

INQUIRY INTO HEALTH IMPACTS OF AIR POLLUTION IN THE SYDNEY BASIN

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Subject:

Summary



Weston Aluminium Pty Ltd

WESTON ALUMINIUM PTY LTD

25 July 2006

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

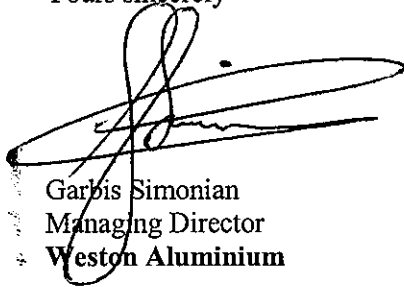
Dear Director

Weston Aluminium is pleased to provide a submission to the NSW Inquiry into the health impacts of air pollution in the Sydney basin.

The submission addresses points b), f) and g) of the terms of reference.

Should you require further information please do not hesitate to contact me on _____

Yours sincerely



Garbis Simonian
Managing Director
Weston Aluminium



Weston Aluminium Pty Ltd

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

July 2006

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

SUBMISSION BY WESTON ALUMINIUM

1. Introduction

Weston Aluminium appreciates 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 on our company, our commitment to maintaining clean aluminium waste processing, addresses the Committee's terms of reference points b), f), and g) as well as recommendations to further strengthen current NSW legislation concerning air pollution and the environment.

2. Weston Aluminium Pty Ltd

Weston Aluminium, located on Mitchell Avenue, Weston in NSW, is an Australian operated and majority Australian owned company employing more than 50 people in the Hunter. Weston operates a 40,000 tonne per annum capacity aluminium dross and alloying plant.

This plant is the most advanced and environmentally cleanest Aluminium Dross processing plant in the world. It undertakes consistent monitoring to ensure our plant and processes meet and even surpass the regulations enforced by NSW Department of Environment and Conservation, The European Union and United Nations Environment Guidelines.

The advanced environmental features associated with the Weston Aluminium Dross Plant include:

- No salt used - no hazardous salt slag generated;
- The residual ash being low in chlorides is recyclable in the steel and aluminium industries;
- Gaseous Fluoride emission control. Weston Aluminium has designed an innovative equipment that eliminates most of the gaseous hydrogen fluoride emission from its plant;
- Process reliability: The environmental monitoring equipment and the pollution control equipment developed by Weston Aluminium to ensure superior environmental performance has proven to be extremely reliable;
- Independent environmental audit is undertaken annually by an independent expert in environmental consultancy and confirms Weston's ongoing compliance with EPA standards;
- Dross tracking process: Weston Aluminium implements a sophisticated feed dross tracing process from its suppliers to ensure that dross supplied is received at the plant as sent and within a timely fashion;
- Undercover storage of all aluminium dross and residual ash;
- Extensive use of dust collectors on all furnaces and major pieces of equipment;
- Remelt furnace lime scrubbing;
- First flush stormwater system;

- Energy efficiency;
- Environmental auditing;
- Environmental Management Plan; and
- Community relations.

3. Terms of reference

b) Impact of NSW air pollution laws (including CAA 1961, the POEO Act 1997 and any regulations made under those Acts on air quality over the past three decades).

Over the past three decades there is no doubt that the legislative and regulatory environment has been tightened. The parallel evolution of the regulator, from the SPCC (a branch of the old Health Commission), through the EPA, to the current structure under the Department of Environment and Conservation (DEC) umbrella, has mirrored the shift towards a more legalistic (litigious) approach to compliance.

A consequence of this shift has been the gradual loss of experience and ‘corporate memory’ in the EPA. This has been compounded by the series of redundancies offered as each restructure occurred. The net result is an organisation with relatively inexperienced staff implementing policy, interpreting guidelines and regulating industry.

As the EPA has evolved, there has been a substantial shift in the organisation’s role from one of having the technical competence and expertise enabling them to work with polluters to reduce emissions and or provide advice and guidance, to a situation where the EPA has limited ability to provide anything more than an application of the relevant Act or regulation. This has the consequence of a loss of respect for the technical capabilities of the organisation among sections of the air quality professions.

The following case study illustrates a difficulty in understanding the licensing approach taken for two plants processing secondary aluminium, using substantially the same processes, and with the same administration fee for Load Based Licensing purposes (i.e. both plants process similar tonnages from a licensing perspective). The major difference between the plants is that Plant 1 also houses a rolling facility. Plant 1 is located in the Western Sydney and Plant 2 in the lower Hunter Valley.

Table 1 lists the assessable pollutants and load limit for each plant, taken from their current EPA licences.

Table 1: Assessable Pollutant Load Limits (kg)

Assessable Pollutant	Plant 1	Plant 2
	Load Limit (kg)	Load Limit (kg)
Coarse Particulates	29000	3234
Fine Particulates	12000	9220
Fluoride	1200	1544
Nitrogen Oxides	108000	22803
Sulfur Oxides	34000	14935
Volatile Organic Compounds	145000	3984

Table 2 shows the actual annual load from each plant for the last three available years, taken from the EPA annual return.

Table 2: Actual Annual Load (kg)

Assessable Pollutant	Plant 1 2003	Plant 1 2004	Plant 1 2005	Plant 2 2003	Plant 2 2004	Plant 2 2005
Coarse Particulates	20180	21543	24074	3709	0 ¹	4333
Fine Particulates	8584	8992	9240	10836	5121	5489
Fluoride	839	424	427	2230	864	554
Nitrogen Oxides	78676	79407	83806	22083	24884	15538
Sulfur Oxides	24195	25974	26294	4665	4468	1123
Volatile Organic Compounds	103826	105511	108810	513	645	186

Tables 3 and 4 list the air monitoring requirements for both plants. Plant 1 has 4 identified air discharge points and Plant 2 has 5.

Table 3: Plant 1 Monitoring Requirements

Pollutant	Units	Point 3	Point 4	Point 5	Point 6
		Remelt Furnace	Remelt Furnace	Rotary Furnace	Remelt Furnace
Solid particles	mg/m3				yearly
Opacity	%	continuous	continuous	continuous	
Nitrogen Dioxide	mg/m3				yearly
Carbon Monoxide	mg/m3				quarterly

¹ The Coarse Particulate load of 0 kg quoted for the 2004 reporting period is confirmed. This relates to the nature of sample determinations for the testing event whereby the 'fine particulate' sample mass was greater than the 'coarse particulate' catch. The total particulate emission was therefore attributed to the fine particulate fraction.

Table 4: Plant 2 Monitoring requirements

Pollutant	units	Point 1	Point 2	Point 3	Point 4	Point 13
		Rotary Furnace	Baghouse	Baghouse	Baghouse	Remelt Furnace
Carbon Monoxide	ppm	yearly				
Gaseous fluoride	mg/m ³	continuous				
Hazardous Substances	mg/m ³	yearly				yearly
Hydrogen Chloride	mg/m ³	yearly				quarterly
Nitrogen Oxides	mg/m ³	yearly				yearly
Solid Particles	mg/m ³	yearly	yearly	yearly	yearly	quarterly
Sulfuric acid mist and sulphur trioxide as SO ₃	mg/m ³	yearly				yearly
Dioxins and Furans	ng/m ³					quarterly
Fluorides	mg/m ³					yearly
Volatile Organic Compounds	mg/m ³					quarterly

Table 1 shows a discrepancy between the allowable emission performances of both plants.

Table 2 illustrates the differences in emission performance over three years. Plant 1 operates in the upper band of its allowed emission envelope, with emission trending up each year, for each assessable pollutant. Plant 2, with the exception of the coarse particulate fraction, has shown a downward trend in assessable pollutants over the same period, and lower aggregate emissions, despite commissioning a new furnace (point 13) in the interval.

Tables 3 and 4 highlight a marked difference in the intensity and extent of monitoring required of both plants.

The point of the case study is to highlight the inconsistency in the treatment of the two plants in terms of EPA expectations. The analysis is by its nature simplistic, and cannot take account of all the differing factors between the plants. Nevertheless, the significant differences in Annual Load, and the monitoring requirements suggest a lack of expertise in the regulator.

f) Effectiveness of current laws and programmes for mitigating air pollution

Ambient environmental monitoring provides the most reliable indication of pollution levels for the community. Unfortunately the ambient monitoring network is very restricted in number and in the pollutants being monitored. Residents concerned about the impact of an industry or activity on their health often don't have relevant, reliable data to assess. They must rely on infrequent point source monitoring undertaken by the industry to indicate whether the polluter is exceeding licence limits. What goes out of a stack means very little to what is being experienced at the ground level.

The DEC should consider monitoring in regard to plants that have attracted ongoing community complaint.

DEC should consider the following:

- Require industry to monitor emissions from stacks continuously and to have the monitoring data available on a web site for community review.
- Require industry to have their emissions monitored on a regular basis by independent stack monitoring consultants approved of by the DEC and paid for by the industry.
- Require all industries of the same type to monitor the same pollutants. The pollutants to be monitored to be established by a panel of experts so that relatively inexperienced DEC Officers don't miss a pollutant of concern when issuing licences.
- Require industry to establish, operate and pay for ambient monitoring networks at sensitive receptors surrounding their facility. The equipment to be operated by independent consultants with the results provide to the community and industry at the same time.
- Establish community environmental committees with representatives from the DEC, Council, community, local health practitioners and industry to review and recommend actions to be taken by industry (to be included on DEC licences as PRPs). The attendance at such regular meetings to be compulsory for all government and industry representatives.
- Provide environmental awareness educational training forums to the community surrounding industry to inform them of the activity being undertaken, the potential emissions sources and the composition of such emissions, the equipment used to control the emissions, the potential impact of the emissions on community health, the likely ambient concentrations for pollutants of concern and the actions available to be taken should they have any concerns.

The above actions would result in a more informed community with access to independent monitoring results. This transparent approach may also increase the trust level between the community, DEC and industry.

The Protection of the Environment Operations Act 1997 specifies that a licence cannot be granted or varied by the appropriate regulatory authority unless development consent has been granted for the development.

How does DEC check that Development Consent is required or has been granted for an existing facility that is seeking to vary its licence to increase production or to vary what it is processing?

There have been instances where the DEC has approved expansion of a facility without checking that Development Consent was required and had not been sought or granted. In one particular case, the Land and Environment Court agreed that the facility did not have approval to carry out the processing that it was conducting, however no action was taken by the Land and Environment Court, DoP, DEC or Council to require the company to cease that part of its operation not approved until approval was obtained. How can unapproved developments be controlled or censured?

Weston Aluminium recognises the importance of maintaining and upholding laws that ensure reducing air pollution.

The NSW Government introduced the *Waste Minimisation Management Regulation 1996* to establish an efficient and effective means of reducing the environmental impacts of waste generation, storage, transport, reprocessing, treatment and disposal throughout NSW.

The Regulation involves a two-tiered system with statewide licensing, under the direction of the Environmental Protection Authority (EPA). This system considers waste activities which have the greatest potential to harm the environment. These have been determined according to the type of activity, the quantity and nature of the waste involved and the location of the activity.

Weston Aluminium understands the importance of taking corporate responsibility for maintaining environmental safety standards. The company has undergone a comprehensive hazard audit to ensure the systems, procedures and equipment used in its operation are in line with current legislation.

However, the current legislation doesn't reflect the need for waste disposal organisations, particular those involved with Aluminium smelting, to take responsibility for keeping up to date with legislation and hence, maintaining clean air in NSW. We recommend the onus for auditing hazardous waste emission is not only on the EPA, but also the company itself.

It is evident that legislation needs to be strengthened to address breaches of the licences handed out by the EPA.

Need for a uniform legislation:

The Environment Protection Authority issues 'environment protection licences', to authorise 'scheduled activities'. In this case, the 'scheduled activity' is an aluminium waste disposal facility.

Weston Aluminium understands that older plants are permitted to operate under lower performance standards and higher emission rates. This doesn't reflect the high standards in environmental safety set by the DEC.

Weston Aluminium recommends these standards reflect actual predicted Ground Level Concentrations (GLC) at sensitive receptors rather than emission concentrations.

Stronger regulation authorities:

According to the *Protection of the Environment Operations Act 1997*, the Environment Protection Authority is required to take into account a relevant environmental impact statement, or other

statement of environmental effects prepared or obtained by the applicant under the *Environmental Planning and Assessment Act 1979*, before issuing a licence.

This legislation should be tightened so as to take into account any changes or expansion the applicant may have undertaken during a particular timeframe.

There also needs to be stronger policing of the legislation through increasing the amount of regulators and the frequency of their visits. This would encourage organisations to continuously improve their environmental safety standards.

In deciding whether or not to issue a licence, the Environment Protection Authority must consider:

- the pollution likely to be caused by the activity;
- the likely impact of the pollution on the environment;
- practical measures to prevent or mitigate the pollution;
- practical measures to protect the environment from damage by the pollution; and
- whether the applicant is a fit and proper person to hold the licence.

In regards to licence applications, the EPA is required to consider public submissions received regarding the application, but there is no requirement to advertise licence applications.

The EPA must consider any submissions made by the public during the development assessment process. However, the public has no right to appeal against a decision to grant a licence.

If the EPA wished to vary the conditions of the licence, public submissions must be considered particularly if the variation will generate a significant increase in the environmental impact of the activity.

The Environment Protection Authority are able to suspend or revoke an environment protection licence. Reasons for suspending or revoking a licence include, but are not limited to, breach of licence conditions and failure to pay licence fees.

The Minister for the Environment may suspend or revoke an environment protection licence if the licence holder is convicted of a major pollution offence.

Pollution regulations establish specific standards for certain pollutants and for certain activities (for example, particulate pollution caused by the operation of plant or equipment). It is an offence to carry out any activity which causes the emission of air pollution in excess of these standards.

Timing of Audits and inspections:

The specified criteria in compliance audits conducted by the DEC are generally the legal and regulatory requirements DEC administers.

DEC uses compliance audits as one of its regulatory tools, to assess the extent to which a licensee or other regulated entity is complying with its legal requirements, and to review achievable environmental standards.

Timing of the audits needs to be taken into account, as on occasion illegally excessive emissions are produced at night, when audits are normally not conducted.

Competency/experience of EPA officers to police environmental performance:

According to NSW legislation, auditors should have the necessary knowledge and skills to apply audit principles, procedures and techniques when undertaking compliance audits. DEC has its own internal environmental auditor training program.

A DEC officer who has undertaken the training and has demonstrated that they have the required competencies to undertake compliance audits is eligible for certification as a 'Provisional Environmental Auditor' with RABQSA International. The auditors will have the knowledge and ability to conduct audits in accordance with this handbook and any other internal work procedures.

Weston Aluminium is of the view that there is a lack of monitoring by the EPA to identify compliance of performance at aluminium smelting plants. Especially when a plant is receiving regular complaints from the community. This is a significant issue that needs to be addressed.

The legislation states that EPA officers are required to be competent, however there needs to be more EPA officers in order to continuously regulate plants. This could be addressed by forcing plants to carry out their own monitoring program similar to Weston Aluminium's world's best practices.

(g) Strategies to reduce health impacts of air pollution

Of major concern to communities surrounding industry is that they know very little about what the industries do, what emissions they produce, the concentration of these emissions in the community environment and the potential health impacts of such emissions. Communities are forced to rely upon limited data supplied by the company to the DEC and made available, if at all, to the community many months after being measured.

Strategies to reduce health impacts of air pollution on the community should include the following:

- All industry should be required to upgrade and operate their facility using Best Available Control Technology. It is not acceptable that because an industry is old and has older, less efficient technology that it be allowed to pollute to a greater level. "Older" plants also tend to be surrounded by encroaching communities whereas new plants are either designed to have more efficient pollution control equipment or are located in purpose-designed industrial areas or industrial zones where the communities are more remote.

This would ensure that communities are exposed to lower pollution levels and resultant health effects are reduced.

- Education of the community in the local industry processes, likely emissions and potential health impacts would assist then in being able to identify potential health impacts. Observed or perceived health impacts in the community coupled with independent monitoring results would again assist agencies to focus on pollutants of concern of the industry emitting pollutants of concern, ultimately reducing that pollutant in the environment. Health impacts from the pollutants of concern should also then be reduced.
- Community Health Studies should be routinely undertaken. The ultimate determination of health impacts on a community possibly caused by air pollution is to be able to measure and compare the various health issues such as asthma, bronchial issues, eye irritation, skin problems etc.

It would appear that health studies are only undertaken when a problem is known to exist. Surely more regular health studies in recognised high pollution level "hot spots" on populations of concern (aged and very young) coupled with ambient monitoring results from community monitoring stations would help to focus pollution control strategies. The reduction in pollution levels following the implementation of focused strategies would contribute towards a reduction in health impacts.

4. Recommendations

Weston Aluminium advocates the following recommendations for the inquiry:

- Development of legislative and policy frameworks for the environmental assessment of incremental industrial expansion.
- The EPA advertise licence applications to ensure further accountability and transparency.
- Full disclosure of company environmental performance.
- Clarification of the roles and responsibilities of local and state governments in environmental protection.
- Strengthening of regulators aimed 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.
- DEC standards reflect actual predicted Ground Level Concentrations (GLC) at sensitive receptors rather emission concentrations. (Older plants are permitted to operate under lower performance standards and higher emission rates).
- Auditing hazardous waste emission not only be the responsibility of the EPA, but also the company itself.
- Require industry to monitor emissions from stacks continuously and to have the monitoring data available on a website for community review.
- Require all industries of the same type to monitor the same pollutants. The pollutants to be monitored to be established by a panel of experts so that relatively inexperienced DEC Officers don't miss a pollutant of concern when issuing licences.
- Establish community environmental committees with representatives from the DEC, Council, community, local health practitioners and industry to review and recommend actions to be taken by industry (to be included on DEC licences as PRPs). The attendance at such regular meetings to be compulsory for all government and industry representatives.
- Provide environmental awareness educational training forums to the community surrounding industry to inform them of the activity being undertaken, the potential emissions sources and the composition of such emissions, the equipment used to control the emissions, the potential impact of the emissions on community health, the likely ambient concentrations for pollutants of concern and the actions available to be taken should they have any concerns.
- All industry should be required to upgrade and operate their facility using Best Available Control Technology.

In instances where community complaints have been consistent and sustained over a period of time, then:

- Stronger policing of the legislation through increasing the amount of regulators and the frequency of their visits. This would encourage organisations to continuously improve their environmental safety standards, and EPA Audits and inspections to be conducted outside of business hours.

- Require industry to have their emissions monitored on a regular basis by independent stack monitoring consultants approved of by the DEC and paid for by the industry.
- Require industry to establish, operate and pay for ambient monitoring networks at sensitive receptors surrounding their facility. The equipment to be operated by independent consultants with the results provide to the community and industry at the same time.

Acronym Definitions:

SPCC: a branch of the old Health Commission, now know as the NSW Environmental Protection Authority

DEC: Department of Environment and Conservation

EPA: Environmental Protection Authority

DoP: Department of Planning

GLC: Ground Level Concentration