning measures by the Department of Planning to consider all similar plants that emit high levels of pollution be located away from residents and children, low lying basins, and water supplies.
- Consider health impact assessments having a much greater role when assessing new developments.
- Development of legislative and policy frameworks for the environmental assessment of incremental industrial expansion.
- Full disclosure of company environmental performance, including community relations.
- Clarification of the roles and responsibilities of local and state governments in environmental protection and response to community complaints.
- Innovative policy tools to encourage continuous improvement in industry's environmental performance — for example, the use of the financial and insurance sectors and supply chains as surrogate regulators.
- Alcoa Yennora plant **not be allowed to process aluminium dross and contaminated scrap without development consent.**
- Alcoa Yennora plant **be penalised for illegally exceeding pollution levels** over and above the level safe and endangering lives of the local community and residents.
- Alcoa Yennora immediately **install dust collectors** on all its melting furnaces and monitoring equipment on its stacks.
- Alcoa Yennora install **hydrogen fluoride scrubber** on its rotary furnace.
- Community ambient monitoring stations run by independent consultants and paid for by local industry focussing on pollutants of concern generated by the local industries should be established.
- Complaints made to the **EPA pollution hot-line** are often being redirected to the company making the pollution. This is obviously not the intent of the hot-line. DEC Pollution Control Officers should be required to investigate the concerns of the community.
- Training DEC Officers to be technically familiar with the industry and process of facilities they are inspecting.

APPENDIX I: Statutory Declaration

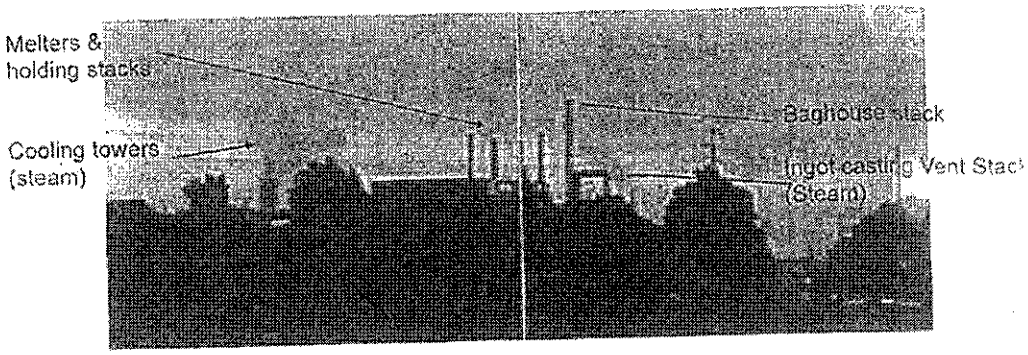
STATUTORY DECLARATION
NSW OATHS ACT 1900

I, Leonard Morris Stephen
of 14 Carrington Rd Guilford 2161
in the State of New South Wales
do hereby solemnly declare and affirm that:-

This is the record of the telephone conversation between myself Leonard Morris Stephens & Helen Campbell, Community Relations Officer of Alcoa Rolled Products Ltd Yennora on Monday the 13th February 2006 at 2:30pm.
Helen called to ask for my presence at a community meeting at Alcoa Rolled Products Yennora.
My response was that I was no longer interested in attending community meetings as these meetings have not leading to any positive actions or improvements in the environmental performance of Alcoa Yennora Plant.
I further advised that the air pollutants continue to be emitted to the atmosphere in substantial volumes during the late dark hours.
Helen responded by saying "This could not be happening as we have monitoring equipment that measures the pollutants" I responded "I have 60 minutes of video taken over a period of several weeks clearly showing the high level of pollutants going into the air" She responded "I will look into it & I will get back to you".
On Tuesday14th February at around 1 pm Helen phoned me & said "I apologise on last Thursday, Friday, Saturday & Sunday the plant was 40% to 60% over its pollution limits"
My response was I know because I could not breath, whilst I was taking the video & when I returned home, I showered & washed out my mouth many times over to take the taste out. I also laughed & said to Helen "The resident have had a gut full of this over the years & we are going to go hard on this matter" Helen responded "Would you please come & see us & speak to us with Michael before the meeting on Thursday & please bring your video" I said "I will think it over, what time?"
Helen said "Around 4 pm on Thursday the 16th February"
I later rang Helen & said "I can not make to the Thursday meeting"

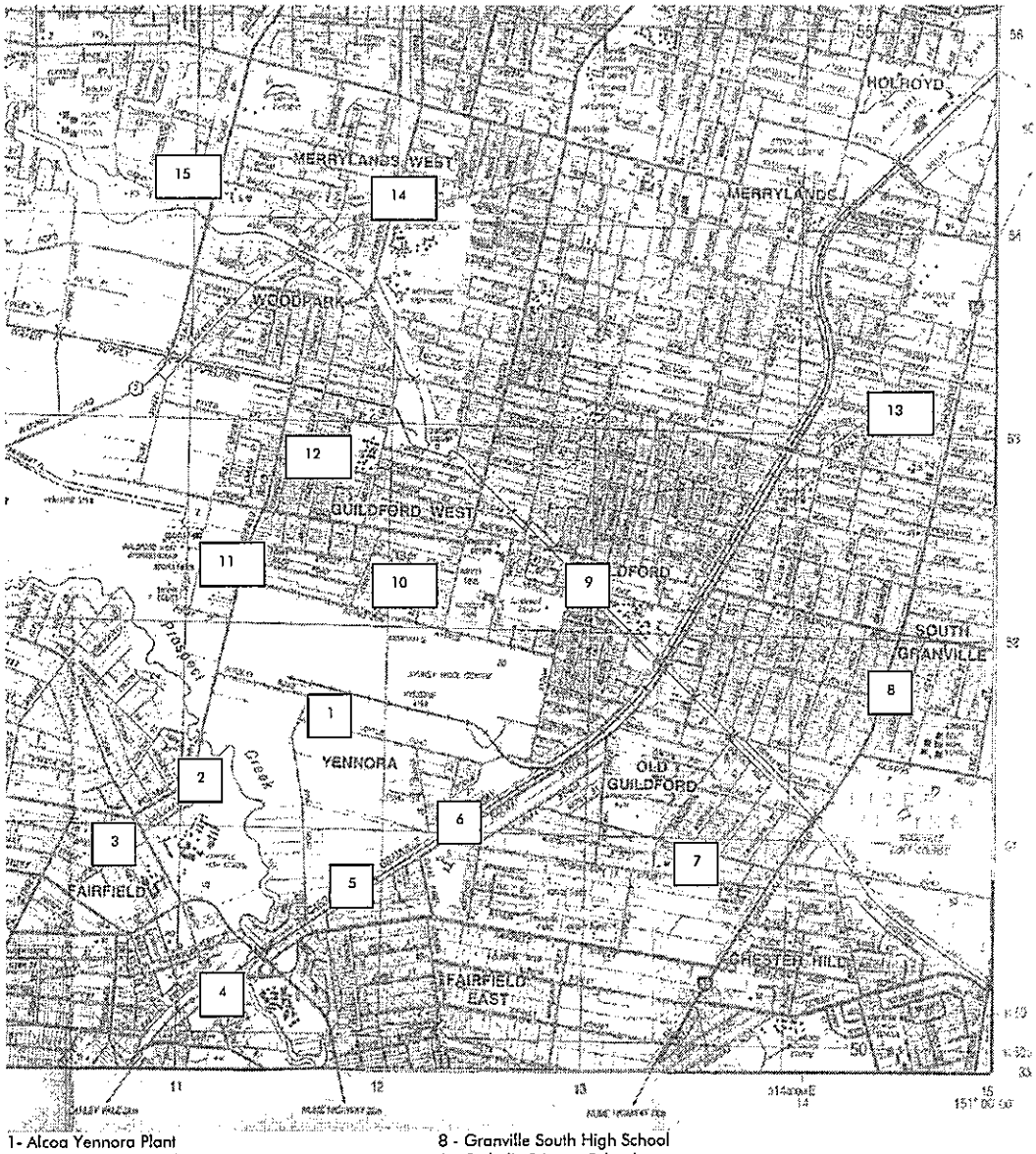
....
JUSTICE OF THE PEACE

APPENDIX II: Alcoa plant and stacks



Alcoa Australia Rolled Products at Yennora: A View from Loftus Road

APPENDIX III: Local community facilities surrounding Alcoa plant



1- Alcoa Yennora Plant
2- Fairfield High school
3- Fairfield Primary School
4- Catholic Primary School
5 Yennora Nursing Home
6 Yennora Primary School
7. Guildford Primary School
8 - Granville South High School
9. Catholic Primary School
10 –Guildford Sports Ground
11- Guildford West sportsground
12 – Merrylands High School
13 –Merrylands Sportsground
14 - Cerdon college
15 –Nursing Home

APPENDIX IV: Alcoa's warning sign of Aluminium Dross

ALUMINUM DROSS

⚠ WARNING

Hazards: Explosion/fire potential may be present when: (1) Dross is heated above 700°C. (2) Small chunks, fines or dust are in contact with water. (3) Molten aluminum is in contact with water/moisture or other metal oxides. Finely divided dross tends to react faster than large chunks.

On contact with water, dross can produce hydrogen, ammonia and other potentially flammable gases.

Dust, fumes, and vapors from processing can cause irritation of eyes, skin and upper respiratory tract.

Overexposures to lead dusts or fumes (fine dusts), by inhalation or ingestion, can cause reproductive harm and damage to the blood cells, liver, kidneys, and central nervous system.

Overexposure to dust or fume (fine dusts) containing nickel and hexavalent chromium compounds may cause nasal and/or lung cancer.

Chronic overexposures to manganese dust can cause central nervous system damage, scarring of the lungs and reproductive harm in males.

Chronic overexposure to silicon dust can cause chronic bronchitis.

Chronic overexposure to tin dust can cause a benign lung disease (stannosis).

Chronic overexposure to iron oxide dust or fume may cause benign lung disease (siderosis).

Chronic overexposure to copper may cause skin and hair discolorations and blood disorders (anemia).

Overexposure to fumes of magnesium oxide, manganese oxide and zinc oxide may cause metal fume fever by inhalation.

WARNING: Chromium (Hexavalent compounds) and Nickel are chemicals known to the state of California to cause cancer. Lead is known to the State of California to cause cancer and reproductive toxicity. (Proposition 65).

Precautions: Keep product dry. Prevent formation of dust cloud. Use with adequate ventilation.

Wear appropriate eye and skin protection to prevent direct contact. Use good personal hygiene practices to guard against accidental ingestion of lead. Use appropriate respiratory protection (N100, full face with ammonia cartridge if ammonia is generated) if concentrations exceed the permissible limits.

First Aid: EYES: Flush eyes with plenty of water or saline for at least 15 minutes. Consult a physician immediately. SKIN: Wash with soap and water for at least 15 minutes. Consult a physician if irritation persists. INHALATION: Remove to fresh air. If unconscious or severely injured, check for clear airway, breathing and presence of pulse. Perform CPR if there is no pulse or respiration. Consult a physician.

In case of fire: Use Class D extinguishing agents on dusts, fines or molten metal. Use coarse water spray on large chunks. Do not use: Halogenated agents on small chunks, dust or fines; water around molten aluminum.

Read Alcoa Material Safety Data Sheet No. 471 for more information about use and disposal.

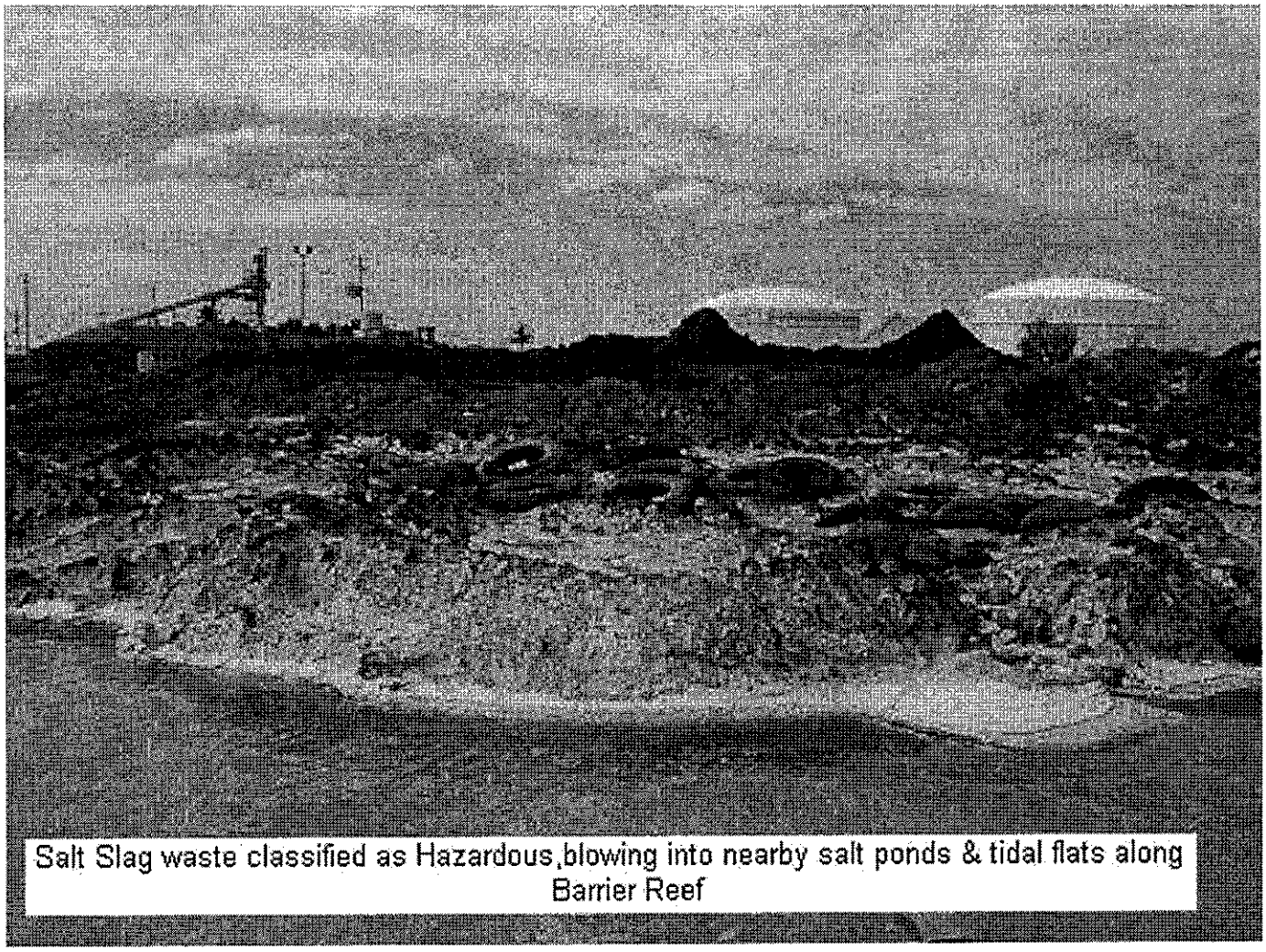
Emergency Phone: (412) 553-4001.

INGREDIENTS:	CAS NUMBERS:	INGREDIENTS:	CAS NUMBERS:
Aluminum oxide (non-fibrous)	1344-28-1	Metal carbides	- -
Aluminum	7429-90-5	Iron	7439-89-6
Metal chloride salts	- -	Magnesium	7439-95-4
Silicon	7440-21-3	Tin	7440-31-5
Zinc	7440-66-6	Nickel	7440-02-0
Copper	7440-50-8	Manganese	7439-96-5
Metal nitrides	- -	Chromium	7440-47-3
Magnesium oxide	1309-48-4	Lead	7439-92-1

Alcoa Inc.
201 Isabella Street, Pittsburgh, PA 15212-5858 USA
01/02 471

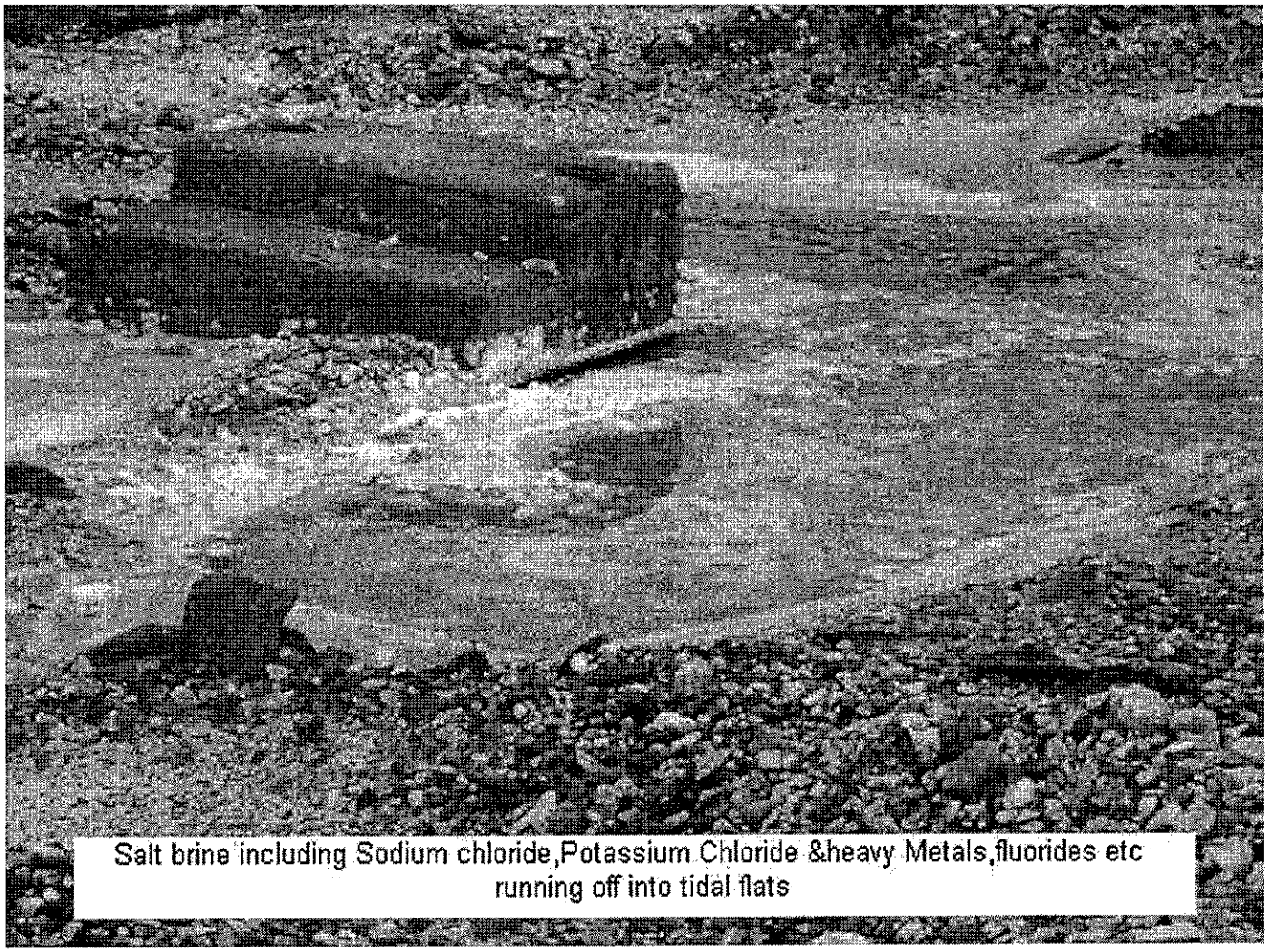
ALCOA

APPENDIX V: Alcoa's Salt slag waste – Great Barrier Reef

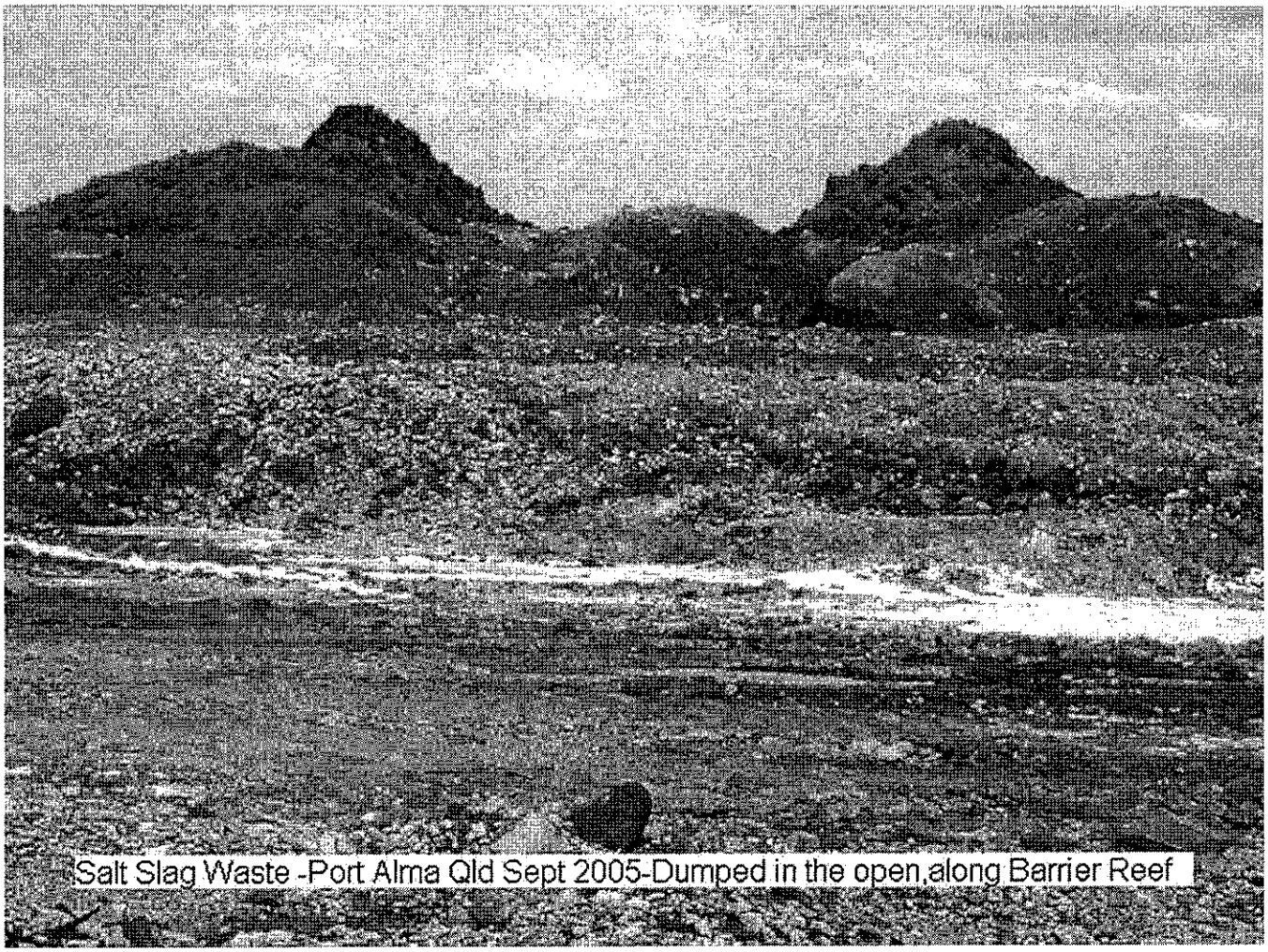


Salt Slag waste classified as Hazardous,blowing into nearby salt ponds & tidal flats along Barrier Reef

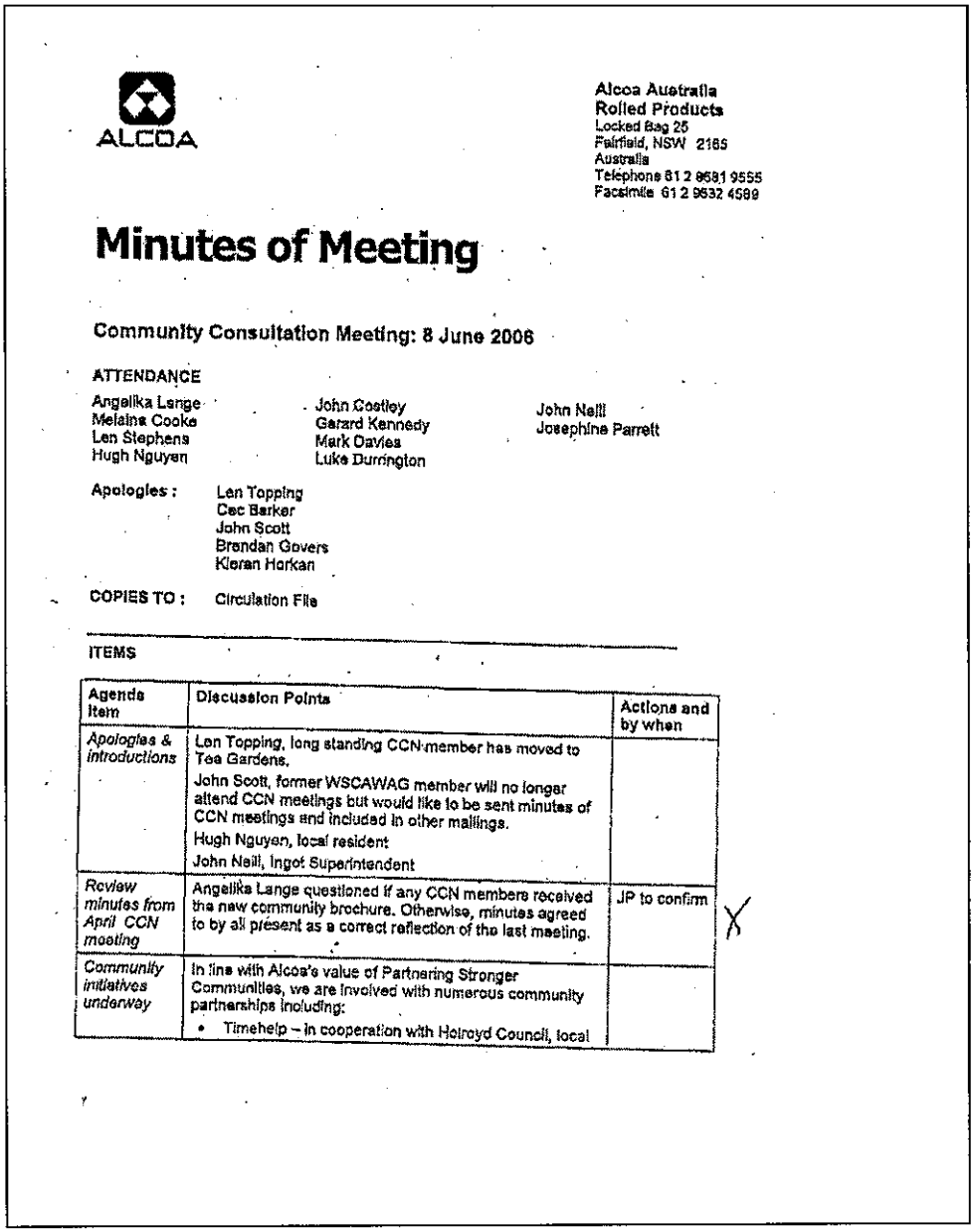
APPENDIX VI: Alcoa's Salt slag waste – Great Barrier Reef



APPENDIX VII: Alcoa's Salt slag waste – Great Barrier Reef



Appendix VIII: Minutes of the Alcoa Community Consultation Meeting



Alcoa Australia
Rolled Products
Locked Bag 25
Fairfield, NSW 2165
Australia
Telephone 61 2 9681 9555
Facsimile 61 2 9632 4599

Minutes of Meeting

Community Consultation Meeting: 8 June 2006

ATTENDANCE

Angelika Lange
Melaina Cooke
Len Stephens
Hugh Nguyen
John Costley
Gerard Kennedy
Mark Davies
Luke Durrington
John Neill
Josephine Parrett

Apologies : Len Topping
Cec Barker
John Scott
Brendan Govers
Kieran Horkan

COPIES TO : Circulation File

ITEMS

Agenda Item	Discussion Points	Actions and by when
Apologies & introductions	Len Topping, long standing CCN member has moved to Tea Gardens. John Scott, former WSCAWAG member will no longer attend CCN meetings but would like to be sent minutes of CCN meetings and included in other mailings. Hugh Nguyen, local resident John Neill, Ingot Superintendent	
Review minutes from April CCN meeting	Angelika Lange questioned if any CCN members received the new community brochure. Otherwise, minutes agreed to by all present as a correct reflection of the last meeting.	JP to confirm
Community initiatives underway	In line with Alcoa's value of Partnering Stronger Communities, we are involved with numerous community partnerships including: • Timehelp – in cooperation with Holroyd Council, local	

Agenda Item	Discussion Points	Actions and by when
	volunteers are placed with local schools. • KIDS Foundation – involved in child safety education and rehabilitation for accident survivors and their families. Safety Club program works to engage the school community to work together to create a safer school environment. • ACTION Grants – eg. Greystanes Woodland Conservation Group – Alcoa employees volunteered to help this group weed and plant 600 native tube stocks at Windemere Reserve in Greystanes. • Communities in Control Conference – Alcoa sponsoring community partners to attend. • Fairfield Business Education Partnership Inc. – linking schools with industry program.	
Emissions management	Complaints since last CCN meeting 6 April; 1 regarding smoke and bad smells. Investigation showed the warm mill was emitting fumes. The fume hood was inspected and a clean was conducted. 1 regarding smoke from the rotary furnace building by an industrial neighbour. Investigations found that a standard procedure had not been followed and has been rectified. 2 regarding bad odour, one of which included smoke. No evidence of smoke or bad odours, however cooling tower was giving off a lot of steam. 1 regarding a bad odour. Investigations did not find evidence of the described odour. Wind direction at the time indicates the source was not the Alcoa site. 1 regarding smoke from Rotary furnace 3. Video footage shows a plume above the furnace which began several metres above the stack. Most likely cause is water vapour. Under investigation. 7 from a single source regarding smoke. Investigations have not found evidence of the smoke other than pluming above the rotary furnace 3 which is believed to be water condensation and is being investigated. 2 regarding smoke. Investigations underway. 24 hour video monitoring to help us continuously improve our environmental management Consultants engaged to conduct additional air emission monitoring of RF3 stack in order to understand the causes of pluming – plume lasts for 10-15 minutes after material is loaded into baghouse. All emissions from the baghouse are within EPA license limits. Baghouse is not designed to capture moisture, only dust and fumes. Consultants have conducted sampling. Plume more evident on cold mornings and nights as a result of condensation.	Len Stephens informed the meeting that he had made the complaint re: bad odour but he had since discovered it was from another company, not Alcoa. Site to keep CCN informed of progress of works.

Agenda Item	Discussion Points	Actions and by when
	Question: would the plume come straight down if it was condensation? Answer: Not usually. Question: why do complaints to the Hotline go to security at the gatehouse and not one of the supervisors. Answer: all complaints are captured at a central point, namely security, who initiate an investigation immediately by contacting the appropriate person depending on the nature of the complaint. Question: what happens if there is human error at fault? Answer: after investigation corrective actions such as training are put in place. Direct breaches of operating procedures can result in disciplinary action being taken. Question: why doesn't Alcoa investigate the video footage 24 hours a day, 7 days a week so that it is known if there is a problem before a complaint is made? Answer: the video footage is an investigative tool. Not feasible to watch video footage from 17 cameras 24/7. Question: are forklifts gas or diesel? Answer: a mixture of both. Alcoa Australia Rolled Products at Yennora aims to make sure we are within world's best practice standards. Our own limits that we have set are better than EPA license requirements. Alcoa Australia Rolled Products at Yennora has adopted a plan to achieve zero visible and unacceptable odour emissions, even though the site operates within license requirements. Actions being undertaken to reduce any emissions escaping include: • Installation of roller doors and new dross and salt slag bay inside building • Review and modification of loading procedures • Sealing Rotary Furnace building room vent (modified work procedures while underway) • Repair of all wall cladding Additional monitoring equipment which has helped us to pinpoint causes of emissions and develop strategies to	

Agenda Item	Discussion Points	Actions and by when
	eliminate them. These have included: • Two additional emission monitoring cameras bringing total to 17. • Consultants engaged to conduct additional air emission monitoring of RF3 stack in order to understand the causes of pluming. • Reduced use of wooden pallets and plastic film in scrap metal • Scrap with oil on surface (from rolling processes) is diverted to the rotary furnace. • Improved yard management. This supplements employment of sweepers and scrubbers • Consultants are being engaged to better understand site emissions and advise on best practice control technologies	
Development Application (DA) update	DA is not a request to expand or change activities or site. Rather it is to correct a technicality so that sources of external dross are specified. Dross is the skim which can be recycled. Alcoa ARP is working with the Holroyd City Council and NSW EPA through due Council process. Information requested by EPA will be finalised tomorrow. Expect EPA to issue General Terms of Approval within 2 weeks Expect council consideration late June/early July	
	Question: why was a community consultation process established only last year. Answer: community consultation was initiated in 1997/1998. There was a lack of interest initially. A new approach was taken early last year which has been successful in developing an effective CCN. A significant result of the CCN is the Environment Improvement Plan.	
	Len Stephens asked fellow CCN attendees support a request for Professor Boyages to conduct a health study. John Costley said that when monitoring occurs, Alcoa is willing to measure odours in some residents' backyards. Comment made that it can be extremely difficult to pinpoint the cause of an odour when there are many potential contributing sources.	
Emission standards	In response to a request from the last CCN, a sample of 5 emission standards from Europe, USA, WHO (World Health Organisation), Yennora shows AUS/NSW and	

Agenda Item	Discussion Points	Actions and by when
	Alcoa, Yennora standards compare favourably. Question: can a table be produced comparing all (20) substances reported to the NPI. Answer: the method for measuring differs between standards and can therefore be difficult to ensure a fair comparison. All information supplied in the emissions table is available via the Internet including at http://www.voka.be/files/bestanden/EU_study_competitiviteit1.pdf http://www.deh.gov.au/atmosphere/airquality/standards.html Angelika Lange requested a copy of the slides. It was agreed that Alcoa ARP would present more information regarding emission levels and their potential effects at the next meeting to help improve community understanding.	LD will attempt to compare in a second table for the next CCN. JP to forward a copy of the slides.
	Question: If Alcoa believed that something it was doing was bad for the environment, but fell within license limits, would Alcoa do anything about it. Answer: Yes, we would. Alcoa is changing from diesel use to biofuels in general. Worldwide, the Aluminium industry has set a target of making aluminium production climate neutral by 2018 and Alcoa is leading the way. The Environment Improvement Plan, which CCN members including Melaina Cook worked on, outlines ways in which Alcoa at Yennora is improving its environmental management. Accusation made that Alcoa paid CCN members who helped with the plan. Denied by Alcoa and CCN member.	
	Len Stephens tabled a Safety Data Sheet as an indication of unsafe material by Alcoa. John Costley and Mark Davies informed the meeting that Safety Data Sheets are supplied with all material and are instructions on how to handle and store the particular material.	
	Len Stephens accused Alcoa of 'cooking the books'. John Costley denied this and said that Alcoa at Yennora was an ethical business that acted with integrity.	
	Question: why do independent assessors monitor emissions from the site and not the EPA? Answer: that is a Government decision and requirement.	
	Agreed to extend future meetings to 1.5 hours.	

#. **NEXT MEETING**

Date:	Thursday 10 August 2006	**Chairperson:** Josephine Parrett
Time:	5.30 – 7.00pm	**Observer:** TBA
Venue:	Yennora Light refreshments provided	**Minutes:** Josephine Parrett

Appendix IX: Publications on health impacts of exposure to aluminium pollution

Unique Identifier	11777028
Authors	Petrela J. Camara VM. Kennedy G. Bouyahi B. Zayed J.
Authors Full Name	Petrela, J. Camara, V M. Kennedy, G. Bouyahi, B. Zayed, J.
Institution	Department of **Environmental** and Occupational Health, University of Montreal, Quebec, Canada.
Title	Health effects of residential exposure to **aluminum** plant **air pollution.**
Source	Archives of **Environmental** Health. 56(5):456-60, 2001 Sep-Oct.
Abstract	In this study, the authors evaluated the relative risk of residential exposure to **air pollution** from an **aluminum** plant. The authors used government-compiled data to compare hospital admissions in 1997 for selected respiratory diseases for 2 communities in Brazil. One community, Ouro Preto, was located near an **aluminum** plant, and the other, Diamantina, was located far from any source of industrial **air pollution.** The relative risk of hospital admissions for selected respiratory diseases was 4.11 (95% confidence interval = 2.96, 5.70). The risk was highest among individuals between 30 and 39 yr of age (relative risk = 11.70; 95% confidence interval = 1.52, 89.96). Admissions per thousand residents were highest for individuals under 10 yr of age and for individuals older than 70 yr of age. The authors assessed exposure with **environmental** measurements. Dust deposition was collected in the residences of participants (n = 36 in each location), and the dust was analyzed for **aluminum**, manganese, magnesium, and calcium content. There were significantly different ($p < .05$) levels of **aluminum** in the 2 communities; the highest quantities were found near the **aluminum** plant. Measurements from independent studies indicated that both 24-hr maximum values and annual mean concentrations of suspended particulate matter exceeded the average of international standards in Ouro Preto (i.e., **aluminum** plant area). These results suggested that exposure to greater **air pollution** in the **aluminum** plant area (i.e., Ouro Preto, Brazil) versus the control area resulted in statistically significant health effects in those individuals who resided in Ouro Preto.
Publication Type	Journal Article.

Unique Identifier	8236309
Authors	Zhumatov UZh.
Authors Full Name	Zhumatov, U Zh.
Title	[The status of the teeth and periodontal tissues of children living in an area polluted by the wastes from an **aluminum** plant]. [Russian]
Source	Stomatologiia. 72(3):61-4, 1993 Jul-Sep.
Abstract	The author compares dental, periodontal, and bone system status of children living in two regions characterized by different degrees and patterns of **environmental pollution**. Children living in regions polluted by **aluminum** plant waste (sulfur dioxide, nitrogen dioxide, carbon monoxide, dust, hydrogen fluoride) developed specific abnormalities because of body poisoning with fluorides, namely, dental fluorosis, osteoporosis and osteosclerosis of the bones; periodontal diseases in these children were more incident than in controls. These findings prompted the development of a complex of sanitary, technologic, health, therapeutic and prophylactic measures aimed at reduction of fluorine levels in the environment to the normal level and of dental diseases incidence among children living near the Tajik **aluminum** plant.
Publication Type	Journal Article.

Unique Identifier	9327070
Authors	Selden AI. Westberg HB. Axelson O.
Authors Full Name	Selden, A I. Westberg, H B. Axelson, O.
Institution	Department of Occupational and **Environmental** Medicine, Orebro Medical Centre Hospital, Sweden. anders.selden@orebroll.se
Title	Cancer morbidity in workers at **aluminum** foundries and secondary **aluminum** smelters.
Source	American Journal of Industrial Medicine. 32(5):467-77, 1997 Nov.
Abstract	In a Swedish cohort of workers (n = 6,454) from seven **aluminum** foundries and three secondary **aluminum** (scrap) smelters there was no overall excess risk of cancer among male or female workers less than 85 years of age (males: 325 observed cases, standardized incidence ratio (SIR) 1.02, 95% confidence interval (CI) 0.91-1.13; females: 22 cases, SIR = 0.95, 95% CI = 0.60-1.44). In male workers, however, significantly elevated risk estimates were observed for cancer of the lung (51 cases; SIR = 1.49, 95% CI = 1.11-1.96), anorectal cancer (33 cases; SIR 2.13, 95% CI = 1.47-2.99), and sinonasal cancer (4 cases; SIR = 4.70, 95% CI = 1.28-12.01). There was no increase of urinary bladder or liver cancer. Lung cancer risks were highest in workers with a short duration of employment (< 5 years) suggesting determinants of risk related to socioeconomic factors rather than the occupational environment under study, but there were also indications of a lung cancer hazard from sand casting of **aluminum** for 10 years or more (SIR = 2.10, 95% CI = 1.01-3.87). The increase in anorectal cancer could not be etiologically related to occupational determinants of risk. Sand casting of **aluminum** aside, the cancer risk in secondary **aluminum** smelting seems to be lower than in primary **aluminum** smelting and in iron and steel founding, respectively.
Publication Type	Journal Article. Multicenter Study.

Unique Identifier	1765856
Authors	Spinelli JJ. Band PR. Svirchev LM. Gallagher RP.
Authors Full Name	Spinelli, J J. Band, P R. Svirchev, L M. Gallagher, R P.
Institution	Division of Epidemiology, Biometry and Occupational Oncology, British Columbia Cancer Agency, Vancouver, Canada.
Title	Mortality and cancer incidence in **aluminum** reduction plant workers.
Source	Journal of Occupational Medicine. 33(11):1150-5, 1991 Nov.
Abstract	An historical cohort study was conducted among 4,213 men who worked for 5 or more years at a Soderberg **aluminum** reduction plant in British Columbia (BC), Canada. Standardized mortality and incidence ratios were used to compare the mortality and cancer incidence of the cohort with that of the BC population and to examine risk by cumulative exposure to coal-tar pitch volatiles (CTPV) and electromagnetic fields. Significantly elevated rates were observed for bladder cancer incidence (standardized incidence ratio [SIR] = 1.69) and brain cancer mortality (standardized mortality ratio = 2.17). The risk of bladder cancer was strongly related to cumulative exposure to CTPV (P less than .01). The risk for non-Hodgkin's lymphoma also increased with increasing exposure (P less than .05), although the overall rate was similar to that of the general population (SIR = 1.06). The lung cancer rate was as expected (SIR = 0.97), but showed a weak association with CTPV exposure that was not statistically significant. No individual cause of death or incident cancer site was related to exposure to electromagnetic fields. Analysis of the joint effect of smoking and CTPV exposure on lung and bladder cancer showed the exposure response relationships to be independent of smoking.
Publication Type	Journal Article.

Unique Identifier	3787220
Authors	Armstrong BG. Tremblay CG. Cyr D. Theriault GP.
Authors Full Name	Armstrong, B G. Tremblay, C G. Cyr, D. Theriault, G P.
Title	Estimating the relationship between exposure to tar volatiles and the incidence of bladder cancer in **aluminum** smelter workers.
Source	Scandinavian Journal of Work, Environment & Health. 12(5):486-93, 1986 Oct.
Abstract	A previously reported case-referent study of 85 incident cases of bladder cancer among **aluminum** smelter workers and 255 matched referents revealed an excess risk among workers exposed to coal-tar pitch volatiles. For the study reported in the present investigation these data have been augmented by estimates of past workplace exposure to total tar (benzene-soluble matter) and to benzo-a-pyrene (BaP). From these new data, exposure-response relationships have been estimated by maximum likelihood. A linear relationship between cumulative exposure and relative risk and a minimum latency period of ten years were assumed on a priori grounds and found compatible with the data. Under these assumptions, relative risk increased for each year of exposure to benzene-soluble matter at a concentration of 1 mg/m3 by 13%, the 95% confidence interval being 5-31. The corresponding figure for BaP (as micrograms/m3 X year) was 2.3%. On the basis of these estimates, 40 years of exposure to benzene-soluble matter at the current exposure limit of 0.2 mg/m3 would lead to a relative risk of 2.4. There was suggestive but not conclusive evidence that relative risks due to exposure to tar volatiles and to cigarette smoke combined multiplicatively.
Publication Type	Journal Article.

Unique Identifier	4076080
Authors	Perl DP.
Authors Full Name	Perl, D P.
Title	Relationship of **aluminum** to Alzheimer's disease.
Source	**Environmental** Health Perspectives. 63:149-53, 1985 Nov.
Abstract	Alzheimer's disease is a progressive degenerative brain disease of unknown etiology, characterized by the development of large numbers of neurofibrillary tangles and senile plaques in the brain. **Aluminum** salts may be used experimentally to produce lesions which are similar, but not identical, to the neurofibrillary tangle. Although some studies have reported increased amounts of **aluminum** in the brains of Alzheimer's disease victims, these bulk analysis studies have been difficult to replicate and remain controversial. Using scanning electron microscopy with X-ray spectrometry, we have investigated this question on the cellular level. We have identified abnormal accumulations of **aluminum** within neurons derived from Alzheimer's disease patients containing neurofibrillary tangles. Similar accumulations have been detected in the numerous neurofibrillary tangle-bearing neurons seen in the brains of the indigenous native population of the island of Guam who suffer from amyotrophic lateral sclerosis and parkinsonism with dementia. Epidemiologic evidence strongly suggests a causal role for local **environmental** conditions relating to availability of **aluminum**, calcium, and magnesium. In view of the fact that a major consequence of acid rain is the liberation of large amounts of **aluminum** in bioavailable forms, concerns are raised about possible human health risks of this **environmental** phenomenon.
Publication Type	Journal Article.

ACRONYM DEFINITIONS:

DEC:	Department of Environment and Conservation.
EPA:	Environmental Protection Authority – An agency within the NSW Department of Environment and Conservation
DA:	Development application
EIS:	Environmental Impact Statement
VOC:	Volatile Organic Compound
EPL:	Environment Protection Licence
AARP:	Alcoa Australia Rolled Products Pty Ltd
DoP:	Department of Planning
RF3:	Rotary Furnace