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working together to protect the environment

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18 February 2005

The Executive Director
Policy and Science Division
Department of Environment and Conservation (NSW)
PO Box A290
Sydney South 1232

Dear Sir

The Australian Environment Business Network (AEBN) welcomes the opportunity to comment on *Proposed Amendment to the Protection of the Environment Operations (Clean Air) Regulation 2002*.

AEBN is an industry and business representative body specializing in environmental issues, which affect our members. Our membership collectively has a turnover in excess of \$50 billion and employs well over 50,000 employees. Further information about AEBN can be found on our website at www.aebn.com.au.

Members of AEBN's Policy Reference Group who include most of the industry based environmental managers prepared this submission.

Should you require further clarification of the issues and positions identified in this submission please contact me on the number below.

Yours sincerely

Andrew Doig

ANDREW DOIG
Director
AUSTRALIAN ENVIRONMENT BUSINESS NETWORK

AUSTRALIAN ENVIRONMENT BUSINESS NETWORK

Submission on

Proposed Amendment to the Protection of the Environment Operations (Clean Air) Regulation 2002

February 2005



Sydney & Melbourne

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EXECUTIVE SUMMARY

The Australian Environment Business Network (AEBN) welcomes the opportunity to comment on the *Proposed Amendment to the Protection of the Environment Operations (Clean Air) Regulation 2002*.

While agreeing with the general thrust of the proposed amendments, AEBN is concerned about the proposed excessive tightening of the *Protection of the Environment Operations (Clean Air) Regulation 2002*, which is based on poor interpretation of the scientific evidence. Of particular concern is the poor scientific basis and flawed economic argument in which the Department of Environment and Conservation (DEC) justifies these proposed changes. The arguments put forward include an overriding assumption that industry will become a proportionally larger emitter of air pollutants as DEC estimates air pollution levels from motor vehicles will drop, therefore warranting tighter control on industry. This approach ignores the possibility that nothing further needs to be done especially if air-emission issues are expected to improve. The DEC continues to combine Sydney and Hunter area industrial air emitters under the Greater Metropolitan area, yet have publicly stated that NO_x emissions from the Hunter area power stations do not significantly contribute to Sydney's air shed.

Many proposed concentration limits, which apply to industry, are proposed to be tightened by 3 to 10 times their current limit. Major flaws, unidentifiable assumptions and incorrect data have been used to in the cost benefit analysis used to justify the proposed amendments. AEBN considers that if implemented these changes would result in considerable cost to industry, detract from future investment in NSW and achieve little in reduction of air pollution across NSW.

AEBN recommended the new limits should be based on achieving an environmental outcome such as meeting the Air Quality NEPM's criteria in a cost effective manner. The DEC should also allocate its resources to sources in proportion to the level of their environmental impact, rather than focusing largely on licensed sites.

Other AEBN recommendations include:

- Undertaking an independent assessment of the Regulatory Impact Statement to ensure that industry's costs are properly accounted for and balanced with clearly identified environmental outcomes and health benefits.
- Catalytic afterburners be exempt from the regulation
- Apply the Stockholm Convention to prescribed burns
- Non-standard fuels be assessed by contaminant thresholds before emissions testing is considered
- Sunset clauses be omitted, as they are redundant and unnecessary
- Triggers for sites moving to a Group 5 or 6 be limited to air pollution equipment replacement only
- Developing a policy to balance the sometime-conflicting issues of greenhouse emissions and local air pollutants

Should the contents of this submission require further clarification please contact Andrew Doig at AEBN on (02) 9924 7515.

RECOMMENDATIONS

- R1 AEBN recommends the NSW Government develop innovative approaches to deal directly with acute air pollution issues, with the DEC as the lead agency and support from other agencies such as the Department of Health who should receive the benefit of reduced hospital admissions.
- R2 AEBN Recommends the RIS be independently reviewed as it currently contains many flaws and assumptions that skew its findings.
- R3 AEBN recommends the POEO (Clean Air) Regulation be prepared to avoid perverse outcomes.
- R4 AEBN recommends for emergency dump flares the DEC use design specifications and test the operability and not the operation of such flares.
- R5 AEBN recommends catalytic afterburners be exempted from the definition of afterburners under the regulation.
- R6 AEBN recommends the DEC develop and enforce best practice management requirements according to the Stockholm Convention for managing of dioxins and other air toxics generated from carrying out prescribed burns.
- R7 AEBN recommends that non-standard fuels be first assessed as to their potential combustion emissions by concentration testing, and if the concentration of certain substances is above a threshold level then air emission testing be required for those substances.
- R8 AEBN recommends the sunset clauses in the proposed regulation be omitted, as they are redundant and unnecessary.
- R9 AEBN recommends section 22(7) (b)(i) be replaced by:
- (i) a development consent has been granted on the basis of a development application made in relation to air emissions or plant relating to air emissions on or after [commencement of Regulation], and
- And that section 22(7) (c)(i) be replaced by:
- (i) such a modification has been granted on the basis of a modification application made in relation to air emissions or plant relating to air emissions on or after[commencement of Regulation]
- R10 AEBN recommends the NSW Government develop a whole-of-government policy to deal with conflicting environmental outcomes on air emissions. The policy should provide clarity for the DEC, other agencies and the public on how to balance, for example, greenhouse emissions—a global issue with local air pollutants such as particulates, oxides of nitrogen and many others.

1. INTRODUCTION

AEBN welcomes the opportunity to comment on Clearing the Air Options Paper on *The Proposed Amendment to the Protection of the Environment Operations (Clean Air) Regulation 2002*.

AEBN is an industry and business representative body specialising in environmental issues that affect our members. Our membership collectively has a turnover in excess of \$50 billion and employs well over 50,000 people. Further information about AEBN can be found on our web site at www.aebn.com.au.

The Clean Air (Plant and Equipment) Regulation 1997 (CAPER) has a long history. It is perhaps one of the oldest pieces of NSW's pollution-control legislation, having come into existence on 1 January 1965. The key focus of the regulation is to protect local air quality through various concentration limits that apply at the point of discharge into the atmosphere, usually a stack. CAPER focuses its attention to the performance of a range of plant and equipment—hence its name—that are commonly used in industry. These include for example boilers, process heating and industrial furnaces, but also specific industrial processes, like municipal waste incinerators and cold-blast cupolas used in the foundry industry.

Since 1965 the regulation has set increasingly tighter concentration limits permitted for its listed plant and equipment. Like the standards for motor vehicles these tighter limits are not retrospective. For example, a 1972 car is not required to meet the current Australian Design Rules which apply for 2003 model vehicles, as the cost of conversion would be worth more than the price of the vehicle in most cases. Similarly industry that operates older plant and equipment is required at least to meet the CAPER standards set in the date of its installation. As a result we have five main stages of tighter limits being imposed:

- Plant and equipment installed before 1972
- Plant and equipment installed after 1972 but before 1986
- Plant and equipment installed after 1986 but before 1997
- Plant and equipment installed after 1997 to date
- Plant and equipment installed after the commencement of the proposed regulation.

Air pollution limits under CAPER are not the only concentration standard industry is required to meet. An additional approach is contained in the DEC's publication *Approved Methods for the Modelling and Assessment of Air Pollutants in NSW (Approved Methods for Modelling)*, which sets out the requirements for impact assessment including health-based impact assessment criteria. This is a relatively new approach and can set tighter controls on top of the emission limits set in CAPER. Hence CAPER sets a maximum emission limit that applies across NSW, regardless of where new plant and equipment is installed. *Approved Methods for Modelling* can raise this standard higher.

In addition to the CAPER limits and possibly tighter limits set under the *Approved Methods for Modelling*, industry is also controlled on air pollution issues by:

- Load Based Licensing which charges industry a levy on the amount of a contaminant emitted
- Load limits set via the Environment Protection Licence, which limits the total emission of certain air contaminants from a licensed site

- Pollution Reduction Programs which are negotiated with individual licence holders and can involve further reducing air emissions
- Special Conditions under Environment Protection Licences

Load Based Licensing (LBL) and load limits are designed to limit the total mass of a pollutant emitted from a licensed site via a charge based on the quantity of a contaminant emitted. These load controls are unique to certain licensed sites and are set to control the mass emitted over a period of time, rather than as CAPER does, deal with short-term and acute issues associated with maximum concentration. Under the LBL scheme licensed sites are charged according to the mass they emit over a year. LBL brought with it a more rigorous and continuous monitoring and measurement processes to measure the mass of contaminants emitted. One that must consider all concentrations and volumes emitted, rather than if an exceedence occurred.

CAPER also differs from LBL in that it captures all plant and equipment, regardless whether a site is licensed or not under Schedule 1 of the *Protection of the Environment Operations Act 1997*.

For licensed industrial sites in NSW, control of air pollution has undergone substantial changes in recent years with a multi-layered approach being used by the DEC. The role of CAPER, while still an important issue for industry, has been overtaken in workload and costs at licensed sites by introduction of LBL, load limits and the use of Approved Methods. Use of continuous monitoring and higher levels of accuracy by introducing of LBL has also meant a greater level of compliance required on such sites.

For example, a site may be required to measure its compliance with CAPER 4 times a year. The introduction of LBL requires that accurate measurements of concentration occur at much more frequent intervals. Use of continuous monitoring has now become a common requirement under the licence conditions for many sites. Consequently, instead of being required to meet the CAPER concentration limits 4 times each year many sites must now meet it every 30 seconds. Given that even the best monitoring systems suffers from errors, these should be discounted. However, in many cases they are not.

Consultation on CAPER and the proposed *POEO (Clean Air) Regulation 2002* commenced in October 2003. AEBN prepared a detailed submission, which included 9 recommendations. The take-up of these recommendations in the Regulatory Impact Statement (RIS) and draft regulation is disappointing.

The changes made to the 2003 discussion paper —resulting in the *POEO (Clean Air) Regulation 2002* — went in the opposite direction to the recommendations AEBN and other industry groups communicated to the DEC. Overall, industry has been given poor consideration in to the development of this draft regulation that will cost NSW industry up to 268 million. While the health savings are assumed to provide a net benefit of up to \$769 million dollars, this benefit is an estimate and an intangible. AEBN considers the costs fail to consider the multiplier effect and are based on outdated air pollution equipment costs. In short AEBN believes the costs are undervalued by a factor of 4.7 times. In result the costs outweigh the benefits by \$490 million making most of the proposals unjustifiable.

The RIS and its approach are discussed in the submission.

2 FUTURE DIRECTIONS FOR AIR POLLUTION MANAGEMENT

The *Clean Air Plant and Equipment Regulation 1999* (CAPER) is arguably the oldest regulatory instrument the DEC uses to control air pollution. Its approach of setting absolute concentration limits on industrial plant and equipment directly reduced the consequences of air pollution at ground level. However, this approach deals with both the acute and chronic health effects of air pollution. AEBN argues that it is time to rethink the approach in the way air pollution is managed. CAPER's approach is to maintain an acceptable background level of contaminants from plant and equipment. Its ability to manage acute health impacts is considered poor, as it is a non-dynamic in its management of days of high pollution levels. CAPER's ability is further diminished for both chronic and acute control as it only controls plant and equipment that are in the Sydney Metropolitan Area which are minor contributors to ozone precursors and particulates to that local air shed.

The RIS on the CAPER replacement bases its economic argument on a cost per tonne of pollutant emitted. AEBN considers that this approach fails to take into account the close relationship between health effects and concentration of the pollutant. Rarely is the dose to health impacts linear. In most cases the impact is exponential. This means that acute concentrations are far more significant than measurement of tonnes emitted. Even the *National Environment Protection Measure on Ambient Air Quality* (NEPM) is based on peak ambient concentrations and not on tonnes emitted. An impact-per-mass argument is better suited to support the load based licensing system, rather than the concentration based CAPER for which the RIS was written.

Consequently, the assumption in the RIS that real savings in terms of health and mortality will be improved by merely reducing a small percentage of the average tonnage of a pollutant is flawed. All such benefits would be extinguished by a few high-concentration days each year. The RIS fails to take into account these high-level acute impacts. As a result, actions that could be undertaken to gain the maximum benefits in terms of health impacts are overlooked. Lacking innovative approaches to the problem, the proposed regulation merely tightens current methods, with dubious benefits. This is a simplistic approach, which simply assumes that any reduction in emissions is good. As explained in the next section the economic arguments used are developed to suit the proposed regulation rather than take a more intelligent approach to the problem and address it using new methods.

The controls on air pollution from motor vehicles—the largest source of air contaminants in the Sydney Region—are based by setting emission concentration limits. As a result, both CAPER and Australian Design Rules (ADR) for motor vehicle emissions are incapable in dealing with the acute peak concentrations, of especially, ozone and particulates. The RIS repeatedly combines Sydney-based industry with the Hunter-based power stations. In past submissions AEBN and other industry associations made it clear that this approach is wrong. The ITAPS model clearly showed that the main electricity generating power stations do not contribute to NO_x in the Sydney air shed.¹ The details of this argument, is to be again ignored in the RIS, were detailed in AEBN's 2003 submission. The upshot is that AEBN considers motor vehicles to be the major source of photochemical smog and particulates in the Sydney air-shed. AEBN also believes that the DEC modelling which predicts that motor vehicle emissions will drop substantially after the new ADRs are

¹ Inter Regional Transport Atmospheric Pollutants Study found that the power stations contribute about 1.4% of the NO_x to the affected areas of the Sydney air shed about 1% of the time.

introduced in 2006, are grossly optimistic. As a consequence, more can be done to manage the peak pollution days by targeting not only industry but also motor vehicles and other sources.

AEBN proposes that a new approach, which deals with the peak acute levels of air pollution, is needed. The reasons for such a strategy to use a more economically effective means in controlling air pollution and its health impacts. Rather than continue to merely crank down the concentration limits, this could be replaced by government actions that aim to reduce peak concentrations and target the acute impacts of air pollution.

Suggested approaches for dealing with photochemical smog² include:

- Meteorological warning system to provide advance notice of likely high-pollution days
- A public educational program which:
 - Is triggered by the predicted high pollution days
 - Promotes leaving the car at home
 - Promotes the use of car pooling and public transport
- Other actions to limit the photochemical smog precursors

If the media and public pick up on the idea of leaving the car at home on high pollution days, then Sydney could see a lowering in the number of times it exceeds the NEPM targets on ozone. Not only will there be health benefits, but a good outcome would make Sydney a more attractive city to live in further improving investment and prosperity.

R1 AEBN recommends the NSW Government develop innovative approaches to deal directly with acute air pollution issues, with the DEC as the leading agency and support from other agencies such as the Department of Health, which should receive the benefit of reduced hospital admissions.

² Photochemical smog is formed by the combination of certain organic compounds, NO_x and meteorological conditions. Its primary health impact is due to the formation of ground level ozone.

3 THE RIS PROCESS

AEBN is concerned about the double standards applied to the Regulatory Impact Assessment's (RIS) use of costs compared to its derivation of benefits. Simply put, the costs for industry are based on direct capital equipment cost and contain no extrapolations and multiplier effects. The benefits—in terms of lowering of health impacts and their flow on costs, such as health care and loss of income etc—all use extrapolative data and even in some cases add in social costs. Abatement costs are based hard data, while the health 'savings' use far more intangible extrapolations.

The health costs including mortality appear to be largely based on the EU approach of valuing a full life at one million euros (about \$A1.4 million), though this is usually adjusted to about \$600,000 as the average affected person is generally elderly when mortality occurs. This valuation uses the multiplier effect of assuming lost incomes and net benefits to society from an average individual. If such a multiplier effect is used for the health costs in the RIS then AEBN considers the multiplier effect should also apply to industrial costs. Multiplier effects of 1.5 to 5 are commonly used in economic literature³. If the low range of 1.6 is used, then the costs and benefits look substantially different especially for nitrous oxides.

AEBN has also reviewed the paper and found no direct link to table 5.18 *Cost of dioxin control for new industry* and the numbers and estimates used in the New Zealand document. The NZ document lists marginal costs for improvements in reducing dioxin levels. Table 5.18 does not replicate the figures in this reference but uses the papers marginal costs as a basis to calculate [by sum unknown conversion factor] installed equipment costs and operational costs.

AEBN considers the conversion of the NZ marginal cost data to actual costs prone to substantial error. To do so would require that assumptions be made to the non-controlled average emissions from a variety of industry types. Hence table 5.18 has worked backwards to generate apparent total costs to industry and applied these costs to calculate costs on industry. Not surprisingly the estimated costs of air pollution abatement equipment portrayed in *Table 5.18*: are at least 3 times lower than quotes received by members.

For example, the cost for a medium medical waste incinerator is listed in the RIS at \$470,000, but a company reports that the quoted cost is over \$1.2 million.

In another example, this time for a small coal-fired boiler using fabric filters, the RIS puts the cost at \$120,000. Yet a recent quote to an AEBN member was \$365,000 and this was the cheapest quote. Going to treated bags, the cost increased to as high as \$800,000.

AEBN considers that the abatement costs listed in the RIS are roughly one third of their real current value. If extrapolated then the RIS's assumed abatement costs can be argued to be out by at least a factor of 3. Overall the total under estimation of costs on industry includes:

³ The multiplier effect is additional employment opportunities that one manufacturing job creates in the micro and macro economy, which is between 1.5 to 5 additional jobs. Rural towns have higher multipliers than for urban areas.

- A 1.7 employment multiplier effect and,
- A 3 fold under estimation of abatement costs

providing an error rate of 3.7 times that used for industry costs in the RIS.

AEBN Prepared a similar table to *Table 5.23: Summary of the estimated costs and benefits of the Regulation* from the RIS to identify the differences in the outcomes when the multiplier effect is added to industrial costs. Not surprisingly, the net present value of NO_x emissions abatement is questionable and not a fore gone conclusion.

Table 3 Reviewed summary of the estimated costs and benefits of the regulation			
Proposal	Costs (\$million)	Benefits (\$millions)	Net present value (\$millions)
NO_x			
Scheduled industry			
– New plant	\$62.5 – \$104.2 (\$218.8—\$364.7)	\$105.8 – \$176.3	\$43.2 – \$72.1 (-\$258.9— -\$42.5)
– Existing plant	\$83.8 – \$308.5 (\$293.3—\$1079)	\$358.7 – \$1,092	\$274.8 – \$784.2 (-\$721—\$798.7)
Use of the 3.7 multiplier for industrial costs are displayed in brackets			

Another example of the extrapolations used the EU paper *Estimates of the marginal external costs of air pollution in Europe 2002*, which is cited in the DEC’s RIS, warn about the accuracy of the data, stating that:

The main difficulties relate to ozone modelling. Results are based on a single scenario of emissions in the late 1990s. Assuming that countries will meet their obligations under the National Emission Ceilings Directive and the Gothenburg Protocol, emissions of the anthropogenic precursors of ozone, NO_x and VOCs will fall significantly by 2010. Problems in extrapolation of the results generated here for the late 1990s arise because of the non-linear nature of the atmospheric chemistry of ozone. Indeed, this is so non-linear that at high NO_x concentrations, NO_x emissions will reduce, rather than increase ozone concentrations.⁴

This statement reflects on the difficulties in converting NO_x levels to ozone. Ground level ozone is considered the most undesirable pollutant resulting from photochemical smog due to its higher health impacts. AEBN questions the accuracy of converting concentration based health impacts of ozone into cost per tonne of ozone added on a continuous basis. Firstly we have health impact vs concentration issue, so measurement of marginal mass increases ignores the impacts that high concentration events cause. Perhaps the marginal mass increase has some basis for measuring chronic impacts. However, given the dose to health impact data, the acute effects would appear to swamp chronic impacts. Added to this is the inaccurate connection between

⁴ EC (2002), *Estimates of Marginal External Costs of Air Pollution in Europe*, European Commission, sourced from: <http://europa.eu.int/comm/environment/enveco/studies2.htm#air> p 5.

NO_x and ozone. While NO_x has a direct health impact it is much smaller than for ozone. Overall the use of health impact cost per tonne as a use within this RIS appears flawed.

If the health costs are based largely on hospital emissions then AEBN argues that industry will be reducing the costs of the public and private health system. As a consequence the cost of abatement and air pollution management should be, in part, borne by the health budget.

R2 AEBN Recommends the RIS be independently reviewed as it currently contains many flaws and unidentifiable assumptions that skew its findings.

4 SPECIFIC ISSUES

4.1 Errors in the RIS

AEBN requests clarification over the following statement extracted from section 2.1 The significance of industrial emissions. To quote page 4:

Industrial air pollution emissions make a significant contribution to total air emissions in NSW, and consequently have a substantial impact on ambient air quality, particularly in the GMR. Industry is responsible for approximately 75% of particulate matter and 70% of nitrogen oxide (NO_x) emissions in the GMR (DEC, 2003c).⁵

However on page 26 of the RIS, it states:

Sources within the GMR will account for 70% of NO_x emissions from scheduled premises commencing operation in NSW over the next 5 years. (This is based on the current geographical distribution of NO_x emission sources.)

It would appear that the statement on page 4 assumes that 70% of NO_x is currently generated by industry. On page 26 this will only occur—based on an assumption—of additional premises commencing operation over the next 5 years. AEBN assumes that the 70% contribution from industry is a future estimation taken in 2008 when a predicted level of industrial activity is built and when the 2006 motor vehicle emission standards have commenced and have a predicted outcome. If this is the case, then the statement on page 4 is highly misleading.

4.2 Perverse Outcomes

A number of perverse outcomes are possible with the draft regulation. These generally include incentives against more energy efficient practices and appear counter to government greenhouse and energy policy.

For example:

A paper mill wishes to install a new boiler and a cogeneration plant. The new Group 6 standards under table 6 *Paper, paper pulp or pulp products industries* of the draft regulation requires that the boiler meet a NO_x limit of 300 mg/m³ if it is used in connection with power generation. The company also notices that under Part 2 table 1 *General emissions standards* that if the cogeneration plant is omitted, the NO_x emission limit increases to 350 mg/m³. If the price difference between the two boilers is significant then the company may opt for the non-co-generation boiler. This would result in a perverse outcome in with the proposed clean air regulation promoting increased greenhouse emissions against government policy.

While such a scenario would be rare, the regulation should at least reflect government policy. At a minimum the NO_x limit should be increased to 350 mg/m³ for paper industry boilers that also use cogeneration for power generation.

R3 AEBN recommends the POEO (Clean Air) Regulation be prepared to avoid perverse outcomes.

4.3 Flares and Afterburners

The RIS states that new flares are to meet the Group 6 standards and that Group 1 and 2 industry should be able to comply with Group 5 standards if the flares are maintained and operated correctly.

As flares will be a new addition they will, AEBN assumes, require to testing to demonstrate their performance levels are within requirements. It is this testing which concerns AEBN. Emergency dump flares are there for rare large volume destruction of a hazardous material for safety reasons. The difficulty is in testing a flare for performance. The testing may require the flare to burn at full operating conditions, which will not only be wasteful of a valuable raw material, it will increase greenhouse gas emissions and pollutants in the local environment.

R4 AEBN recommends for emergency dump flares the DEC use design specifications and test the operability and not the operation of such flares.

The proposal for regulating the emissions from afterburners does not cover all types of afterburners. AEBN considers the DEC needs to be more specific in the types of afterburners it wishes to regulate. For example, will catalytic afterburners be captured in the regulation? If so they cannot meet the current required minimum temperature of 780°C. Catalytic afterburners operate at around 300° to 400°C maximum. Higher temperatures destroy them.

R5 AEBN recommends catalytic afterburners be exempted from the definition of afterburners under the regulation.

4.4 Government to lead with dioxin best practice

AEBN considers that the NSW Government should lead by example in the minimisation of dioxin emissions from its activities. The RIS states that uncontrolled combustion contributes 66.84% of the total air-based dioxin emissions. Further investigation reveals that the majority of this uncontrolled combustion source is from prescribed burning rather than from bushfires.

Table E1 – Emission Estimates for Australian Sources.

Source	Emission (g/year)
Fires – prescribed burning	65-1300
Bushfires	7-400
Residential Wood Combustion	15-98
Coal Combustion	4.5-73
Sinter Production	9-68
Industrial Wood Combustion	10-65
Oil Combustion (industrial and utility)	21
Non-Ferrous Metal Production	1-19
Medical Waste Incineration	0.9-19
Motor Vehicles	0.35-17
Asphalt Mixing	14.5
Iron and Steel Production	0.7-9.4
Landfill Gas	0.8-2.5
Cement and Lime Production	0.31-0.60
Residential Oil Combustion	0.075-0.2
Ceramic	0.02-0.05
Coke Production	0.03
Glass	0.0014-0.0035
Municipal Waste Incineration	0
Sewage Sludge Incineration	ND ^a
Hazardous Waste Incineration	ND
Crematoria	ND
Activated Carbon Regeneration	ND
Halogen Chemicals and VCM	ND
Pesticide manufacture	ND
PCP Wood Treating	ND
Total	150-2100

a ND – no data available

Table E1 from *Sources of Dioxins and Furans in Australia: Air emissions – Revised Edition May 2002*, Environment Australia provides a proportional view of the level of dioxin emissions from prescribed burning and bushfires. Based on table E1, prescribed burning—also called prescribed burning—contribute between 76% to 90% of uncontrolled dioxin emissions. This related back to the DEC’s data, this correlates with between 50% to 60% of all Australian dioxin emissions are generated from government controlled and operated prescribed burning practices. A reason that prescribed burning has a higher dioxin output is because most prescribed burning is undertaken during winter and spring when the bushfire danger is low. While this may be a safer activity, from a bushfire perspective, it is also when combustion processes are far from optimal. This increases the likely concentrations of dioxins in the combustion gases. In addition, most prescribed burning is undertaken close to residential premises in order to lower risks to lives and property.

A number of AEBN members have had to deal with DEC’s processes in managing dioxin contamination and generation. In short, these processes and requirements for studies and investigations are intense. Given that the NSW Government is the largest producer of dioxins in NSW, by a substantial margin, AEBN considers that the DEC should set similar level of investigation, risk assessment and justification on prescribed burning that it applies to industrial sites and is proposing to impose on non-standard fuels.

The Stockholm Convention, to which Australia is a signatory, requires that Australia:

‘Prohibit and/or take the legal and administrative measures necessary to eliminate (i) Its production and use of the chemicals listed in Annex A [which includes dioxins, furans and their congeners]’.

While prescribed burning is not specifically identified, it is by far the largest source of dioxins and is identified as such in the RIS. AEBN has also identified a number of actions to reduce the level and impact of dioxins generated from prescribed burns, which should be explored under the Stockholm Convention, including:

- Reduce litter that may contain dioxin precursors [e.g. chlorine]
- Establish optimal conditions: moisture, temperature, metrological and humidity for prescribed burning for reducing dioxin and other air contaminants
- Undertake risk assessments on the impacts of prescribed burning, especially in surrounding urban areas.

R6 AEBN recommends the DEC develop and enforce best practice management requirements according to the Stockholm Convention for managing of dioxins and other air toxics generated from carrying out prescribed burns.

4.5 Non-Standard Fuels

The action to classify fuels into two categories⁵ is a simple method to capture certain fuels that, if burnt, may generate excessive amounts of dioxins, furans and other undesirable compounds and metals. AEBN accepts that the DEC has to manage such emissions; it believes that the process is too simple and will impact on non-standard fuels that are unlikely to generate concentrations of undesirable emissions.

AEBN considers there is a potential policy conflict between the need to control air emissions and alternative waste management technologies⁶, especially when producing energy from waste. As a consequence, the DEC must deal with energy from waste and other non-standard fuels in a cost effective manner and avoid a blunt one-size regulation fits all approach. One of the high cost issues that arise when considering the types of emission limits on non-standard fuels is the cost of measurement.

⁵ The proposed Regulation splits fuels into standard fuels, such as wood, coal, gas and petroleum products and non-standard fuels which is any other type of fuel which are not classed as standard fuels.

⁶ The NSW Government’s policy is to reduce waste to landfill and promote alternative waste management technologies including energy from waste.

AEBN considers that the proposed regulation should permit the assessment of the likelihood of undesirable air emissions based on the chemical analysis of the fuel first. If the non-standard fuel contains above thresholds of undesirable substances or precursors to these, then testing on the air emissions would also be required. In contrast, if the concentration limits were below the threshold levels, then there would be no need to undertake air emissions testing on combustion gases. The technique can be used to target particular contaminants and only test those that are above the threshold in the combustion gases.

R7 AEBN recommends non-standard fuels be first assessed as to their potential combustion emissions by concentration testing, and if the concentration of certain substances is above a threshold level then air emission testing be required for those substances.

4.6 Sunset clauses

The statement on page2 of the RIS says:

The economic life of pollution control equipment and the investment cycle of industry – most pollution control equipment has a life of approximately 20 years, hence it is reasonable to expect that older industry has replaced older equipment with more contemporary control equipment, or is due to do so.

While this is a general clause—as there would be considerable variation within industry—it seems that the DEC considers that most air pollution equipment will be replaced around this 20 year time period. If such equipment is to be renewed then it would be subjected to the variation trigger under a licence change also proposed in this RIS. On this basis AEBN considers that having both a licence variation and a sunset clause redundant regulation.

In our submission on CAPER in 2003, AEBN recommended against the sunseting of the pre-1972 CAPER limits. In its place use Pollution Reduction Programs and the licence negotiation process to gradually raise the performance of the limited number of sites operating under these limits. The licence variation triggers proposal appear to be means to achieve this, however in a more regulated fashion than AEBN believes necessary.

R8 AEBN recommends the sunset clauses in the proposed regulation be omitted, as they are redundant and unnecessary.

The licence variation triggers are, by the DEC's own position, adequate to ensure that older plant is replaced and must meet the newer emissions standards.

4.7 Licence variation triggers

The draft regulation is too broadly written for invoking the requirement for a licensed site to up grade its air pollution equipment.

For example, a company may upgrade a section of its production that is not related to the generation of air contaminants. However, development consent is required. This also results in a variation to the licence as the amount of controlled waste generated is likely to rise to above the current permitted quantity limit. In this example the site also has air pollution equipment operating, but will not change as a result of this expansion.

Under the proposed regulation these activities fall under Group 6 air limits as per section 22(7):

(b) those activities or plant to which alterations have been made that required the granting of a development consent and the variation of a licence and in respect of which:

- (i) a development consent has been granted on the basis of a development application made on or after [commencement of Regulation], and*
- (ii) such a variation has been made,*

(c) those activities or plant to which alterations have been made that required the modification of a development consent and the variation of a licence and in respect of which:

- (i) such a modification has been granted on the basis of a modification application made on or after [commencement of Regulation], and*
- (ii) such a variation has been made.*

AEBN was told by the DEC in a public meeting that the intent was to only capture changes to activities that are made to air pollution equipment or substantial increases in air emissions levels. The above section of the proposed regulation is written too broadly and can capture non-air emissions related changes as identified in the example.

R9 *AEBN recommends that section 22(7) (b)(i) be replaced by:*

(i) a development consent has been granted on the basis of a development application made in relation to air emissions or plant relating to air emissions on or after [commencement of Regulation], and

And that section 22(7) (c)(i) be replaced by:

(i) such a modification has been granted on the basis of a modification application made in relation to air emissions or plant relating to air emissions on or after [commencement of Regulation], and

4.8 Greenhouse vs local air limits

In many other submissions AEBN has called for the need for the DEC to develop a policy document in which local air pollution issues are appropriately balanced with regional, national and global issues. Alternative fuels can offers considerable greenhouse gas emissions savings. Targeting these fuel sources, by setting stricter local air emissions limits will undermine other environmental advantages, such as lower greenhouse emissions by replacement of fossil fuels⁷ and ultimately create more waste.

R10 AEBN recommends the NSW Government develop a whole-of-government policy to deal with conflicting environmental outcomes on air emissions. The policy should provide clarity for the DEC, other agencies and the public on how to balance for example, greenhouse emissions—a global issue with local air pollutants such as particulates, oxides of nitrogen and many others.

5. CONCLUSION

The process of undertaking the review on CAPER should result in a better piece of environmental legislation for NSW.

The replacement regulation to CAPER is one of fine-tuning rather than just setting tighter limits. Proposed tightening of industrial air emissions limits will be justified by a scientifically supported approach, which demonstrates that real environmental outcomes will be achieved. Such achievements will be based on economically achievable goals. In summary air pollution limits on industry will not be tightened if they make negligible improvements to NSW ambient air quality goals, as other sources are by far the largest contributors to the deficiencies in air quality in NSW. Instead the NSW Government will consider innovative approaches to deal with the acute air pollution impacts that occur only a few days each year in the Sydney air shed.

The priorities and allocation of resources of DEC fro air pollution issue will be in proportion to the sources of air pollution across NSW. In most cases this will be emissions from motor vehicles or wood fired heaters, and occasionally from certain industries.

Use of percentiles for high frequency monitoring instead of requiring 100% compliance for all will permit realistic flexibility in CAPER compliance.

⁷ Bio diesel is one example of this approach. Additionally raising useful energy from waste fuels has significantly greater environmental benefits than just incinerating or composing them.