Submission No 28

INQUIRY INTO HEALTH IMPACTS OF AIR POLLUTION IN THE SYDNEY BASIN

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Subject:

Summary

S S R O C

southern sydney regional organisation of councils

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GPSC's

The Hon Patricia Forsythe MLC
Chair
C/- The Director
General Purpose Standing Committee No 2
Parliament House
Macquarie Street
SYDNEY NSW 2000

Dear Chair

Re: Inquiry into Health Impacts of Air Pollution in the Sydney Basin

The Southern Sydney Regional Organisation of councils (SSROC) would like to thank General Purpose Standing Committee No. 2 for the opportunity to provide a submission to the Inquiry into the Health Impacts of Air Pollution in the Sydney Basin.

Air pollution in the Sydney basin and its impacts has been a concern to the public for a number of years and is seen as a major health, environmental and amenity issue throughout the SSROC region.

As other organisations more qualified in the analysis of the types, quantity and impacts of air pollution will no doubt be making submissions to the Inquiry, SSROC's submission will focus on the sources of emissions that directly affect the health of residents in the region. Therefore this submission will cover issues such as:

- Emissions from motor vehicles
- Emissions from industry
- Emissions from domestic sources
- Air pollution monitoring in Sydney
- Current laws, policies and programs

Should you have any questions on the contents of the submission or require any further information please do not hesitate to contact me on 9330 6459 or lj@ssroc.nsw.gov.au.

Yours Sincerely

(original signed)

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1. Introduction

The SSROC is a voluntary grouping of councils established in 1986. Its aim is to achieve sustainable solutions to the challenges facing the southern Sydney region though the sharing of resources, cooperation in policy development and regional advocacy.

Councils represented are:

City of Botany Bay
Canterbury City Council
Hurstville City Council
Kogarah Council
Marrickville Council
Randwick City Council
Rockdale City Council
Sutherland Shire Council
City of Sydney
Waverley Council
Woollahra Municipal Council

Together these eleven Councils represent more than one million people.

SSROC undertakes a wide range of continuing programmes and special projects, utilising both local government resources and grant funding and has become a key element in the structure of governance in the region.

1.1 *SSROC and air pollution*

SSROC's role in regional lobbying and advocacy has meant that it has developed coordinated positions on a range of development projects, policies and plans as well as made submissions to federal, state and local government inquires on a range of topics.

The issue of air pollution is often raised in theses documents, as SSROC sees emissions from motor vehicles, industrial sources and domestic emissions as a key amenity issue within the region.

SSROC also has developed and implemented a number of policies and programs over the years to help alleviate air pollution in the region and it believes that all levels of government could do more to tackle the air pollution problem.

2. Emissions from motor vehicles

In 1995 a New South Wales (NSW) Parliamentary Library briefing paper noted that 'the motor vehicle is responsible for the majority of the air pollution affecting Sydney (NSW Parliamentary Library 1995, p12).

In the 1990s the NSW Government set up the Metropolitan Air Quality Study (MAQS) to identify the sources and problems associated with air pollution in Sydney. The results of that study, released in 1996, showed that motor vehicles continued to be the leading source of emissions for a range of air pollutants in the Sydney basin.

'The MAQS study has shown that wood fired combustion for domestic heating and motor vehicles, particularly diesel vehicles, are two major sources of particular pollution in the Sydney region' (NSW Parliamentary Library 1998, p4)

'The MAQS Study showed that in the Sydney region, mobile sources (including motor vehicles, commercial shipping, aviation, rail transport and marine pleasure craft) accounted for 82% of nitrogen oxide emissions' (NSW Parliamentary Library 1998, p6).

'In the Sydney region, motor vehicles account for about 90% of carbon monoxide emissions' (NSW Parliamentary Library 1998, p9).

'Pilot studies done by the EPA indicate that motor vehicles are the major source of air toxics in the region' (NSW Parliamentary Library 1998, p12).

A recent commuter exposure study undertaken by NSW Heath and the Central Sydney Area Health Service comparing exposure to air pollution for five commuting modes in Sydney found that the results indicating elevated exposure to motor vehicle–related pollutants in transport corridors were 'consistent with NSW Environment Protection Authority data indicating that cars and other motor vehicles are generating considerable volumes of air pollutants that directly and adversely impact upon other commuters and the population in general' (Chertok et al 2004).

SSROC therefore sees motor vehicles as key to Sydney's air pollution problem.

2.1 Major roads and increased freight movements

SSROC is concerned about the continuing congestion and resultant air pollution along a number of major road corridors across the region. These include the M5, the M5 East, the Eastern Distributor, Cross City Tunnel, the M4, the Princes Highway, the F6 freeway and Parramatta Road.

Throughout the consultation periods for the development of these roads, SSROC strongly emphasised the health impacts that would result from emissions along these corridors. In particular, SSROC noted that the building of roads tended to increase rather than decrease road congestion and rather than alleviating congestion for residents located near to these facilities, these developments often result in greater health and amenity impacts.

Similarly, the lack of provision of public transport alternatives in association with the development of road infrastructure has not helped to ease the problem of emissions from motor vehicles. As Chertok et al found in their 2004 study 'to minimise the exposure of the population to air pollutants, the greater provision of commuting alternatives to cars should be a primary planning objective'.

With respect to heavy vehicles and freight the Federal Government has indicated that it is expecting a doubling of non-bulk freight movements over the next 20 years (Department of Transport and Regional Services, 2005), therefore increasing the likelihood of incidents of high air pollution.

For SSROC this increase in freight will mean an increase in the number of heavy vehicles traversing the region, in particular to the expanding Port Botany and Kingsford Smith Airport sites, as well as increased local traffic from the additional direct and indirect employment generated.

Also of concern to the region is the expansion of the Port Kembla facility in the Illawarra region south of Sydney, which will see increased heavy vehicle movements

along the F6 freeway and most likely continuing along the Princes Highway. SSROC has consistently argued against an increase in heavy vehicle traffic in the region.

The recently released Sydney Metropolitan Strategy has allocated additional dwellings to sub-regions of Sydney based on Regional Organisation of Council boundaries. The potential for 125,000 additional dwellings (or 20-25% of metropolitan growth) and approximately 95,000 new jobs has been identified for the SSROC region. The Sydney Metropolitan Strategy does not however contain details of any additional infrastructure to be provided in order to meet these targets.

3. Emissions from industry

As noted previously, mobile sources of air pollution (such as motor vehicles) are by far the most significant contributor to air pollution in the Sydney region. The SSROC region however is also impacted upon by emissions from industry, namely Kingsford Smith Airport, Botany Industrial Park (Orica), Kurnell Industrial Area and other smaller scale businesses.

3.1 Airport

Kingsford Smith or Sydney Airport is a major source of industrial air pollution emissions within the Greater Metropolitan Region (GMR). According to the *Sydney Airport Master Plan* the airport is the source of 2% of the GMR's emissions of nitrogen oxides and 3.2% of all sulphur dioxide emissions (Sydney Airports Corporation Limited 2004).

Emitting emissions of volatile organic compounds, carbon monoxide, nitrogen dioxide, sulphur dioxide and particulate matter (PM10), the airport according to the *Sydney Airport Master Plan* is forecast to increase emissions by between 35 and 65% by 2024 (Sydney Airports Corporation Limited 2004).

As well as the air pollution increase from additional aircraft movements forecast for Sydney Airport, the recently announced commercial/retail development will also increase traffic movements in the area with the latest plans stating that there will be around 1005 extra vehicles in the vicinity of the development on a Thursday evening peak hour (Sydney Airport Corporation Limited 2006).

The increase in traffic related air pollution will most likely not form part of the Airport's Department of Environment and Conservation operating licence and therefore the impacts may not be adequately addressed.

3.2 Botany Industrial Park (Orica)

Botany Industrial Park is a 100 hectare site about 10 km south on the Sydney CBD and close to Botany Bay. The site has several Department of Environment and Conservation licensed operations including an ethylene cracker and polyethylene, ethylene oxide, surfactants and chloride plants as well as on site steam generation.

The site produces a safety, health and environment performance report annually and distributes it locally to homes and businesses. The latest report, according to the Orica Limited website was released in July 2002 (Orica Limited 2004).

3.3 Kurnell Industrial Area

Kurnell peninsular is a well established industrial area dominated by oil refining, pharmaceutical and chemical manufacturing activities. The main industrial operations on the peninsular include the Caltex oil refinery, Continental Carbon Australia (manufacturers of carbon products), Abott Australasia (pharmaceuticals) and Calsil/Boral (calcium silicate-basalt bricks).

Air emissions from the Kurnell refinery are due to the combustion of fuels (fuel oil, natural gas and fuel gas) in furnaces and boilers, and some process emissions such as deposits of coke in crackers and reformers.

The key pollutants include oxides of sulphur and nitrogen, carbon dioxide, carbon monoxide, particulate matter and volatile organic compounds. Emissions of these substances are monitored and the results reported to state environmental agencies (Caltex 2005).

3.4 Other

Air emissions from other industrial sources in the SSROC region generally originate from lesser polluting industries and commercial premises such as panel beaters, spray painters, charcoal chicken outlets, dry cleaners and petrol stations. SSROC councils have a comparatively small number of Department of the Environment and Conservation licensed premises.

Individual councils have undertaken a range of activities with local businesses to reduce emissions from these industries. They include:

- Kogarah Council's *Service Station Audit Program* to ensure compliance with legislative requirements, to reduce environmental impacts such as stormwater, air and noise pollution and ultimately to educate businesses to pursue cleaner production initiatives. This program will be expanded to include all industrial premises in 2005/06
- Marrickville Council's *Spray Booth Program* the broad aim of which was to raise the level of awareness regarding maintenance, particularly for operations of smash repairs and wood work shops and the 2002/03 *Combustion Systems Program* addressing the emission of oxides of nitrogen and particulate matter generated by poorly maintained combustion systems.

4. Emissions from domestic sources

Council *State of the Environment* reports list a range of sources of domestic air pollution emissions. These include:

- solid fuel and wood heaters
- emissions from barbeques,
- lawn mowers, and
- the use of household chemicals and paint (Kogarah Council 2005, Marrickville Council 2005).

On a regional scale, SSROC has focussed on the reduction of air pollution from solid fuel heaters.

4.1 Solid Fuel Heater Buy Back Scheme

Community concern about the effects of particulate pollution from the ventilation stack built as part of the M5 East project resulted in a number of air pollution related conditions of approval. The NSW Roads and Traffic Authority (RTA) was required to develop a sub-regional *Air Quality Management Plan*, which identified a number of gaols and strategies, including to:

- Reduce emissions from solid fuel domestic heaters used in the area by establishing a voluntary wood heater replacement scheme, and
- Increase ability of consumers to reduce emissions by distributing educational material with council mail-outs about appropriate burning techniques for wood fired heaters.

The resulting *M5 East Air Quality Management Plan* recommended the development of an incentive program designed to reduce the emissions of air pollution from domestic sources.

In September 2002, SSROC entered into a professional services agreement with the RTA for the administration of the Solid Fuel Heater Buy Back Program. The purpose of the program was to provide an incentive subsidy to homeowners who replace their working sold fuel heaters with new, less polluting heaters.

Targeting home owners in the City of Botany Bay, Canterbury City, Hurstville City, Marrickville and Rockdale City council areas, the program, until the end of 2005, received a total of 1663 enquires and 433 applications. Of those, 358 applications had been approved, and 210 applications had completed the process and received the rebate. Of the 210 rebates issues, 159 were for the standard $500 rebate and the remaining 51 were $700 rebates to pensions and low-income earners. Under SSROC, the Program issued $115,200 in rebates (SSROC 2005a).

In November 2005 administration of the Sold Fuel Heater Buy Back Program reverted to the RTA.

5. Air pollution monitoring in Sydney

A key to managing and understanding air pollution in Sydney is the availability of consistent air quality data.

The Department of Environment and Conservation conducts an air quality monitoring program within the GMR region. Data from the monitoring program is used to calculate the Regional Pollution Index which is based on measured concentrations of ozone and nitrogen dioxide, and visibility as measured by a nephelometer. The Index is updated twice daily at approximately 9:30 am and 4:00 pm (Department of Environment and Conservation 2003).

The Index is produced for three regions within the Sydney Basin, and SSROC councils fall into the Eastern Sydney Region, which has five operating monitoring stations.

The Eastern Sydney Region stretches from approximately the Brisbane National Park in the north to the Royal National Park in the south and as far west as the Strathfield and Chullora.

Though a valuable tool in understanding and developing strategies to combat air pollution, SSROC's greatest concern about the air quality monitoring program is the continuing reduction of the number of air quality monitoring stations in the Eastern Sydney region.

In August 2004 two of the four monitoring stations within the SSROC region were closed. These included the Woolooware site in a residential area south of Botany Bay and the George Street monitoring station in the Sydney Central Business District (CBD). Both of these sites were important as they were located close to potentially important sources of emissions, that of the industrial area in Kurnell peninsular and are the high traffic areas within the central Sydney.

SSROC is concerned that following these closures there remain only two monitoring stations recording air quality data in a region populated by over 1 million people. This rationalisation of monitoring sites across the region reduces the information and understanding of air pollution pressures at a sub regional and local level.

Whilst there a number of other monitoring stations scattered through the region, such as a monitoring station at Sydney Airport, and at least four ambient air monitors within the M5 East road corridor, the results from these stations do not form part of the Sydney wide air monitoring program and are thus difficult to use when comparing air quality across Sydney's regions.

Similarly, a Sydney wide system of for pollutants whilst a useful broad diagnostic tool in determining Sydney's background air quality does not provide the detail required to determine local air quality nor the influence of local point and mobile sources. Therefore at the local level little is known about the extent and potential impacts on health from localised sources of air pollution such as wood heaters and motor vehicles.

The high initial cost and ongoing maintenance of a small air quality monitoring system to measure makes monitoring of air quality prohibitive for individual councils. Likewise councils are currently unable to access air pollution models such as those being developed for transport corridors by the CSIRO due to the prohibitive cost of software purchases and lack of state government support in gaining access to these tools. A central location for such data or a portal to access models would greatly increase the understanding of the local impacts of air pollution.

The implications from a limited local monitoring regime are that strategies within *Local Air Quality Management Plans* are not as comprehensive as they perhaps could be. Resources and opportunities for funding of councils to undertake such monitoring programs need to be both identified and better targeted to address air pollution at the local government level.

6. Current laws, policies and programs

6.1 State Pollution Laws and policies

Whilst it appears that industrial emissions are under control though both legislative requirements on large scale polluters and council programs to reduce emissions from medium and small business, the issue of mobile emission sources has not been adequately dealt with.

The *Action for Air - air quality management plan* launched by the NSW government in 1998 outlined a range of actions the government would take to reduce air

pollution over a period of 25 years. Focussing on transport, business and domestic emissions, open burning as well as monitoring and reporting the plan contained seven objectives and a series of supporting strategies and actions.

Unfortunately the plan to date has not resulted in any substantial reduction in Sydney's air pollution problems. A series of reviews of *Action for Air* undertaken by the Total Environment Centre in 2001 and 2004 highlighted the failure of the plan to meet a number of its transport related targets including reductions in vehicle kilometres travelled (VKT) and implementation of the supporting *Action for Transport 2010* integrated transport plan (Total Environment Centre 2004).

A 2005 Auditor-General's report came up with similar findings (The NSW Audit Office 2005).

Despite this, councils have continued to work towards better air quality in Sydney. For example, in 2000, Rockdale City Council, in partnership with Kogarah and Hurstville Councils, produced a *Regional Air Quality Management Plan* aimed at improving the current level of air quality in the St George area. The plan identifies key action points to address over 5 core areas:

- Energy efficiency
- Land use and transport planning
- Vegetation management
- Source control
- Education, information and public participation

Together, Rockdale, Hurstville and Kogarah Councils recognise the cross boundary nature of deteriorating air quality in the region and agree that continually lobbying for improvements will be more effective through a regional approach.

6.2 Sustainable Transport

Given the role motor vehicles play in the creation of air pollution issue in the SSROC region, SSROC's activities have focussed on increasing the sustainable transport choices for residents.

6.2.1 Better transport planning including alternative modes

SSROC's *Transport Planning in Southern Sydney* outlined the importance of transport planning and its role in influencing and addressing the underlying causes of traffic problems, 'it considers the location of land uses that actually generate trips and how this relationship can be improved to reduce distances travelled, time taken, energy used and pollution generated. To achieve these aims it considers the potential contribution of all modes of transport (walking, cycling and other human powered vehicles, bus, ferry, aircraft, light rail, heavy rail, and motor vehicles) as well as education and other incentives'.

Similarly, SSROC endorses the City of Sydney's push for a light rail alternative to buses in the city and the proposed extensions to Maroubra via the University of New South Wales, Bondi Beach, and Parramatta Road. In 2003 SSROC released a *Policy Statement on Light Rail.* SSROC sees light rail as a 'clean, fast, quiet and efficient method of transporting large volumes of people. With the capacity of up to four standard buses, modern light rail vehicles reduce congestion, have lower operating costs per passenger and more growth potential. In the past 10 years over 100 light rail systems have been installed in cities across the world. Many of these systems have exceeded their patronage estimations' (SSROC 2005b).

6.2.2 Providing transport alternatives

Sutherland Shire Council has worked cooperatively with local bus operators and the Department of Environment and Conservation to ensure that sustainable modes of transport are available for resident use when travelling to and from local events. By encouraging residents to utilise alternative modes of transport, councils can reduce the impacts of motorised transport on communities affected by local events and potentially influence future transport decisions.

This example shows that councils are in a good position to work more innovatively with state government to provide such services but councils require additional support to make these types of project successful.

6.2.3 Active Transport Strategies for Parents and Children

The Active Transport Strategies for Parents and Children project is an initiative funded by the NSW Government's Healthy Local Government Grants Scheme in conjunction with the Local Government and Shires Association of NSW. It establishes a partnership between local councils and childcare centres to encourage and support sustainable and active travel choices for the journey to and from childcare centres by children and their parents. Childcare centres and pre-schools in the local government areas of Marrickville, Sutherland and Waverley are taking part in the pilot project.

The objective of the project is to research the current barriers to active transport in each centre, and then develop a range of active transport strategies specifically for each of the centres. These strategies will be implemented by the childcare centre and by project officers from the relevant local council. The project will be evaluated and results reported back to parents, councils and childcare centres. SSROC is managing the project, whilst the research components are to be carried out by the Institute for Sustainable Futures and the Centre for Local Government at the University of Technology, Sydney.

6.2.4 Travel Smart Project for Schools

The Travel Smart Project for Schools is an active transport initiative aimed at encouraging active travel to and from school by students in years 5 and 6 and their parents. The project is being managed by the Department of Planning, in conjunction with the Sydney South West Area Health Service, the Department of Environment and Conservation and SSROC.

The project aims to engage the school community in the development and implementation of a school travel plan. The plans will focus on making cycling and walking to school easier, safer and more convenient. The process of developing a school travel plan includes:

- Reviewing the existing situation and conducting audits of the local walking and cycling infrastructure and school surrounds,
- Setting travel objectives and targets and developing strategies to encourage less car use,
- Implementing the plan, and
- Monitoring progress.

6.2.5 Botany Bay Trail

In December 2005, SSROC secured funding under the NSW Government's *Metropolitan Greenspace Program* to undertake a feasibility study for a Botany Bay Trail Master Plan.

Informed by the successful San Francisco Bay Trail and identified as a key recreation trail in the Department of Infrastructure, Planning and Natural Resources' 2005 *Regional Recreation Trails Framework*, the Botany Bay Trail will establish a continuous public pathway around Botany Bay offering a range of levels of interaction including commuter transport and involvement for education and recreation, which can be safely accessed by familles and people with a disability.

7. Conclusion

Motor vehicles continue to be the main source of air pollution emissions in the Sydney region.

The continued development of major road projects and the expansion of infrastructure assets such as Port Botany and Sydney Airport without the development of associated transport options will continue to provoke strong reactions from residents in this region on health, environment and amenity grounds.

SSROC believes that the provision of cleaner and more efficient public transport and better air quality monitoring would greatly benefit the health of residents within the Sydney Basin.

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