

INQUIRY INTO CROSS CITY TUNNEL

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Theme:

Summary

LANE COVE TUNNEL



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The Director
Joint Select Committee on the Cross City Tunnel
Parliament House
Macquarie St
Sydney 2000

Dr Ray Kearney, Chairman,
Ms June Hefferan, Deputy Chair
Lane Cove Tunnel Action Group Inc
Phone: 93513590 (w)

24 May 2006

Dear Ms Simpson,

RE: Submission to the NSW Parliamentary CCT - LCT Inquiry

The Lane Cove Tunnel Action Group Inc (LCTAG), as a member of the coalition of Groups Against Stack Pollution (GASP), wishes to make a submission to the Inquiry into the Cross City Tunnel (CCT) and Lane Cove Tunnel (LCT) in relation to the following additional prescribed Terms of Reference:

Terms of Reference of the Inquiry into the Lane Cove Tunnel

- g) the role of Government agencies in relation to the negotiation of the contract with the Lane Cove Tunnel Consortium,
- h) the extent to which the substance of the Lane Cove Tunnel contract was determined through community consultation processes,
- i) the methodology used by the Roads and Traffic Authority for tendering and contract negotiations in connection with the Lane Cove Tunnel, and
- j) any other related matters.

We also wish to advise that there is inevitably some overlap in our present comments with those regarding the LCT Project reported in our earlier Submission, dated 18 January, 2006, to the Committee.

Declaration

This Response has been undertaken with the best of our ability and knowledge, based on materials, documents available and current information, as well as more than 15 years involvement with the LCT from its earliest beginnings.

Its presentation is true and does not, by its presentation of information or omission of information, materially mislead or intend to materially mislead.

Ray Kearney
Chairman

June Hefferan
Deputy Chair

Lane Cove Tunnel Action Group Inc.

LCTAG Inc

An Objective of LCTAG

A cornerstone of the Lane Cove Tunnel Action Group's (LCTAG) mission is to achieve the construction of a twin three-lane 3.7km-continuous tunnel with the installation and operation of air-pollution treatment systems to reduce adverse health impacts. This objective was based upon independent expert advice from consultants in tunnelling design and construction as well as from air-filtration consultants at both national and international levels.

Our commitment to this mission is also based upon the inescapable fact that vehicle emissions are injurious to the health of everyone exposed to them. "At risk" persons such as children, asthmatics, the elderly and pregnant women are especially affected by both short and cumulative exposures, even below prescribed National standards.

The Lane Cove Tunnel Action Group Inc (LCTAG)

LCTAG is a coalition of 15 groups drawn from the residential, commercial and industrial sectors of Lane Cove. The Action Group was formed over ten years ago to seek the construction of a 3.7km, bore-driven, twin three-lane tunnel with the installation of air-cleaning technologies (electrostatic precipitators and activated carbon beds) that also negate the need for unsightly ventilation stacks.

It was indeed the LCTAG who **proposed**:

- The continuous long bore-driven by-pass tunnel as the most acceptable alternative to RTA's proposal to widen Epping Road or to construct a short 'cut and cover' tunnel.
- The route of the present LCT.
- The most suitable and recommended site for the western tunnel exit/entrance or portal being on the RTA land at the intersection of Mowbray Road and Epping Road. However, to thwart the proposal, the RTA sold its land and in arrangements with the City of Willoughby Council had the site re-zoned to 'residential' to make way for a developer to build townhouses on the site. The naivety of the RTA was realized when the LCTAG tunnel proposal was independently published, by us, in the *North Shore Times* that forced the former Roads Minister Carl Scully to finally accept the LCTAG proposal. Today, the RTA is left with the only option to carve into the middle of Epping Road to build the western portal. By doing so the RTA had to compromise a needed 3-lane entry with only 2-lanes as they had already sold their land for townhouses. Thus, the RTA today has compromised surface traffic on Epping road by destroying more lanes from the surface road. Therein is the truth to the background of why the east-bound tunnel carriage-way begins with a compromised 2-lane entry, rather than the 3-lane entry, originally recommended by LCTAG on expert engineering advice.

The LCTAG is also part of a coalition with the M5-East Residents Against Polluting Stacks (RAPS) as well as those affected by the Cross City Tunnel i.e., Sydneysiders Against Polluting Stacks (SAPS) and the Cross City Tunnel Action Group (CCTAG). This coalition of concerned communities continues to campaign under the name of Groups Against Stack Pollution (GASP).

1. Term of Reference g)

- g) *The role of Government agencies in relation to the negotiation of the contract with the Lane Cove Tunnel Consortium.*

1.1 A 'Structure of Harm' by Government and Corporate Connivance

That corporate wealth buys broad influence in law and public policy is well documented and widely acknowledged.

Occupational and environmental diseases are often viewed as isolated and unique failures of science, the government or industry to protect the best interest of the public. However, they are frequently an outcome of a pervasive system of corporate priority setting, decision making, and influence with political and bureaucratic stakeholders. This 'structure of harm' is based on corporations compelled to maximize profitability while costs to society such as from pollution are largely ignored.

The system in NSW, revealed recently in 'privileged' documents released in NSW Parliament, produces disease because political, economic, regulatory and ideological norms prioritize values of wealth and profit over human health and environmental well-being. In other words, the current economic and political system in NSW privileges corporate actors and tends to provide incentives for the production of injury and disease rather than its prevention.

The tabled documents revealed that the NSW Government and certain of its bureaucracies appear to have forfeited a legislative and constitutional role as servants of the public and have aligned themselves with corporate stakeholders in the design, construction and operation of traffic tunnels in Sydney. What is now clear is the social and environmental costs of Sydney's long road tunnels have been ignored by externalizing them, or shifting costs to the government (taxpayers), residents, neighbours, motorists and workers.

Even more deplorable is that the documents disclose the RTA has agreed to indemnify the tunnel companies for costs, charges and expenses or for claims or losses should a court find that environmental assessment or determination of the 'Tunnel' including the Ministers Condition of Approval fails to comply with the Law or is invalid in any respect. The RTA has indemnified the respective company in relation to any investigation or 'legal challenge'. It is noteworthy that in September 2004, the NSW Government closed their air-quality monitoring station near the Cross City Tunnel (CCT) thereby removing evidence of local high pollution levels and thwarting potential litigation by residents affected by pollution from the toxic CCT exhausts together with that generated by gridlocked surface traffic. The NSW Government's reason that it was unaffordable to maintain the monitor is hardly credible when in June, 2002 the RTA paid \$9,110,375 to acquire land with a market value of \$4,520,250 to build the eastern stack for the Lane Cove Tunnel.

The 'secret' Deeds of Contract appear to protect the companies from paying 'restitution' of the injured through the payment of unenforceable compensatory fines, capped by the RTA for the Cross City Motorway Company at \$5million, rather than criminal penalties. The failure to impose fines is the experience with the M5 East tunnel debacle where numerous breaches of the Ministers Conditions of Approval are on record. Thus, the costs never approach the economic advantage that accrues to the companies that perpetuate these injuries and escape liability. In other words the RTA has made it cheaper for the companies not to install proper filtration and thereby inflict sickness and potential death on the community exposed to toxic stack pollution.

It seems reckless to discharge additional toxic hazards wilfully into Sydney's air-shed that is already exceeding National Standards for harmful fine particles. The interlinked RTA-Corporate goal of profit maximization exceeds any future compensation cost. Twice as many people die from exposure to vehicle exhaust in Sydney than from road accidents. Total health impacts cost \$2-3billion annually for Sydney alone.

In shoring up the profits of its corporate co-partners, the RTA has over the past few years embarked on an utterly misleading campaign to discredit tunnel filtration. Some of its strategies have included:

- Former Roads Minister Carl Scully reinforced the RTA propaganda by his refrain that “Tunnel filtration is unproven technology and is only a high-tech placebo”. This emotive claim was demonstrably false.
- The RTA, with government and ministerial fanfare, announced two ‘filtration trials’ to appease community anger. These trials would have been too small to enable any conclusions and appear to have been abandoned.
- A comparative analysis of tabled documents shows hand-written notes taken at the time by one of the RTA delegates who visited Japan in September/October, 2003 to inspect tunnel filtration bear little relationship to the formal RTA Report on Japan’s Tunnel Filtration. The final report downplayed significantly both the extent and the effectiveness of filtration in Japan.
- RTA and NSW Health rejected the findings of three independent consultants commissioned by Lane Cove Council. The consultants recommended unanimously that the negative findings from NSW Health’s Study of Residents Affected by the M5 East Stack be rejected on several grounds including a flawed methodology that skewed the results to a ‘no risk to health’ conclusion. This did not occur, even after the Department of Health discovered that significant portal emissions were occurring during the time of the survey. These would have caused a skewing of the results as the people in the survey were in fact receiving a considerably lower pollution load at that time than in normal circumstances.
- It appears that the proportional increase in privileged documents in a recent Parliamentary Call for Papers is a reflection of the bureaucratic desire to keep their ‘business’ secret. It was a ‘de-classified’ report that disclosed in 2004 that medical specialists concluded from the M5 Phase 1 health study that there was *prima facie* evidence that illnesses reported by local residents were causally related to stack emissions. Shocked by this unplanned disclosure, NSW Health designed a Phase 2 study, proven so defective and methodologically flawed, that the predictable findings would show no causal relationship.

Lane Cove Tunnel Action Group (LCTAG) believes there is not only an obligation of ‘due diligence’ by the Regulatory Authorities (RTA, DEC, Health and DoP) but also on the respective tunnel consortia to implement proven measures to clean and detoxify the polluted tunnel air-stream where the poisonous components are derived almost entirely from the combustion of fossil fuels, mainly petrol and diesel. Such measures would be consistent with the Precautionary Principles.

LCTAG also believes that to date, the NSW RTA and the respective tunnel corporate stakeholders, have failed to exercise such care, skill and foresight that would be expected of a reasonable corporation and this failure helps remove a defence of ‘due diligence’ by ignoring such facts. Indeed, the failure of the RTA and the respective companies could be interpreted now as a wilful and pre-meditated decision not to adopt preventive or precautionary measures. Such a decision implies a deliberate intention to discharge untreated toxic waste, knowing it has the potential to harm or be likely to harm the environment, including those ‘most at risk’ in a community who are already described in documents, known to the RTA and to the Consortia as the “*most affected receptors.*”

The RTA, in particular, seem not to exercise ‘due diligence’ by knowingly and negligently intending to discharge higher levels of toxic waste from the M5 East, CCT and the re-designed Lane Cove Tunnel (LCT) in a manner likely to cause harm. To date, LCTAG alleges that neither the RTA nor the respective tunnel consortia (M5 East, CCT and LCT) has volunteered the truth about traffic volumes or the real pollution levels. LCTAG also understands that a defence of ‘due diligence’ is established if a company commissions the offence due to causes over which they had no control; and that they took reasonable precautions and exercised due diligence to prevent the offence.

Put squarely, LCTAG believes, the government agencies in forfeiting their public service duties to the electorate by aligning themselves with corporate stakeholders have betrayed the communities whom they are meant to serve.

1.2 RTA Rejected Tenders for LC Tunnel Filtration

The most recent tabled documents in 2006 for which privilege was lifted by the Independent Legal Arbiter on grounds that they are of public interest have disclosed, again, a litany of scandals perpetrated mainly by the NSW RTA.

Documents confirm that at the time when tenders were called for the LCT project, various consortia submitted two different types of tenders as is conventional and legal practice. A 'compliant' tender is a proposal that meets the Ministers Conditions of Approval (MCoA) for the project. The other is an 'alternative' or 'add-on' proposal which not only fulfills the MCoA but incorporates additions or modifications e.g., to enhance design outcomes and cost effectiveness of the project.

It is significant that a number of alternative bids were submitted. These incorporated technology and design changes which the respective bidders claimed would improve air quality - both in the tunnel and in the external atmosphere. However, without proper consideration, the RTA rejected all 'add-on' tenders that incorporated filtration and air-cleaning technology. The legality of such alleged conduct by the RTA should be tested formally.

In December 2003, the RTA signed the Project Deed with the successful bidder. The RTA, rejected 'add-on' proposals for superior treatment of particulate and gaseous emissions in the LCT. Privileged papers disclose one such proposal guaranteed the treatment system of the tunnel pollution "*would deliver significant environmental benefits*" and tabulated the following key benefits:

- reduced emission of particulates, CO, and NOx
- net reduction in emissions of CO₂
- enhanced dispersion of exhaust air
- improved external air quality
- increased power supply reliability provided by 90MW of embedded generation capacity
- net revenue gain from generated power
- reduction in greenhouse gas production in NSW attributable to tunnel operations
- environmental benefit from carbon credits

The tenderer indicated that changes to the Project Deed would apply. However, the RTA rejected all such 'add-ons' without any appraisal.

1.3 RTA suppression of Filtration Facts

The RTA was already fully aware filtration technology was proven, effective and efficient, before the contract with the successful bidder – the Lane Cove Tunnel Company (LCTC) – was signed in December, 2003. Their knowledge was confirmed both from their visit to Japan in September/October, 2003 and from an RTA-suppressed report by a consultant, whom they commissioned in early, 2003. However, despite all such evidence, the RTA maintained a negative and obstructive mindset regarding tunnel filtration technology.

Suppression of the truth by the RTA about tunnel filtration first began when the RTA thwarted the leading Japanese manufacturer with over 25 years of experience with in-tunnel filtration systems - Matsushita Co. Ltd - from attending the RTA-managed 'International Workshop on Tunnel Ventilation' held in Sydney, 7-11 June, 2000. Matsushita courteously responded:

"...we cannot attend this time because of that too short a notice and we cannot prepare for the presentation. If possible, please give us another chance to make presentation for Tunnel Ventilation System in Japan" (Note: letter dated 6 June, 2000).

The RTA never gave Matsushita the chance to demonstrate its expertise and long experience with EP technology until October, 2003 when an RTA delegation, including Director of RTA Communications - Paul Willoughby - was sent to Japan, 30 September-10 October, by former Road's Minister Carl Scully, at the request of Lane Cove Council.

Soon after the visit, one delegate - Garry Humphrey, RTA General Manager of Motorway Services - presented a conference paper in Durban, South Africa, 19-25 October, 2003. The following is a startling disclosure in his paper about Road Tunnel Operations (PIARC website).

"I was in Japan the week before last looking at tunnels on a tour organised by Mr Mizutani. Japan has some excellent cost effective longitudinal ventilation systems in long mountain tunnels employing electrostatic precipitators."

Subsequently, in April, 2004, former Road's Minister Carl Scully announced a 'filtration trial', coinciding with the release of a misleading RTA Report about Japan's numerous filtered traffic tunnels. At the same time, the RTA delayed the release of the separate independent report on international developments in filtration technology carried out by a consultant as part of the approval conditions for the M5 tunnel. Among its conclusions, the independent report states: "*significant progress has been made in the field of emission treatment technology, and that mature or established technologies are now available to remove suspended particles, nitrogen dioxide, some portion of other oxides of nitrogen, and hydrocarbon vapours from road tunnel exhaust air.*" (Child & Associates)

Meanwhile, the RTA has placed an embargo on the consultant from disclosing, at international conferences, the truth about proven overseas tunnel filtration technologies.

1.4 Cost and Cover-up

Among the tabled RTA documents for which privilege was lifted, papers disclose evidence the RTA also grossly inflated estimates for the cost of tunnel filtration systems. Cost estimates in the privileged papers are less than an inflated \$75 million suggested by the RTA. The Federal Government is prepared to contribute \$10 million to filter the LCT. It is noteworthy that the cost estimates for the health impacts predicted from expected stack pollutants to which Lane Cove residents will be exposed is at least \$5 million annually.

'Privileged' tabled papers disclose that a reason why the RTA refused the installation of filtration systems in the Cross City Tunnel was: "*The reputation of both the Government and the RTA in relation to delivery of private sector projects may be significantly damaged if a requirement to install filtration is introduced at this late stage.*"

1.5 Tabled Documents

These documents reveal continued tension between the RTA and agencies such as EPA and (then) PlanningNSW. Issues of air quality, ventilation design, noise management, health risk and risk of cancer are raised. Each time the RTA appears to obfuscate or reject the concern or argument. At times, RTA simply does not respond to the correspondence.

The documents show systematic shifting of responsibility and blame between the different departments, avoidance to own up, let alone address, fundamental errors and deficiencies, manipulation of data, ignoring of inconvenient scientific advice and deliberate misrepresentation to Parliament, the public and the EPA Board. LCTAG Inc believes the internal papers reveal widespread negligence in dealing with high levels of toxic exhaust pollution.

Documents show that the departments know the standards and conditions being used to regulate tunnels are inadequate, and the information used to approve projects has been manipulated. While the different departments argue within and among themselves about what to do, they are very concerned about admitting having made a mistake, and above all about having a "consistent" and "strategic" approach. Admitting, as well, that once a tunnel has been approved, there is no scope to change the standards, the recurring refrain is that they are awaiting new national or international standards (that can't be applied to existing projects). The EPA seems to concede in the papers that it is better to let the community take on the rogue RTA than for the EPA!

Close reading of the documents reveals an RTA bureaucracy seemingly drunk with power. Publicly they cite the EPA, NSW Health and the Department as approval bodies whose advice and technical expertise should reassure the community that health, safety, environmental and planning issues are stringently examined and forcefully applied. Privately, the truth is that these agencies are ignored where it does not suit the RTA and crushed when they dare to protest. The veracity of our claims can be seen in the summary of documents tables in October 2003 that is attached as Appendix 1.

LCTAG asserts that it is the responsibility of Government to legislate to curb the RTA's power over major infrastructure projects. EPA and NSW Health should have real power to act independently and responsibly. They should have a legislative responsibility to do so, even when their findings might be unpalatable to the RTA. Their authority in matters of air quality and community health should not be over-ridden at the whim of the RTA.

1.6 Bureaucracy's Answer to Cancer - Blow it in the Wind!

The NSW Government has given planning approval to discharge from the 3.7 km Lane Cove twin tunnel, highly toxic emissions, untreated, via two proposed stacks in residential/ commercial areas. Crucial lessons have not been learnt from the M5 East tunnel debacle, or from three separate Parliamentary Inquiries into the M5 East Tunnel Ventilation Stack.

Noxious pollutants from the proposed stacks will impact adversely not only upon local amenity and health but also upon property values (up to 20-25%) of the "worst affected receptors" as disclosed in documents tabled by Parliamentary Order. The severity of impact on health will depend also on conditions such as wind direction, stagnation and temperature inversions as well as on susceptibility of the exposed population. People suffering from respiratory conditions such as asthma, both young and old, are particularly at risk.

Stack pollution consisting of dust, gases and smoke, similar to the haze in the M5 East tunnel, affects the lung and respiratory tract but can also be taken up and transported by the bloodstream throughout the body. Through deposition in the environment, vehicle pollutants can also contaminate food and water as well as damage plant and animal life.

The fine particles, formed by condensation of the gases from the combustion of fuel contain known cancer-causing chemicals, as disclosed in the 'Conditions of Approval'. These 'secondary' particles, unlike those swept from the road surface, are mainly soluble in the moisture of the respiratory tract and cause acute respiratory inflammation. When absorbed, they contribute to proven cumulative toxicity.

Recent research involving 500,000 Americans has shown one in five lung cancer deaths is associated with exposure to ultra-fine particles of vehicle exhaust.

A major flaw in the RTA's supervised monitoring of pollution from tunnel stacks is that the fine particulate matter of less than one micrometre ($<PM_1$), representing 90% of particulate pollution from vehicle exhaust is mostly excluded by the measuring devices used, to date, in the monitoring and modelling. By analogy, if a professional fisherman plans to catch harbour prawns then a net of appropriate mesh size is used. In ignorance, the RTA supervise the use of a shark net and what is caught bears no relationship in composition, size and numbers to the professional's catch. The flawed air quality assessment as well as the health-risk analysis of the tunnel emissions have consistently ignored independent professional advice, (e.g., Dr Lidia Morawska (Q'land), air quality expert and adviser to WHO), that PM_{10} measurements, unlike PM_1 , provide no information regarding vehicle emissions that constitute the tunnel haze. Thus, standards set for the emissions e.g., of the western stack ($1600\mu g/M^3/30min.$) relate only to PM_{10} and grossly under-estimate the actual particulate pollution. Planning NSW has also ignored the fact that the national standards of regional air quality do not apply to point source emissions (stacks) or to tunnels as the standards do not measure the most harmful fine particles in vehicle exhaust.

Last year, in the Upper House, a 'Filtration Bill' was passed on the basis of compelling evidence of proven technology and documented health impacts of particulates. Independent medically qualified politicians contributed to the debate. However, in the Lower House, the NSW Government has consistently used its voting power and untested information to thwart not only such a Bill but to reject the recommendations of three separate M5 East Parliamentary Inquiries calling for the installation of realistic, proven, cost-effective filtration systems.

Unfortunately, the unsuspecting public is largely unaware of the misleading information in the RTA glossy brochures. Not only is what is said often misleading but also, of more importance, is the failure to disclose all the facts. The RTA, with the tacit approval (or at least the silence) of bodies such as NSW Health and the EPA has led people to believe that dispersing these highly toxic pollutants into the wind will somehow render them safe. The fact is that there is no safe level of exposure to fine particles, and allowing the concentrated pollutants from road tunnels merely to blow in the wind is, LCTAG asserts, a dangerous failure to protect public health.

2. Term of Reference h)

h) The extent to which the substance of the Lane Cove Tunnel contract was determined through community consultation processes.

The community consultation process leading to the Lane Cove Tunnel contract superficially appears robust. Between 1986 and 1994 there were five separate processes involving community consultation. The truth is that these were really one long war of attrition as the community battled against the RTA plan to turn Epping Rd through Lane Cove into a 100kph freeway with grade separated intersections. The plan was rejected by the community for many reasons, not the least of which is that Epping Rd is a residential street as well as an arterial road, with many driveways opening on to it. It would have been a road safety nightmare. The path to the long bypass tunnel that we have now was littered with RTA obstacles – a series of short tunnel proposals that would all have widened parts of Epping Rd to ten or twelve lanes - in a residential area.

The bore driven tunnel from the Lane Cove River to the Gore Hill Freeway was proposed and promoted by LCTAG from the end of 1995. A modified form of this concept was essentially the basis of the 1998 EIS.

However, there is no evidence that community consultation had any significant role in determining the contract with the Lane Cove Tunnel consortium.

2.1 EIS Community Consultation

The project itself is supposed to have arisen from the EIS process where community consultation was conducted through a series of Focus Groups. Unfortunately, it appeared that the RTA entered this consultation with a pre-determined outcome in mind. LCTAG representatives participated in three Focus Groups – *Air Quality; Traffic, Transport, & Urban Design; and Pedestrians & Public Transport*. Problems with the process included:

- The RTA attempted to stifle all discussion about filtration technology and no evidence of proper investigation was ever presented.
- RTA consistently rejected LCTAG's proposal for a three lane tunnel. If the Tunnel Consortium's traffic predictions are anywhere near correct, it seems like three lanes would have been more appropriate.
- RTA traffic numbers were clearly underestimated and it took months of community pressure to have new traffic counts done. These showed RTA's figures for 1998 traffic to be more than 20,000 vehicles per day short of the correct figure.
- The underestimation continued and the RTA's 2006 traffic projections as contained in the EIS were exceeded in 2003. As a consequence polluting emissions must have been underestimated in the EIS.
- Community representatives argued that the Falcon St ramps should have been built as part of the Gore Hill Freeway project and should not be tolled. RTA's rejection of this community recommendation is only now being understood by the public at large. The 200m ramps have recently been described as the "most expensive" areas of road in the world.
- Late in the process RTA presented a plan to widen Epping Rd from Pacific Highway to Centennial Ave. Community members asked for traffic modelling to compare the traffic effects on local roads of the new proposal with the original concept. The modelling was never presented and in fact the Traffic, Transport and Urban Design group never met again after this request was made.
- Some other Government agencies were supposed to be represented. They did not attend regularly but this may have been due to the fact that they seemed to have no role other than to deflect community questions from the RTA.

When the EIS was published very little time was allowed for public comment. The ensuing Representations Report (2002) made scant attempt to address community concerns and became a

vehicle to reinforce RTA plans while including changes suited to the RTA view. The process does not allow any community comment after this stage.

It was not only the community whose views were disregarded and rejected. The NSW EPA had serious concerns about air quality and noise that echoed the views community members were putting. The RTA chose to treat the EPA's submission on the EIS as correspondence partly, LCTAG believes, to avoid the submission and EPA concerns being made public through publication in the Representation Report. EPA complained that the Representations Report did not address the majority of environmental issues raised by them. EPA was particularly concerned about air quality after the tunnel opened – citing stack emission concentrations and load limits and stack exhaust velocities relevant to dispersal of pollutants.

In a 2002 submission to the RTA's General Manager, Environment and Community Policy Branch, one Michael Najem (Manager Environment and Property) dismissed all the EPA's concerns. He argued that since *"there is no statutory provision under Part 5 of the EP&A Act which makes it necessary for the EPA to be satisfied that all environmental issues (relevant to its function) have been resolved before the RTA can seek the Minister's approval for the project"* the EPA should *"leave these issues (including any suggestion that the EIS may have inadequately dealt with the issues) for consideration by Planning NSW and the Minister."* (Document attached at Appendix 2)

One wonders what role the RTA sees for the EPA when they tout them as an approval body and treat them with such contempt internally.

2.2 Flaws in the EIS Air Quality Assessment

As a community we found many flaws in the EIS air quality assessment. None was addressed to our satisfaction in the Representations Report and, of course, we could not pursue them further at that time. Among the most serious were:

- Seaton (1996) states that the relative size of particles from combustion of fuel is within two peaks i.e., 0.03 μm and 0.1 μm . Neither of these particle sizes (by mass or by number) is measured in the EIS Air Quality surveys.
- The invalid PM₁₀ data for measurements of traffic emissions implies the health risk "assessment" is also grossly under-estimated and flawed.
- The EIS Report fails to reveal the health significance of particle numbers. For example: 1 x 10⁶ particles, PM 0.1 μm , equivalent in volume that have a surface area 100-fold greater than one particle PM 10 μm . This surface area is further under-estimated because the fine char particles are highly vesiculated or perforated like coral.
- Research shows that the 75% of the toxins, including carcinogens among the polyaromatic hydrocarbons, are carried on respirable particles less than 2.5 μm i.e., particles not fully accounted for by the RTA in its PM₁₀ air quality data.
- Unlike overseas countries, Australia only has a standard for PM₁₀ not for PM_{2.5} nor PM₁. It is positively misleading of the RTA to imply PM₁₀ includes PM_{2.5} and PM₁.
- It seems erroneous and devious of the RTA to state "bearing in mind PM_{2.5} particles are a sub-component of PM₁₀ particles, this is a more stringent standard than the US EPA's standard for PM_{2.5} particles, which is set at 65 $\mu\text{g}/\text{M}^3$." (EIS Air Quality and Health Risk, p. 8). In fact, US PM_{2.5} standard is now set at 20 $\mu\text{g}/\text{M}^3$.
- Despite the fact that the standards in the National Environmental Protection Measures (NEPM) do **not** apply to a point source emission, but to a regional airshed. The RTA has ignored the specific NEPM guidelines and applied an inappropriate PM₁₀ instrument for measuring emission pollution from stacks. Community advice was ignored.
- The RTA seems to view air quality goals as a licence to pollute. The standard for PM₁₀ is 50 $\mu\text{g}/\text{M}^3$ average over 24 hours. But the EIS treats 48 or 49 as acceptable. This is the problem with the idea of operating a standard. We should say that 50 is the upper limit, therefore our average must be lower, in the range of 10, 20 or so. The RTA has the view it can creep toward 50 and that is acceptable. In contrast, contemporary risk management is about trying to get the levels

as low as possible. We should not work up to a standard, we work down to a risk. That is not what has happened in this process.

- The EIS Report fails to respond to the results of research that confirms there is no safe threshold level of particulate exposure.
- The lack of an identifiable safe threshold level for particulate exposure points to the need to reduce ambient particulate concentrations to as low a level as practical. This means that the RTA needs to acknowledge there are feasible, practicable and warranted measures to reduce toxic emissions in tunnels without the need for stacks.
- Air pollution levels were measured by only two monitors rather than an air quality network. The choice seems not to have followed a standard protocol regarding the selection of stations, correlation between stations and missing values e.g., topography.
- The change in units of PM₁₀ from $\mu\text{g}/\text{M}^3$ to grams/second could be seen as an attempt by the RTA to obscure or suppress the fact there are major exceedances in PM₁₀. (See Fig. 14, Air Quality & Health Risk). From the data it can be calculated that in 12 hours of peak traffic periods more than 40 kgm of toxic particulates are emitted into the atmosphere. It is puzzling at first why east-bound traffic uphill generates less pollution (Fig. 14) than downhill westbound traffic. This is likely to be due to undisclosed cross-ventilation through a link tunnel labelled 'emergency vehicle access' but with fans in the ceiling. Wind direction is not indicated and clearly misleading by omission consistent with RTA practice.
- Monitoring stations should be defined in terms of height and location to avoid errors in the extrapolation of data, as has been the case.
- The terms 'fine' and 'ultrafine' particulates have been used without a precise meaning. Thus whether the monitoring equipment used in the collection of data from two stations is sufficiently accurate needs to be disclosed or subjected to independent evaluation.
- The error of monitoring should have been disclosed. Does the monitor significantly underestimate the PM₁₀ component in the collection sample? What climatic conditions existed at the time of collection e.g., humidity and temperature. An error factor of 20% would indicate PM₁₀ >40 $\mu\text{g}/\text{M}^3$ represents an exceedance above the 50 $\mu\text{g}/\text{M}^3$ standard.
- How exact are monitors in variable wind conditions in an undulating terrain location?
- How was the data of PM₁₀, for example, obtained for a ventilation stack and especially how were the contributions from the stack and background established from the type of monitors and their locations.
- How long were the monitors in place before readings were taken and what evidence is available that the locations were appropriate? Exceedances are defined in terms of 'ground-level' monitoring, yet some monitors are on the top of tall buildings.
- The dispersion modelling is not transparent and does not provide information about how the data analysis had been undertaken except by the Calpuff model. The data should be audited and analysed by independent experts. The modeling of stack pollution ignores background pollution.
- The RTA fails to acknowledge that carbonaceous soot particles associated with combustion engines, especially diesel, are formed not in the in the engine but instead by gas-to-particle conversion processes form vapour phase particle precursors as the exhaust dilutes and cools in the atmosphere. These processes re extremely non-linear and difficult to simulate in the laboratory.
- Each of the regulatory authorities has failed to adopt the Precautionary Principle as recommended by experts, when there is genuine uncertainty.
- A significant factor in the power of the RTA to ignore health risks is that the NSW Health Department has no legislative or regulatory requirement to participate in the health assessment of exposure to emissions or approval of major developments such as the M5-East, Cross City and Lane Cove Tunnels. *"NSW Health only provides advice to other departments or members of the public, when requested"*. More often it is the concern of an informed community that provides

the catalyst for NSW Health to give advice. We believe the late arrival of NSW Health to such projects places them in the distinctly compromised position of endorsing approvals made by the other Statutory Authorities (e.g. RTA, EPA and DoP) so as to avoid public confrontation with them. LCTAG maintains that NSW Health should be a partner right from the beginning with proper statutory responsibility for health outcomes.

- The RTA and other regulatory authorities fail to acknowledge that it cannot be acceptable to increase health risks to one population (e.g., exposed to emissions from two 'unfiltered stacks') on the grounds that another might correspondingly benefit.
- To date, these Authorities seem to select only facts and arguments that tell in their favour. Coloured words and phrases appeal to the emotions rather than to reason, and sometimes mean nothing at all, e.g., "by world standards our air quality is good" Often their language lacks clarity and precision. They do **not** give the community **all the available facts** to enable them to form an independent opinion based on cold fact, rather than coloured assertions and feelings.

2.3 From Representations Report to Contract Deed

The process does not allow any further community consultation between the EIS and signing of a contract. There appears to be no obligation on the RTA to accept or act on the outcome of the community consultation. No matter how strongly or how frequently an issue is raised by the community (e.g. air quality concerns, tunnel filtration) the RTA can simply ignore it. There is no evidence that the RTA acted upon any issue of substance raised during the EIS consultation, other than to take steps to justify their initial position.

The Lane Cove Tunnel concept was submitted for Ministerial approval with serious and unresolved concerns, not just from the community but also from the EPA. Given these facts, it would be interesting to know what role (then titled) Planning NSW played. Why did they permit the RTA to proceed before the issues were resolved? How did they advise their Minister? Was the Minister aware of the concerns of an important government agency?

2.3.1 The Tendering Phase

Substantial changes were made to the concept after the Minister's Approval for the project and as a result of the tendering process. These were never submitted for community information, let alone consultation. In fact, the community was not even aware of them until well after the contract was signed.

Further changes occurred during negotiations with the successful contractor in the period leading to the final Project Deed. These included:

- Lengthening the tunnel at the eastern end and changing the configuration of the Gore Hill Freeway to position the tunnel portals in the centre and the Reserve Rd off and on ramps to the side.
- Shifting the Motorway Control Centre from the eastern to the western stack site.
- Ignoring the MCoA no 151 that obliges the RTA, before finalizing ventilation stack design, to consult "with relevant Councils, demonstrate to the satisfaction of the Director General, that potential opportunities to incorporate the ventilation stack within an existing, proposed or newly constructed building have been appropriately considered through the selected proposal invitation and final design process." There is no evidence of any consideration or selected proposal invitation to design such a building for the eastern stack, despite a great deal of pressure from Lane Cove Council and community representatives to achieve compliance with the Minister's Condition.
- Altering the configuration of the ventilation tunnels from the design submitted to the Minister for approval. This change resulted in the deletion of 1,600m of tunnel and probably saved the Contractor around \$60m.

While some of these changes would not have aroused controversy, the fact that they were carried out in secret, with no consultation either with the community or the relevant Government agencies, is cause for serious concern about process. For example, internal documents tabled under Parliamentary

Privilege disclose that the EPA protested strongly to the RTA for not notifying them of the arrangement with the Lane Cove Tunnel Company to eliminate the 1,600 metres of ventilation shaft after the design was approved by the Minister.

This lack of disclosure was possible because the RTA has the power to determine whether or not changes are “minor” or “consistent with the Minister’s Approval.” If they are, then there is no requirement to inform the community or Government agencies such as EPA or DoP. EPA expressed dissatisfaction with the RTA’s conclusion, but could do nothing about it.

Allowing the proponent to determine whether or not a proposed change is “minor” or “consistent with the Minister’s Approval” is clearly problematic. There is no check on the RTA’s power, no independent scrutiny of such changes, the Minister’s Conditions of Approval can apparently be altered or ignored and there is a serious lack of transparency of process. This provision, coupled with the ability of the RTA to overrule or ignore ‘advising’ Government Departments or Agencies such as Health and EPA ensures that community consultation has little, if any, impact on the negotiation of a contract for the Lane Cove Tunnel or any major infrastructure project.

3. Term of Reference i)

i) The methodology used by the Roads and Traffic Authority for tendering and contract negotiations in connection with the Lane Cove Tunnel.

3.1 A compromised and Tainted Process

LCTAG has serious concerns about the process of both the tendering and contract negotiation for the Lane Cove Tunnel.

As has already been demonstrated in this Inquiry, the RTA makes itself vulnerable to commercial pressure and even perceptions of possible corrupt dealings when it demands what amounts to a high entry fee from potential contractors and negotiates that fee in secret.

If such fees are to be charged, they should be declared publicly and not subject to ‘commercial in confidence’ provisions. The public has a right to know:

- What is the basis and scale of such fees and how they are calculated.
- Precisely what the successful tenderer is ‘buying’ for the payment of the fee.
- The use to which the RTA or the Government will put the fee.
- What trade-offs, if any, are made to ‘protect’ the value of the fee.

The RTA’s refusal to consider filtration systems, even when they were presented by tenderers as technologically and economically viable inclusions in an efficient ventilation system, was inappropriate, to say the least. The RTA was well aware that EP systems had been used successfully in Japan for almost 25 years and that they were being installed or considered in other countries as the best practice option for long, heavily trafficked road tunnels in urban areas. As shown earlier in this submission, it appears that the primary reason for rejecting this technology was a stubborn refusal by the RTA not to lose face. This appalling vanity and arrogance has tainted the tendering and negotiating phases of the tunnel contract and resulted in an inferior ventilation system.

Term of Reference j)

j) Any other related matters

4.1 Community Consultation

Community consultation has been an area of constant discord and dissatisfaction for all three tunnel projects. The nub of the problem lies in the interpretation of the word ‘consult.’ The RTA – and hence its contractors- seem to think it is a synonym for ‘inform.’ The process, as they wish to conduct it, is to present information, invite comments and use those comments to justify and defend their intended actions or entrenched positions.

Despite our previous experience with RTA sponsored community consultations, Lane Cove community representatives hoped this process would be one of cooperation and negotiation. After all, this is a community that had campaigned and lobbied to achieve the project. We wanted it to work and we wanted the best possible community outcomes.

The authors are community representatives on (respectively) the Lane Cove Tunnel Air Quality Community Consultative Committee and Construction Community Liaison Group 2 (dealing with all aspects of construction on and under Epping Rd between Mowbray Rd and the Pacific Highway). The volunteer workload for these groups is substantial – monthly meetings, reading sometimes complex material and writing submissions. For CCLG2 this latter task has been particularly onerous as this area includes most of the tunnelling works, the mid-tunnel access, air intakes, Epping Rd urban design and landscaping works and the cycle and pedestrian path.

Neither the RTA nor the contractor, Thiess John Holland (TJH) has ever bothered to pretend that our advice or recommendations will be acted upon, unless they are peripheral to the main activity. (For example, they are often prepared to add a few more streets to a community notification, but that doesn't affect the main game.) TJH would prefer community members to respond to all documentation as individuals. They do not like the CCLG2 practice where community members meet as a group to discuss major Plans or proposals. There we put our views, try to reach compromise where there are differences of opinion and devise recommendations. One member writes up the group's comments and, after every member has been given an opportunity to comment on the draft, it goes to TJH as a joint submission. In fact, TJH is so opposed to this approach that there was an attempt to forbid it early in the consultation phase and another, later attempt to discourage it. This occurred despite the fact that the Minister's Condition of Approval No. 14 (MCoA) states that the Groups shall make "comments and recommendations," we were initially told we could not make recommendations.

In addition, despite Condition 14 stating that the Groups shall "monitor compliance with these conditions of approval and other matters relevant to the operation of the Project," we are constantly told we are 'not a decision-making body.' This occurs even when we are attempting to insist that the Minister's Conditions be met.

4.1.2 Changes to the Project

Despite a responsibility under the MCoA to consult, major changes occur without any information, let alone consultation. Two important examples are:

- Changes to traffic predictions that will increase pollution emissions from the vent stacks was revealed in a report by Dr Peter Manins, CSIRO Division of Atmospheric Research. His findings so displeased the Lane Cove Tunnel Company that Dr Manins was not permitted to attend the AQCCC meeting to speak to his report and its findings. This was despite the fact that Dr Manins was supposed to have been employed to advise the community, a difficult task since he was not permitted to speak to community members outside the AQCCC meetings!
- Re-locating the ventilation tunnel at the eastern end. This was one reason why TJH was digging at the spot where the now infamous cave-in occurred.

Many of the most serious issues raised by CCLG2 have not been resolved despite months of so-called consultation. These include safety issues with the Cycleway and Pedestrian Plan and Sub Plan C for Epping Rd such as:

- The cycleway runs directly alongside property boundaries in some areas, past pedestrian exits with poor sightlines.
- There are conflicts between cyclists and pedestrians, especially around bus stops. No physical means is provided to slow cyclists, especially those coming downhill at speeds up to 50kph, in areas where bus shelters make visibility difficult.
- In some areas there is very poor visibility for motorists coming out of steep upward sloping driveways. They have to look for cyclists coming from both directions as well as make a safe entrance on to what will still be a busy Epping Rd.

- A slip lane in Longueville Rd at the entry to the Lane Cove Village is already a danger spot. It will become more dangerous as RTA and TJH have not only ignored recommendations to change the intersection to a safer, right-angled corner, but have shortened the merge distance in an environment of fast moving traffic.
- The cycle/pedestrian underpass linking Longueville Rd and the Gore Hill Freeway cycle/pedestrian path is a dog leg with a serious blind spot that is not safe, especially for pedestrians at night.

4.1.3 The Independent Community Liaison Representative (ICLR)

There is a great need for the ICLR to be truly independent of the RTA and its contractor. The MCoA state that the ICLR should be available for direct contact by the community during standard construction hours. The original MCoA stated that the ICLR should work from the Tunnel Display Centre. Neither ICLR has been genuinely available to the community at large. In fact it would be amazing if residents were even aware of the position, let alone the person.

The close association that seems to develop between the Company, the RTA and the ICLR makes genuine independence extremely difficult, if not impossible. While the current ICLR is generally a fair and reasonable meeting Chair, she has never spent any time with community representatives or meeting the community generally, yet she clearly meets and has frequent discussions with TJH and the RTA. The problem at this stage is more with the definition of the position, rather than the incumbent. However it has become increasingly clear that the community needs an advocate far more than the Company!

4.1.4 What Should be Done?

The whole process of community consultation needs to be overhauled. The term 'consultation' must be clearly defined so that the community, the RTA and the Contractors know what is expected. The process must be far more robust than a mere sharing of information.

Consultation should occur after the Representations Report if substantial changes are made to the EIS concept and again if changes are mooted between Representations Report and signing a contract. The determination as to whether changes are significant should not be left to the RTA.

Community views should be taken seriously and reasonable recommendations implemented. LCTAG does not expect that every community suggestion will be adopted. Clearly that is not realistic. However there should be a genuine willingness to consider suggestions and to make changes where appropriate, rather than a dogged persistence with what appeared in the 'concept' because that is easier.

There should be an obligation on the RTA and its contractors to meet the MCoA – including construction noise limits. When it is deemed necessary to alter the MCoA during the construction or community consultation phase, the alterations should be properly justified and substantiated and should be explained to the CCLGs and AQCCC by the Department of Planning.

4.2 Air Quality and Poisonous Plumes

Unlimited and free access to clean air of acceptable quality is a fundamental human necessity and right.

The lung is a critical interface between the environment and the human body. An average person takes about 10 million breaths a year and about 16 cubic metres of air every 24 hours. The internal surface area of the airways in the five lobes of the human lung is about equivalent to that of a tennis court. Hence toxic substances in air can easily reach the lung and produce harmful effects locally and in other organs.

Adverse effects of exhaust pollutants now include increased infant mortality (*New Scientist* 3 July, 2004); chronic deficits in lung development of children aged 10-18 years (*New England Journal of Medicine*, 9 September, 2004); acute heart attacks (*New England Journal of Medicine*, 20 October, 2004); and an association between ovarian cancer and exposure to diesel exhaust fumes (*International Journal of Cancer*, 20 August, 2004).

The World Health Organisation recently reported serious concern about the health effects of vehicle pollutants and of the polycyclic aromatic hydrocarbons (PAH's) which are cancer-causing and can coat fine exhaust particles or exist as vapours: (<http://www.euro.who.int/document/E83080.pdf>). Diesel exhaust is around 40 times more carcinogenic than cigarette smoke on a weight/volume basis (Gong and Waring, 1998). Up to a fifth of lung cancer deaths have been attributed to exposure to fine particles of vehicle exhausts. (<http://www.newscientist.com/hottopics/pollution/pollution.jsp?id=23331100>).

Researchers reported a compound, 3-nitrobenzathrone, found in diesel exhaust fumes may be the strongest carcinogen ever analysed and warn that it could be partly responsible for the large number of lung cancers in cities. It produced the highest score ever reported in an Ames test, a standard measure of the cancer-causing potential of toxic chemicals. (*New Scientist*, 25 October 1997). ([NewScientist971025-p4.pdf](#))

A UK study (*J Epidemiol Community Health* 1997; 51:151-159) looked at 24,458 children dying of leukaemia and cancer in the UK over a 25 year period. It found that these children were **35% more likely than chance** to have lived **within 4 km of a major motorway**.

Twice as many people died in Sydney in 2000 from air pollution than from road accidents (*Australian Bureau of Regional Economics Report*, September, 2003).

Fine particles, unlike coarse ones, are **mainly soluble** in the lung and represent more than 85% of the particle content of exhaust emissions. In NSW, continuous monitoring of atmospheric particles is underestimated by up to 40% (Katestone Environmental Report, Lane Cove Council, April, 2003) because the NSW Department of Environment and Conservation neglects to incorporate correction factors for accuracy. Without accurate measurements of the pollution levels it is not possible to determine the real health risks or to detect exceedances of the air-quality standards. Such tolerated abuses are well documented and seem exploited by the RTA in managing the M5 East, CCT and LCT air-quality studies. It appears so much easier to establish 'compliance' when monitoring data are underestimated and skewed. This outrage is compounded when NSW Health incorporates such data into its 'internally managed' determinations of "no health-impact" studies.

The Report, by Child and Associates, into international developments in tunnel emission treatment systems was finally released by the RTA, late in 2004. Claims by the RTA that the Child Report supports RTA's 'Filtration Trial' are spurious because the first version of the 'independent' Report was completed before former Minister Scully announced a 'Filtration Trial' in March, 2004. LCTAG is concerned that the subsequent April and September, 2004 versions of the Child Report appear to have had major amendments made to them by the RTA. Why was the author prevented by the RTA from addressing issues such as the applicability of filtration systems to the M5 East, cost effectiveness and making recommendations, despite the MCoA of the M5 East requiring him to do so? Papers tabled by Parliamentary Order show the scope of the Child Report was narrowed by the RTA to ensure the author did not look at issues with potential to embarrass the RTA. Detailed information in the April version that contradicted RTA's misleading report about their visit to Japan was expunged in the final September version. Nevertheless, the Child Report did describe filtration as 'mature' technology that works effectively.

RTA's General Manager of Motorways, Gary Humphrey recently had the temerity to

assert: "*Filtration will not be installed in the Lane Cove tunnel because air quality standards will be met*". Mr Humphrey's comment engenders absolutely no confidence against a background of RTA's appalling track record of misleading information and tardy reporting, subject to critical attack in 2004 by the Parliamentary Staysafe Committee. Yet, former Roads Minister Scully could announce publicly in March, 2004, to his colleague - the Hon Angela D'Amori MP, Member for Drummoyne - "*If the M4 tunnel is built, it will have filtration.*"

LCTAG believes that an obligation of due diligence applies both to the Regulatory Authorities and also to the Lane Cove Tunnel Company (LCTC). This obligation is to implement proven measures to clean and detoxify the highly polluted tunnel airstream. Such measures would be consistent with the Precautionary Principles and include the in-tunnel installation of electrostatic precipitators and denitrification systems. Failure to remedy the known toxic emissions, LCTAG believes, may contravene the Protection of the Environment Operations Act.

4.3 The Art of Perpetuating a Public Health Hazard

In April 2004, NSW Health released its findings from Phase 2 of its 'Investigation into the possible health impacts of the M5 East Tunnel Stack.' The conclusion reached was there was *"no evidence of an association between the prevalence of reported symptoms and the modeled emissions (annual averages of pollution levels in previous year) from the M5 East stack."* The results of the study were subsequently used by the RTA and the former Roads Minister Carl Scully to claim that the impacts of tunnel emissions are free of risks. The results have also been used by NSW Health in providing advice that a major development incorporating a primary school did not have health impacts from the M5 East stack, despite knowing that their assessment excluded children and long-term health impacts.

In the knowledge of glaring inadequacies in the NSW Health Report, Lane Cove Council (LCC) commissioned an independent review by three experts, outside of NSW, and coordinated by Dr Peter Best of Katestone Environmental in Queensland.

After very detailed examination of the NSW Health Report, the Katestone Review recommended that *"Council not accept the findings of the Phase 2 report"* noting that *"The Phase 2 findings of no association between the prevalence of reported symptoms and modeled emissions from the M5 East stack are readily criticized for potential flaws in study objectives and design."*

On Tuesday 8 February, 2005, representatives of NSW Health met at LCC to discuss and respond to the serious criticisms. To the dismay of those present, there was no intent by NSW Health to withdraw their Report. Compounding this intransigence was the revelation by NSW Health that they had submitted their Report as a 'paper' to an undisclosed journal for 'peer-review' and publication. They now know that pollution was discharged from the ends (portals) of the tunnel during the study period making their own data-sets invalid.

The Lane Cove Tunnel Action Group Inc (LCTAG) and Residents Against Polluting Stacks Inc (RAPS) now want NSW Health to acknowledge publicly that they were unaware of the frequent discharge of pollution from the tunnel portals during the study period and withdraw their Report forthwith. We are also concerned that Parliament was misled by NSW Health who claimed that the study design and methodology had been reviewed by experts. The truth is that Professor Brunekreef, the only expert they asked, rejected their methodology before they started and no external review by experts was carried out.

Furthermore, why did NSW Health not bother to validate the basis of their data of stack emission and ask the RTA or tunnel operators if portal emissions had occurred? Why did the RTA not stop the regular, mostly unapproved discharge of pollution from the portals of the tunnel, and why did the RTA not advise NSW Health accordingly?

LCTAG also wants to know why Dr Michael Staff and his team at NSW Health did not correct the record when their Report had been deliberately misused publicly and politically, knowing full-well that 'at-risk receptors' such as children were excluded, producing bias for a negative finding. Only acute effects, not long-term ones, were assessed using methodology that did not and could not determine the pollution exposure of the respondents to the NSW Health phone questionnaire conducted over four weeks.

Whilst it was common for complainants to report on odour issues, NSW Health was quite dismissive without explanation of the odour source. Recent scientific reports confirm that odours can be indicators of potential risks to health due to one or more co-pollutants. A more serious field study of odour plume-characteristics as well as a positive response by NSW Health to manage the problem is warranted.

To date, LCTAG believes that the NSW Health, RTA, EPA and the Department of Planning appear to adopt the same strategies used successfully to support the use of white asbestos (chrysotile) as a safe material (*J. Occup. Environ. Med.*, 2005; 47: 137-144). The same techniques, LCTAG believes, are being used to subvert the community into thinking exposure to vehicle pollutants is without risk to health and well-being. It can be readily inferred from the highly critical Katestone Review of the NSW Health Report that, as with the asbestos scandal, a "denial" of the hazard of an agent by its protagonists, no matter how distinguished, may not correspond with "the truth, the whole truth and nothing but the truth."

The conclusion of NSW Health's findings seems consistent with a popular form of "denial" used by the advocates of asbestos and runs like: *"We did not find the evidence for a causal association between an agent and its alleged effects"* when the evidence is based on such factors as:

- Unsound "negative" results derived from flawed data, methodology and study-design.
- Concealment of data that effectively removes scientific rigour and renders a reviewer powerless.
- Sampling (or questionnaire) not properly conducted in the true exposure and breathing zones.
- Manipulating the thinking of people by the release of false information, rather than a disclosure of the true facts publicly.
- Deliberately avoiding definitive answers to a number of important questions by failing to establish and operate a long-term sampling strategy for determining the qualitative and quantitative measures of hazard exposure of subjects in the study.
- Early denial is given authority when made by government or industry medical officers or by some medical consultants and others, often with 'conflicts of interest'. The significance of the hazard is down-played with a "so what?" attitude.
- Claiming to adopt "world's best practice" to imply, falsely, there are no risks to health.
- Omitting significant numbers of workers (receptors) and thereby introducing a 'negative' bias.
- Applying inappropriate standards or methods to effectively minimize the concentration of the hazardous agent in the exposure.
- By initiating an 'epidemiological survey', as a ploy, when faced with a health problem, or to simply ignore the problem. It buys time, similar to RTA's 'filtration trial.'
- Deliberately terminating studies at a stage when findings are suggestive.
- Failing to adopt Precautionary Principles to contain the toxic agent by not installing adequate environmental control technology.
- Suppressing highly critical 'audits of performance' for political expediency.

There have been too many studies world-wide which directly link vehicle emissions with mortality and morbidity for NSW Health to engage in a study where they would not be able to find the associations between stack emission and community health. LCTAG believes that these strategies used to hide the public health hazards of asbestos for over a century also feature in the techniques adopted by NSW Health to perpetuate the **myth** to the NSW Government and its bureaucrats that the exhausting of vehicle pollutants from tunnel stacks, in residential areas, poses no health risk, either short or long term, for anyone.

It is high time lessons from asbestos, tobacco, exposure to radiation and the like are learnt and as the Hon Ms Sandra Nori, a Government Minister in the NSW Government and Member for Port Jackson said that action *"must be taken to protect our communities from the impact of car emissions by using the latest and best tunnel filtration technology available"*. Ms Nori should know the health impacts of vehicle emissions as she is Secretary of the ALP's Air Pollution Task Force.

Conclusion

Many of the problems that have arisen in the Lane Cove, Cross City and M5 tunnel projects stem from what is shown in the documents tabled in Parliament to be an unhealthy alliance between the RTA and large infrastructure companies. In addition, the RTA appears to have almost unfettered power to ignore the advice of Government agencies such as NSW Health and EPA. The Department of Planning seems to exercise very little control in its planning approval role.

The EPA and NSW Health have a responsibility to protect the environment and public health. One way to do that in long tunnel projects is to insist on the installation of filtration technology inside the tunnels. The RTA has adopted an irrational and negative mindset about these technologies and refuses to budge lest *"the reputation of the Government and the RTA"* be damaged – presumably by admitting they were wrong and being seen to change their minds in accordance with the evidence! This attitude

persists despite the RTA having commissioned a report from a reputable and qualified professional who concluded *"that mature and established technologies are now available to remove suspended particles, nitrogen dioxide, some portion of other oxides of nitrogen and hydrocarbon vapours from road tunnel exhaust air."*

There is sound scientific evidence to show that motor vehicle pollution is dangerous to human health. It is worth remembering that in Sydney in 2000 more people died from air pollution than were killed in road accidents. Unfortunately, NSW Health seems more concerned to protect its flawed M5 Health Study (and perhaps to be seen not to oppose the RTA) than to recommend technology that could make at least some impact on that horrific statistic.

Flaws that were pointed out in the EIS Air Quality assessment were ignored, defended or covered up by the RTA. EPA's concerns were dismissed and never revealed to the public.

Significant changes were made to the Lane Cove Tunnel design after the EIS and again during the contract negotiation stage. None was subjected to community consultation and, worse still, some were not even communicated to EPA and the Department of Planning. These changes were not subject to any scrutiny, either from the appropriate Government agencies or from the public. At least one – the failure to consider potential opportunities to incorporate the eastern vent stack within a building – appears to contravene the Minister's Conditions of Approval (MCoA No 151).

The entire tendering and contract phase has been tainted by the RTA's demand for up-front fees from prospective contractors and by refusal to consider tenders including filtration technology.

Community consultation has been difficult from the EIS through the construction phase. Community members still have serious, unresolved issues and there is no indication of a favourable outcome. LCTAG believes that there must be an overhaul of the community consultation process that ensures genuine consideration of community issues and recommendations.

In the end, these projects must demonstrate at least an equal concern for the best community outcomes as they do for the financial gain of the private companies concerned. If this cannot be achieved, the answer is for Governments to take full responsibility by financing and building future roads and tunnels themselves. There is no doubt that the current situation is simply not good enough.

Appendix 1 – Summary of Tabled Documents, October 2003

1) EPA correspondence (no date):

The EPA alleges the RTA's Representations Report (RR) does not adequately address a number of environmental issues raised previously by the EPA in its EIS comments.

- EPA states it does not review or approve an Environmental Management Plan (EMP).
- RTA ignores key components of an effective audit.
- RTA proposes on-site parking for "personnel." – EPA claims this is at odds with commitment to encourage public transport.
- EPA claims the RTA's Section on Moore Street is both internally inconsistent loads/day vs trucks movements/day.
- Noise and impacts inadequate
- EPA cannot make a formal determination on air quality impact assessment; stack emission concentration and load limits; stack velocity without proper and complete data.
- Health risk assessment inadequate
- EPA alleges Holmes Air Sciences (HAIRS) under-estimates health risk assessment.
- EPA – data must be readily understood by an average person.
- Noise impacts from stacks ignored.

2.) Lisa Corbyn (DG of DEC) to Paul Forward (CEO, RTA), 11 July, 2002.

EPA alleges the RTA submitted the RR to Planning NSW without resolving outstanding issues with EPA.

The EPA assert: *"It is important these air quality issues be assessed rigorously and transparently prior to submission of the final RR."*

3.) Lisa Mitchell (Planning NSW) to J. Betts (RTA), 1 July, 2002

Planning NSW requests RTA to send the R.R. to EPA who were not told of submission of the RR by the RTA to Planning NSW.

4.) HAIRS response to EPA queries, 10 July, 2002.

- "optimum" ventilation parameters cannot be established.
- health risks resulting from stack emissions should be balanced against reductions in risks that occurs as a result of releasing what were formerly roadway emissions from the stack.
- EPA identifies self-contradiction by HAIRS in health risk assessment.
- EPA sent a corrected version that HAIRS failed to send to EPA..

Notes by RK: HAIRS puts up very weak defence. 'Fiddle factoring' is clearly evident in response by HAIRS

5.) Planning NSW (Lis Mitchell) received responses from J. Betts (RTA), 22, August, 2002.

(many pages/tabulated Questions & Answers.)

Note by RK: Many of the responses by RTA have not been tested independently. Concerns are held that the responses appear 'doctored'.

6.) EPA to Planning NSW and to J. Betts (RTA) (no date)

"EPA considers HAIRS, 2002 does not fully address the stated additional information. "

EPA alleges HAIRS 2002 provides results for only one LCT stack.

EPA allege a predicted high cancer health risk around the western stack - 3 times higher than 1×10^6 HAIRS, 2002 dismisses EPA's concern about impact of cold starts. EPA in response demands qualitative data and analysis to substantiate view of HAIRS. Such data were missing and not disclosed to EPA or to the community

7.) Lisa Mitchell (Planning NSW) to J. Betts, (RTA) 1 July 2002

Planning NSW admonishes RTA for not answering questions.

8.) Paul Forward (RTA) to S. Holliday (Planning NSW) 24 June, 2002

"I am satisfied that the construction and operation of the proposal as so described will affect the environment."

RTA requests approval of modified ventilation design, incorporating a tunnel shaft etc.

9.) Joe Woodward (EPA) to Sam Haddad (Planning NSW)

"... EPA raises concern about the transparency of the environmental assessment process and the adequacy of the RR to clearly demonstrate to the public how environmental issues have been addressed. EPA cannot assess in the absence of adequate information."

10.) John Goodwin (EPA) to Caitlin (Planning NSW) 9 October, 2002

- *"PM_{2.5}" - "no data to set compliance standards."*
- *"NEPM only apply to regional air quality and not to specific premises or facilities."*
- *"PM_{2.5} - for reporting purposes only. It is not appropriate to apply these benchmarks as compliance goals for the tunnel projects."*

11) John Goodwin (EPA) to Minister, 18 December, 2002

Role of EPA: The EPA will issue a licence for the construction of the CCT and LCT to control noise, dust, spoil and water management only.

Note by RK: EPA appears not to have responsibility over air quality compliance. This appears now to be the responsibility of Planning NSW. The effect is that not one department accepts responsibility for determinations or compliance of accurate measurements of air pollution. The stage is set to begin the process of negligence in a 'duty of care' through a documented litany of 'buck-passing'.

12.) Paul Forward (RTA) to S. Holliday (Planning NSW) 25 October, 2002

Proposal to modify ventilation *"... been assessed and considered to have a nett beneficial effect in comparison to the EIS project."*

"... minimal impact on local community."

"... has support by staff in principle."

Note by RK: This proposal was severely criticised by the visiting Japanese because of the location of intake vents near exhausts. There is no evidence that the 'ventilation shaft' has been evaluated independently. What does P. Forward mean it will have *"minimal impact on the community"*? RK asserts that the design will enhance fine particle formation and hence when exhausted, untreated, it will impact more adversely on the community.

13.) Lisa Corbyn (EPA) to P. Forward (RTA) 11 July, 2002

Further questions -- information demonstrates an estimated risk greater than 1×10^6 i.e., 3 times higher. EPA warns that when such thresholds are exceeded EPA then triggers action to reduce health risks greater than 1×10^6 (RTA provides no information about mitigation options.) etc.

Notes and comments by RK: The reader is advised of the following information regarding the Occupational Health and Safety Act:

The Australian Financial Review reported on (Monday 8th September 2003) – *“The High Court has opened the door for asbestos companies and victims to lodge multimillion-dollar claims against governments for their failure to protect workers from the material.”* Does this mean that known disease from vehicle emissions will also follow the path for future taxpayers to front yet another bill for the actions, inaction or negligence of those elected or paid to be responsible for providing guidance or solutions? -

Does this also mean that all government employees can take action against their employer for unsafe work places and practices under Workcover? If so does this mean the taxpayer will pay again? What about employees of e.g., SC Johnson (LC West) and Weir Warman (Artarmon)?

The broader issue, other than the experiences above, that LCTAG would seek input on are;

Under the OHS Regulation 2001 (as posted on the Workcover web site) includes;

Chapter 1, Preliminary

Public Place- means a public road or any other place to which the public, whether on payment of a fee or otherwise, ordinarily has access.

Premises – included any place, and in particular includes; a) any land, building or part of any building, or b) any vehicle, vessel or aircraft, or c) & d)

Employer – means a person who employs persons under contracts of employment or apprenticeships.

Advice from Workcover is that employers includes all levels of Govt.

Chapter 1, Division 4 – Atmosphere Definitions: atmospheric contaminant means (a) a hazardous substance that occurs in the form of a fume, mist, gas, dust or vapour, or (b) an asphyxiant, or (c) nuisance dust, to which persons may be exposed in the working environment.

The following Clause in the Act is especially relevant as it identifies an obligatory duty of care to control a ‘hazard to health’. I believe the ‘engineering’ means (see ‘c’ below) to do so is by proven electrostatic precipitation and gas-detoxification, not by a ‘3rd ventilation tunnel’ that is not cost-effective.

The 3rd ventilation shaft is claimed by the RTA to be needed to protect motorists and maintenance workers IN the tunnel. The same principle has applied to the Cross City Tunnel.

Is this RTA’s attempt to conform with the OH&S Act, 2001 in a highly discriminatory manner? What about the employees of SC Johnson and Weir Warman as well as residents around untreated stack emissions? How can these employers conform with the Act and protect employees from emissions approved by instruments of Government?

Chapter 1, Clause 5 Meaning of “control” of risks

For the purpose of this regulation, an obligation to **control** a risk to health or safety (in any case in which the elimination of the risk is not reasonably practicable) is an obligation to take the following measures (in the order specified) to minimise the risk to the lowest level reasonably practicable:

- firstly, substituting the hazard giving rise to the risk with a hazard that gives rise to a lesser risk,
- secondly, isolating the hazard from the person put at risk,
- thirdly, minimising the risk by engineering means,
- fourthly, minimising the risk by administrative means (for example, by adopting safe working practices or providing appropriate training, instructions or information),
- fifthly, using personal protective equipment.

A combination of the above measures is required to be taken to minimise the risk to the lowest level reasonably practicable if no single measure is sufficient for that purpose.

Any obligation in this regulation to control a risk by taking specific risk control measures, or by taking specific risk control measures in a particular order, is in addition to the obligations referred to in subclauses (1) and (2).

Chapter 1, Clause 8 Responsibilities held by more than one responsible person

If more than one person has a responsibility with respect to a particular occupational health and safety matter under this Regulation:

- each person retains responsibility for the matter, and
- the responsibility is to be discharged in a co-ordinated manner.

Chapter 2, Clause 9 Employer to identify hazards

Chapter 2, Clause 10 Employer to assess risks

Chapter 2, Clause 11 Employer to eliminate or control risks

Chapter 4, Clause 36 Controller of premises to eliminate or control risks

A controller of premises must eliminate any risk, arising from the premises, to the health or safety of any person accessing, using or egressing from the premises.

If not reasonable practicable to eliminate the risk, the controller of the premises must control the risk.

A controller of premises must ensure that all measures (including procedures and equipment) that are adopted to eliminate or control risks to health or safety are properly used and maintained.

Chapter 5, Clause 136 Use of plant – registration requirements and particular risk control measures

(3) An employer must ensure in relation to use of plant that:

- plant is subject to appropriate checks, tests and inspections necessary to minimise risks to health and safety, and
- if the operation or condition of plant presents an immediate risk to health or safety, the plant is withdrawn from operation until the risk is eliminated or, if this is not practicable, controlled.

A reference in this clause to an employer extends to an owner of plant affecting public safety.

Chapter 5, Clause 136 Maintenance and repair of plant – particular control measures

An employer must ensure in relation to the maintenance and repair of plant that:

- repairs to the plant are carried out so as to keep the plant within its design limits.

In this clause: a reference to an employer extends to an owner of plant affecting public safety.

From the above it is apparent that as an employer having an employee in a vehicle where the issues of vehicle emissions have created a health and safety issue there is only limited actions that can be taken to comply with the OHS Regulations. The fact that the vast majority of vehicle emission pollution in major cities is sourced from government vehicles (refer below RMIT) and there is no action on their part to take corrective action. How does an employer take appropriate action short of having all employees drive with respirators on?

Is the government (all levels) in breach of the Act and if so are they subject to fines? Would this be at the level of Minister, Department Head or Supervisor or all of them, or does it extend to the Premier or the Prime Minister? Would they be indemnified for failing to comply with OHS legislation?

The frustration associated with knowing of a hazard, being unable to fix the hazard or comply with legislation is compounded by the problem with "Duty to Notify Pollution Incidents Under the NSW POEO Act" as "a pollution incident is required by the POEO Act to be notified if it: involves actual or potential harm, that is not trivial, to the health or safety of human beings or to ecosystems:"

With reference to the following comments by reputable sources how do some "exist" within the framework of legislation, obligations as an employer and being concerned with the environment?

The current legislation "gap" coupled with the low awareness by the consumer that their "environmentally friendlier" vehicles produced after 1988 have provided a false sense of security in the current exhaust emission levels of motor vehicles. It has been politically okay to penalise owners of older vehicles operating on leaded fuels but the fact that a catalytic converter has an effective operating life of 5 years, shorter if tampered with or damaged, has not been made common knowledge. Once damaged, the vehicle emissions will result in higher levels of air pollution. The issues of in-service diesel vehicles have not been addressed.

Following discussions with a wide cross-section of the various State and Territory politicians and public servants the standard excuse for no new laws has been; "legislating for passenger vehicles whilst the diesel emissions are unchecked would not be acceptable to the voters".

2. There are now guidelines for new diesel vehicles in place and again there is a high degree of "buck passing", ignorance and little activity relative to the available solutions for in-service or aftermarket diesel vehicles or stationary engines.
 3. Recently, in addition to numerous scientific reports, there have been a number of press reports indicating the dangers of diesel emissions and the effect on the lives of people;
- (a) *ABC Television – 4 Corners 5th November 2002*

Title: Search for A Supermodel

Professor Tony McMichael – National Centre for Epidemiology ANU :

*"There are more deaths being caused by urban air pollution than there are by car crashes"
"the greatest hazard to human health, to lungs and the heart, come from the particles that we refer to as the sub-2.5 micron particles."*

"these are very, very fine particles of the kind that are particularly produced by diesel engines."

RMIT University – Dr Ed Boyapati presented the findings at the 8th International Conference on Energy and Environment in Cairo, Egypt (January 2003).

"Research from RMIT University shows that public transport networks release more greenhouse gas emissions than private cars. According to the study, trams produced the highest amounts of greenhouse gas emissions followed by trains, buses and cars".

Radio National (ABC) – Monday 28th April 2003

Summary ;

"exhaust from diesel vehicles is everywhere and is probably more carcinogenic than cigarette smoke – but it's not regulated like smoking in public places. In fact our tax system encourages more of the stuff. With air pollution shortening the lives of 2000 Australians every year, where's the "Quit" campaign against dirty diesel in the cities?"

"..... As particulate concentrations in the air rise, so do the death rates, from a variety of causes. And that's not counting those who suffer a range of pollution-related illnesses."

Planet Ark : Cleaner off-road diesel vehicles may save 8,500 lives – report. June 11, 2002

"Washington – The Bush administration should adopt tough federal pollution emission standards for bulldozers, farm tractors and other off-road diesel vehicles to prevent 8,500 premature deaths and 180,000 asthma attacks each year, state and local environmental regulators said in a report released yesterday."

Whilst the Governments at all levels tend to ignore the issues of exhaust emissions this provides a potential problem under various Workcover Legislation as the work environment for such employees as drivers, toll collectors, parks & garden staff, workers in the Lane Cove Industrial Estates etc is not safe relative to potentially fatal diseases caused by vehicle emissions. Similarly, the same hazards impact adversely on residents as well as workers e.g., SC Johnson Pty Ltd (west LC) and Weir Warman Pty Ltd (east LC/Artarmon) exposed to toxic stack emissions. How do the employers address such workplace toxic hazards from stacks?

Whilst we have stated early in this document that such a community would possibly benefit from the introduction of vehicles emissions testing and in-service emissions standards the over-riding conflict of being in breach of legislation and being unable to comply would indicate that there should be no employers as they are guilty by inaction of others and defenceless if investigated.

In summary what LCTAG is seeking is advice on how the Government should comply with its own legislation and the associated demands of these and other regulations whilst there are so many conflicts within the expectations placed upon an employer. Employees are assets of our community's business and should be protected from hazards, be they environmental or physical and make every attempt to do so. Similarly residents that are subject to known toxicity from stack emissions must also

have relief in law. Political appointees claiming that the levels of exposure are too low cannot ignore the fact that vehicle emissions are environmental hazards that may cause illness or death.

13.) Lisa Corbyn (EPA) to Paul Forward (RTA) 5 September, 2002.

Further questions not yet resolved.

Note by RK: What is apparent in the process of the LCT project approval is that the RTA behaves as a rogue bureaucracy that conducts its business in utter contempt of and disregard for due process. Here, it seems, the EPA is treated with such contempt and is seen by the RTA as being mischievous and irrelevant to the aims of the RTA.

14.) J. Woodward (EPA) to Sam Haddad (Planning NSW) 30 August, 2002.

Further questions.

Alleges lack of transparency. See attachment – (PP) Woodward (EPA) to Haddad 30.8.02

15.) J. Betts (RTA) and HAIRS to EPA 6 September, 2002.

- LCT stack heights – west 30M (above ground), 62M above water line (AHD).
- The top balcony of Compac building is 63M AHD i.e., 1metre above stack
- east stack is 134 M (AHD) i.e., 8 metres above Corinthian building.

Note by HAIRS – They are not the consultants for the 3rd ventilation shaft for the LCT.

Revised health risk assessment, page 13. *“There will be a number of potentially harmful emissions from the tunnel ventilation stacks including 1,3-butadiene, formaldehyde benzo(alpha) pyrene, acetaldehyde and benzene”.*

Note by RK: There is no mention by HAIRS of proven carcinogenic association between lung cancer and fine particles as published in *JAMA* March, 2002. This is typical of the documented, equivocal manner HAIRS deals with information and inconvenient data, even to the extent of blatant lies, as already proven in previous documents

HAIRS reduce the risk of cancer by a factor of 2 because they assume over 70 years pollution will be reduced.

Note by RK: This is negligent activity where it seems the patronising intention is to remove the risk disclosed by EPA by fabricating a scientifically non-valid factor i.e., two-fold reduction. The effect is to manipulate data in a manner that others would also judge to be ‘scientific misconduct’.

16.) Andrews Mattes (EPA) to Penny Finlay (Planning NSW) 24 July, 2002.

- Requests data not to be used in external correspondence.
- Concern expressed about unacceptable cancer risk greater than $1/10^6$.
- Claims *“argument that HAIRS state risk is a small percent of the background levels is not relevant.”*

See attachment (PP) A. Mattes (EPA) 24.7.02

17.) EPA – meeting 9 August 2002

Health risk of HAIRS still above EPA benchmark. The agenda seeks a discussion of ways to bring the increase below the risk.

Note by RK: This document discloses what seems to be a conspiratorial attempt to collude to find ways to alter the findings so that a disclosed risk is hidden or removed.

18.) EPA – 5 July, 2002

RTA fails to respond to EPA. Up to 10-fold increase in cancer risk.

19.) Nick Agapides (EPA) 26 June, 2002.

Predicted cancer risk is 2-4 times. However, at "elevated receptors" (people) the risk is 10-times higher.

See attachment (PP) Agapides (EPA) 26.6.02

20 a) Planning NSW to EPA 1 November, 2002

EPA's comments are addressed by Holmes to the satisfaction of Planning NSW.

Note by RK: There is no indication that the EPA concurs with the acceptance by Planning NSW.

20 b) Planning NSW alters EPA's recommendation (S. Welchman), 24 October, 2002.

Notes by RK: Seems that the annotations in the draft recommendations indicate Planning NSW has deleted EPA's conditions related to exceedances e.g., provision 62.

Planning NSW has also deleted two of four monitors at ground level.

Note by RK: This deletion has the effect of further reducing the chance of detecting an exceedance due to stack emissions. The effect is to minimise the evidence that can be used by the community to establish a cause and effect relationship in respect of health impacts etc.

21.) Charles Xu (affiliation ?EPA), 24 October, 2002.

Identifies flaws in HAIRS calculations for emissions when EPA alleges HAIRS under-estimates.

Xu confirms HAIRS under-estimates health risks.

Note by RK: This finding is absolutely consistent with the documented assertions by RK and independently validated by Professor Michael Moore (Q'Id).

22.) J. Goodwin & J. Woodward (EPA) – 30.8.02

PM_{2.5} and TEOM correction factors

- TEOM 'Adjustment Committee' not yet made a final recommendation.
- PM_{2.5} TEOM – more controversial because of higher organic content.
- EPA also anticipates that the community will demand similar site correction factors for LCT and CCT should TEOM monitoring be used.
- EPA not recommend course for action to DIPNR – want the Committee to decide.
- Adopting a correction factor for the M5 East may create a precedent.

Note by RK: This is an important document and discloses the premeditated failure on the part of EPA to incorporate correction factors to obtain proper levels of pollution monitoring. The admissions in this document are, I believe, highly damning of the EPA and provide evidence of collusion to be negligent in a duty of care. EPA determined with the knowledge that omissions of correction factors were to be deliberately undertaken that would underestimate particulate monitoring and health risk assessments. This is utterly appalling conduct.

See also Attachment (PP) EPA 7.8.03

23 a.) Lisa Corbyn (EPA) to S. Haddad (Planning NSW) 17 September, 2003.

- RTA and not EPA involved with RAPS to apply a correction factor.
- EPA 'back off' getting involved with the correction factor debate and refer to legal/policy issues.
- EPA reports unadjusted TEOM PM₁₀ in all its public reports on regional air pollution.
- EPA intends to continue not to incorporate a correction factor until resolved "at the national level" for "fine particles."
- EPA regards TEOM and Hi Vol are equivalent and do not require correction factors to be applied.

- EPA does not recommend correction factors for CCT and LCT "until further debate."

Note by RK: This is an appalling revelation by the EPA regulatory authorities who are clearly derelict in their duty of care to the community. The document reflects utterly incompetent and reckless conduct.

23 b.) Lisa Corbyn (EPA) 24 January, 2003.

Response to M5 East Parliamentary Inquiry, November, 2002 and recommendations of Committee.

- NEPM do not apply to tunnels or to stacks.
- Operator monitors PM_{2.5} at ambient air quality monitoring stations.

24.) Sam Haddad (Planning NSW) to L. Corbyn (EPA) 15 July, 2003.

M5 East TEOM correction factor.

Should a TEOM correction factor be applied to M5 East, CCT and LCT?

Note by RK. This document discloses, at such a late stage, the deliberate decision to ignore the assertions by the LCTAG and others that the background monitoring by PM₁₀ TEOM was underestimated on the basis of overseas practice adopted for over a decade. Yet, Planning NSW, EPA, RTA, Health and HAIRS have, I believe, colluded knowingly to conspire to omit such corrections in a negligent manner.

25.) Andrew Mattes (EPA) to Penny Finlay (Planning NSW)

Concern that risk of cancer reduced by 2-fold on assumption that cleaner fuels will be introduced over the next 70 years.

Note by RK: Here there is concern by EPA of the 'fiddle factor' incorporated by HAIRS to diminish the real cancer risk to insignificant levels.

26.) Nick Agapides (EPA) to John Wasserman and Mark Hather (Planning NSW) 21.5.03

Katestone Report

EPA/ Planning is very defensive of the position by RTA that Dr. Best has refuted.

Note by RK; This document shows an appalling shift in responsibilities that nobody among the Regulatory Authorities wishes to take. Cover-up upon cover-ups!

27.) Holmes Air Sciences (HAIRS) to J. Stricker (RTA) 21 May, 2003

This correspondence is the response by Dr. Nigel Holmes to the report of Dr Peter Best regarding LCT air quality issues raised by Lane Cove Council.

Note by RK; This lengthy report by HAIRS represents a litany of garbled information that has no real substance in either scientific methodology or objective reporting of the facts. The report by Dr Nigel Holmes is devoid of scientific stringency and objective analytical insight. Holmes' failure to face the assertions of Dr Best squarely is clearly evident and inconsistent with statements previously made by HAIRS. The following are a few of the anomalies in the Report:

a) Dr Holmes in typical style, as he did in response to LCTAG's assertions, responds to Dr Best's independently checked analysis by concluding Dr Best's conclusions are: "*irrelevant to the LCT assessment*"

b) Dr Holmes makes the following statement that seems patronising to the RTA:

"The basic assessment methodology used in the EIS has been to accept that NSW ambient air quality goals have been set in such a way that they protect the community from the adverse effects of particulate matter."

Comment by RK : Dr Holmes knows full well that the EPA's monitoring of TEOM PM₁₀ underestimate the particulate levels and, therefore, falsify the risk of health impacts. His statement is positively wrong and misleading.

c) In response to the matter of incorporating correction factors as undertaken in Europe, the response of HAIRS is a flippant "so what!" Dr. Holmes then continues "but I agree with what is being said but how should it be used to change the LCT assessment?"

Comment by RK: This is the exact manner by which Dr N. Holmes responded to the proven assertions of RK in the LCTAG's Submission to the LCT EIS

"The second paragraph states that in France when TEOM measurements are used for background to introduce the missing secondary particles in the analytical model, a constant correction of 9.5 µg/m³ is added to all grid points. While we question the relevance of this for the conditions in Lane Cove we note that doing this would not alter the conclusion reached in the assessment". (HAIRS, February, 2002 response to LCTAG's Submission to the LCT EIS)

d) In response to the practice in Europe of adding 9.5 µg/M³ to measurements undertaken by TEOM PM₁₀, Dr. Holmes states "this issue relates to the conversion of pollutant gases NO_x and SO_x etc. to particles that occurs over periods of many hours or days."

Comment by RK: The statement is wrong and positively and patronisingly misleading as shown as follows:

Paul Filliger et al.

'Health costs due to road traffic-related air pollution. An impact assessment project of Austria, France and Switzerland: PM10 pollution exposure'.

WHO Technical Report on Air Pollution, pp 1-79, June 1999.

The complete article can be accessed at the following link:

<<http://www.who.dk/document/trt/pm10.pdf>>

The relevant section is copied from page 44 of the article and is pasted below.

Notes:

- 1.) Filliger et.al. state that TEOM PM₁₀ underestimates the secondary particles which are the fine, toxic, respirable ones produced by 'nucleation' from the exhaust gas.
- 2.) A correction factor of 9.5 µg/M³ is added to all measurements taken at every grid point.
- 3.) In direct contrast to the claims of Lisa Corbyn (EPA NSW to S. Haddad, 17.9.03), Filliger et al state the TEOM PM₁₀ underestimates the levels compared to the gravimetric Hi-Vol filter method which has a cut-off of 0.3 µm (HAIRS, 2001 response to LCTAG). The secondary particles fall into 2 peaks according to size i.e., 0.1 µm and 0.03 µm (A. Seaton.1996) Thus, even the Hi-Vol technique does not capture all the 'secondary particles'.

4.2.7 Correction for secondary particles (p 44 - Filliger et al., 1999)

In the atmosphere, a substantial part of PM₁₀ can arise from long-range transport and chemical gas to particle conversion (secondary particles). The BS (Black Soot) measurement technique tends to underestimate this secondary component of aerosols due to the fact that components like ammonium sulphate and ammonium nitrate (important parts of secondary particles) cannot be correctly measured by this method. The same can be said of PM₁₀ when measured by Tapered Element Oscillating Microbalance (TEOM). In this study, only TEOM-PM₁₀ data were available for comparison with BS data. TEOM underestimates PM₁₀ concentration in comparison to that obtained from gravimetric filter samplers. The underestimate is mainly caused by heating of the inlet air, producing an almost complete loss of ammonium nitrate (and possibly other PM₁₀ secondary particles). The satisfactory agreement found between TEOM-PM₁₀ and BS in urban sites may be attributed to the fact that the BS method underestimates secondary particles in roughly the same proportion.

To introduce the missing secondary particles into our analytical model, we added a constant correction value of 9.5 µg/m³ to all our grid points for the whole of France. The value of 9.5 µg/m³ corresponds to the regional background of secondary particles as estimated for France by the European scale EMEP model (EMEP 1997).

This is a 'conservative' correction-factor, because the urban-scale portion of the secondary particles is ignored. As a consequence, the resulting map indicates a minimum level for PM₁₀.

Further comment by RK: It is noteworthy that HAIRS claims they did incorporate such a factor and it made no difference as shown in the following statement copied and pasted:

"This section also discusses the findings of a CSIRO report prepared for Environment Australia as the request of the Peer Review Committee of the NEPM. The CSIRO report found that for TEOM monitors measuring PM₁₀ concentrations at low temperatures, that there needed to be an adjustment to the measured data in order to make them match the measurements made by the standard high volume sampling system which is the reference method for measuring particulate matter adopted by the NEPM. In practice, the adjustment to the data proposed by CSIRO does not come into effect for measurements made at daily average temperatures above 15 - 17 C. One of the main uses of the TEOM data from Lindfield was to determine a background level to be added to model predictions to determine worst case pollutant levels. For the high concentrations, the adjustments in fact turn out to be extremely small. The reason that the adjustments were not in fact applied was because the CSIRO study only became available after that part of the work for the EIS had been completed. However the recommended changes are too small to be of significance." (HAIRS response to LCTAG's Submission to the LCT EIS, February,2002)

"LCTAG maintains contrary to the contention of HAIRS that such omissions of secondary particles by HAIRS does relate to the serious flaws in the arguments used in the EIS.

The second paragraph states that in France when TEOM measurements are used for background to introduce the missing secondary particles in the analytical model, a constant correction of 9.5ug/m³ is added to all grid points. While we question the relevance of this for the conditions in Lane Cove we note that doing this would not alter the conclusion reached in the assessment." ." (HAIRS response to LCTAG's Submission to the LCT EIS, February,2002)

e) HAIRS refutes Dr. Best's allegations and says *"it is wrong to suggest that concern about effects of particles has increased since EIS was prepared."*

Comment by RK: This is a totally wrong and uninformed statement by HAIRS. HAIRS ignores several recent reports including the large study published in the *Journal of the American Medical Association* March, 2002 that documents an association between eg lung cancer deaths and exposure to fine particles of vehicle emissions. See reference below:

Lung Cancer, Cardiopulmonary Mortality, and Long-term Exposure to Fine Particulate Air Pollution

C. Arden Pope III, PhD

Richard T. Burnett, PhD

Michael J. Thun, MD

Eugenia E. Calle, PhD

Daniel Krewski, PhD

Kazuhiko Ito, PhD

George D. Thurston, ScD

BASED ON SEVERAL SEVERE AIR pollution events,^{1,3} a temporal correlation between extremely high concentrations of particulate and sulfur oxide air pollution and acute increases in mortality was well established by the 1970s. Subsequently, epidemiological studies published between 1989 and 1996 reported health effects at unexpectedly low concentrations of particulate air pollution.⁴ The convergence of data from these studies, while controversial,⁵ prompted serious reconsideration of standards and health guidelines⁶⁻¹⁰ and led to a long-term research program designed to analyze health-related effects due to particulate pollution.¹¹⁻¹³ In 1997, the Environmental Protection Agency adopted new ambient air quality standards that would impose regulatory limits on fine particles measuring less than 2.5 μm in diameter ($\text{PM}_{2.5}$). These new standards were challenged by industry groups, blocked by a federal appeals court, but ultimately upheld by the US Supreme Court.¹⁴

Although most of the recent epidemiological research has focused on ef-

Context Associations have been found between day-to-day particulate air pollution and increased risk of various adverse health outcomes, including cardiopulmonary mortality. However, studies of health effects of long-term particulate air pollution have been less conclusive.

Objective To assess the relationship between long-term exposure to fine particulate air pollution and all-cause, lung cancer, and cardiopulmonary mortality.

Design, Setting, and Participants Vital status and cause of death data were collected by the American Cancer Society as part of the Cancer Prevention II study, an ongoing prospective mortality study, which enrolled approximately 1.2 million adults in 1982. Participants completed a questionnaire detailing individual risk factor data (age, sex, race, weight, height, smoking history, education, marital status, diet, alcohol consumption, and occupational exposures). The risk factor data for approximately 500 000 adults were linked with air pollution data for metropolitan areas throughout the United States and combined with vital status and cause of death data through December 31, 1998.

Main Outcome Measure All-cause, lung cancer, and cardiopulmonary mortality.

Results Fine particulate and sulfur oxide-related pollution were associated with all-cause, lung cancer, and cardiopulmonary mortality. Each $10\text{-}\mu\text{g}/\text{m}^3$ elevation in fine particulate air pollution was associated with approximately a 4%, 6%, and 8% increased risk of all-cause, cardiopulmonary, and lung cancer mortality, respectively. Measures of coarse particle fraction and total suspended particles were not consistently associated with mortality.

Conclusion Long-term exposure to combustion-related fine particulate air pollution is an important environmental risk factor for cardiopulmonary and lung cancer mortality.

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www.jama.com

fects of short-term exposures, several studies suggest that long-term exposure may be more important in terms of overall public health.¹ The new standards for long-term exposure to $\text{PM}_{2.5}$ were originally based primarily on 2 prospective cohort studies,^{15,16} which evaluated the effects of long-term pollution exposure on mortality. Both of these studies have been subjected to much scrutiny,² including an extensive independent audit and reanalysis of the original data.¹⁷ The larger of these

2 studies linked individual risk factor and vital status data with national ambient air pollution data.¹⁶ Our analysis uses data from the larger study and

Author Affiliations: Brigham Young University, Provo, Utah (Dr Pope); Health Canada, Ottawa, Ontario (Dr Burnett); University of Ottawa, Ottawa, Ontario (Drs Burnett and Krewski); American Cancer Society, Atlanta, Ga (Drs Thun and Calle); and New York University School of Medicine, Tuxedo, NY (Drs Ito and Thurston).

Corresponding Author and Reprints: C. Arden Pope III, PhD, Department of Economics, Brigham Young University, 142 FOB, Provo, UT 84602 (e-mail: cap3@email.byu.edu).

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“Adverse health outcomes are correlated with mass concentration measurements of both PM_{10} and $\text{PM}_{2.5}$ and do appear to be more closely correlated with $\text{PM}_{2.5}$ suggesting that the smaller particles are more harmful to health than the coarser fraction”. (HAIRS response to LCTAG’s Submission to the LCT EIS, February, 2002). Thus, HAIRS are not consistent with their own previous statements.

f) HAIRS state *“We have no alternative but to base the LCT assessment on the EPA’s mass-based standards”.*

Comment by RK: This statement is not in line with the facts disclosed by EPA’s Lisa Corbyn (17.9.03) where EPA acknowledges they have been underestimating the TEOM PM_{10} readings to the public. This means that the health risk assessments are correspondingly underestimated (See attachment L. Corbyn to S. Haddad 17.9.03)

Your reference : M5 East - TEOM
 Our reference : EXF26741, SR546/05
 Contact : Ross Carter, 02 9995 6800

FAXED
 18/9/2003

Mr S Haddad
 Executive Director
 Department of Infrastructure, Planning and Natural Resources
 GPO BOX 3927
 SYDNEY NSW 2001



Director General

17 SEP 2003

(45)

Dear Mr Haddad

M5 East Ambient Air Quality Monitoring – TEOM Pm10 Data Correction Factor

Thank you for your letter dated 15 July 2003.

As you note in your letter, the Environment Protection Authority (EPA) was not involved in the decision to apply a correction factor to PM₁₀ data collected by continuous TEOM monitors in the vicinity of the M5 East. Rather, the RTA agreed to do this with Residents Against Polluting Stacks (RAPS), and formed the TEOM Correction Factor (TCF) Committee to recommend a way forward on the issue. The EPA assisted the Committee by supplying data from its regional ambient air quality monitoring network and advice about the EPA's approach to managing its regional air quality monitoring data.

I note your request for advice about the implications of implementing the recommendations of the TCF Committee for the Conditions of Approval of the M5 East. The implications of the recommendations for the Conditions of Approval seem primarily associated with legal/policy issues related to the *Environmental Planning and Assessment Act 1979* rather than technical issues and are therefore not within the sphere of the EPA. However, to assist you in making your decision you may wish to consider the current approach of the EPA in terms of its management of regional air quality monitoring data, and also in relation to its approach to ambient air quality monitoring for its scheduled premises.

Firstly, as you are aware, the EPA reports unadjusted TEOM PM₁₀ and PM_{2.5} data from its ambient air quality monitoring network in all of its public reports. The EPA will continue to do so until all of the technical issues around monitoring of fine particles is resolved satisfactorily at the national level. Also, the EPA's objective with its regional air quality monitoring data is to provide an input to the public policy process and not as a compliance condition for a specific development such as a ventilation stack. In this instance, a stack emission limit is more appropriate.

Secondly, for the purposes of ambient air quality monitoring by scheduled premises, the EPA may require licensees to adopt either the TEOM monitoring method or the high volume sampling monitoring method. The EPA regards these methods to be equivalent for this purpose and does not require any correction factor to be applied.

Environment Protection Authority
 PO Box A290 Sydney South NSW 1232 Australia
 59-61 Goulburn Street Sydney NSW 2000

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www.epa.nsw.gov.au

In relation to your specific request for advice about how to proceed in relation to the Cross City Tunnel and the Lane Cove Tunnel, it is noted that the approval conditions for both of these projects clearly specify that there are two methods of measuring of ambient air quality that are acceptable (specifically these are the TEOM method or the high volume sampling method). The approval conditions did not envisage the use of correction factors for these projects and nor would the EPA recommend their use without further debate about the efficacy of such a move.

Should you wish to discuss any aspect of this letter please do not hesitate to contact Ross Carter, Executive Director Sydney Region on 02 9995 6800.

Yours sincerely


LISA CORBYN
Director General

g) HAIRS refers to Dr. Best who stated "*correction factors should be applied to TEOM PM₁₀*". Dr. Holmes's response is ". . . *interesting but largely irrelevant.*"

It is especially noteworthy that Dr Nigel Holmes discloses that he is a member of the National Environment Pollution Measure (NEPM) Peer Review Committee and also states he is familiar with the references quoted by Dr Best in relation to incorporating correction factors. It seems then that he changes his position to suit the personal and political surroundings and in doing so his reliability is questioned on the basis of conflicting statements.

The extraordinary fact is that his wife, Dr Kerry Holmes, of HAIRS and Dr Peter Best have in late 2002 produced a report to recommend correction factors. See below. Both are authors on a conjoint paper to be presented 23-27 November in the Clean Air Conference, Newcastle. It is difficult to believe that Dr Nigel Holmes is unaware of such developments. The only conclusion is that we see yet again clear evidence that patronage is the lifeblood of politics.

TEOM ADJUSTMENT FACTORS FOR A SUBURBAN ENVIRONMENT IN SYDNEY

Peter R Best¹, Lena Jackson¹, Jane Barnett², Eloise Duguid², Melissa Hart² Kerry Holmes²

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TEOM instruments using heated inlets may underestimate PM₁₀ levels in urban areas due to the loss of semivolatile secondary aerosols and organic compounds. Whilst temperature-dependent or seasonal adjustment factors have been suggested as suitable procedures to bring closer agreement between traditional gravimetric methods such as high volume air samplers and other measurement techniques, considerable variability may still occur within a given urban area. Detailed compositional measurements are rarely available in Australasian situations that can

provide a better approach for standardisation of TEOM or beta-attenuation techniques. Recent measurements at 2 sites in the M5 East tunnel air quality monitoring network (Sydney) allow reasonable seasonal factors to be defined but have much smaller adjustment factors than at a nearby EPA site. The implications for routine measurement campaigns and setting of project performance measures are discussed with reference to recent recommendations from Australian and European agencies.

(h) Dr. Holmes agrees with Dr. Best's assertion that if the stack is not properly designed,

the concentrations will be higher – *“but it is not up to Katestone to assume that the stack will be built with inadequate momentum buoyancy. In fact, it is quite mischievous to do so.”* Again, Dr Nigel Holmes does not respond squarely as the same questions were raised by EPA that the RTA failed to respond via HAIRS.

28.) Lisa Mitchell (Planning) to Denise Wilson (EPA?).

John Betts (RTA) provides a detailed list of responses to questions from EPA.

These include responses to the Moore St Compound proposal. Reference is made to the 'Red Crowned toadlet' as not being affected by the site damage. The RTA regards the Moore St bushland as "a degraded environment" and would benefit by restoration after the tunnel is built.

29.) Penny Finlay (Planning) to J. Betts (date not shown)

This is a 3-page response from HAIRS. The EPA alleges HAIRS provide results for one stack configuration and location, the details of which are not provided. EPA also claim HAIRS,2002 fails to recommend an optimum stack location, height and minimum exhaust velocity.

30.) Lisa Mitchell (Planning to J. Betts (RTA) 1.7.02

This document provides details of questions being sought further from the RTA by Planning. Some issues relate to the Moore St Compound.

31.) J. Woodward (EPA) provides to the Board, options to regulate motorway tunnels and ventilation stacks - 4.11.02.

It is noteworthy the EPA makes the following comment:" Once constructed (tunnel) it is usually not feasible to make changes to the project that were not allowed for in the original design"

- NSW Health recommended that additional goals be applied to the CCT and LCT projects based on exceedances of CO levels in the M5East.
- Note the following comment from EPA "There is considerable concern about the haze level in the M5East tunnel and its implication for safety and health. The haze within the tunnel consists primarily of particles from vehicle exhaust emissions particularly from diesel-engine vehicles. Minimum levels of visibility are required for the safe operation of the tunnel and this is one of the factors used to determine the minimum ventilation rate. Visibility levels that meet these safety requirements nevertheless can result in a clearly visible haze within the tunnel."
- " The EPA playing a more upfront role may risk removing pressure for the RTA to respond to the community in these situations"
- *" Penalty clauses that require the proponent to provide significant funds for local air quality initiatives for each day that in-tunnel and/or stack limits are exceeded. These measures will provide significant financial incentive to ensure that the "teething" problems experienced with the M5East are avoided".*
- *"The primary options for the EPA to increase its role in regulation of motorway tunnel is to use the powers of the Protection of the Environment Act either as the appropriate regulatory authority or through licensing the operation of the tunnel under the Act.....If the EPA takes on a larger role in regulating the operation of these projects there is the risk that the design assessment and approval process may be compromised by the presumption that the EPA will be able to solve any shortcomings once the motorway is in operation"*

Note by RK: Yet again the EPA behaves as though impotent to make change. Instead it clearly wants to defer to the RTA and 'pass the buck'.

MEMO

To: Jay Stricker
General Manager, Environment & Community Policy Branch

From: Michael Najem
Manager, Environment & Property

Subject: Lane Cove Tunnel – Submission from EPA in response to Representations Report

Jay

I refer to our discussion in relation to the letter from the EPA dated 5 September 2002 attaching a copy of a letter dated 30 August 2002 from the EPA to Planning NSW in response to the Representations Report for the Lane Cove Tunnel.

The letter from the EPA relevantly states that:

- the EPA's response to the Representations Report is "an interim response."
- there are a number of air quality and noise related issues that require resolution "prior to the EPA finalising its determination of the project."
- these issues need to be resolved "to enable the approval process to proceed".

The letter from the EPA to Planning NSW dated 30 August 2002 relevantly states that:

- the EPA wants an opportunity to review the draft conditions of approval under Part 5 of the *Environmental Planning and Assessment Act 1979* ("EP&A Act") before they are finalised;
- in the Representations Report, the RTA identified the EPA's comments in Appendix B as correspondence rather than an EIS submission and did not directly address the majority of the environmental issues raised by the EPA. This is said to raise concerns about "the transparency of the environmental assessment process, and the adequacy of the Representations Report to clearly demonstrate to the public how environmental issues have been addressed";
- air quality remains the principal operational phase environmental concern. The EPA is unable to assess the predicted air quality impacts in the absence of "outstanding information requirements";
- noise management, especially at the Moore Street works compound, and excavation spoil and water quality management, remain the principal construction phase concerns. The environmental impacts associated with the construction of the Tunnel are manageable to acceptable levels; and

the EPA awaits the outstanding information in relation to the air quality issues "so that we can determine whether or not the EPA can issue an Environmental Protection Licence for the construction of the motorway".

The following are my comments on the EPA's correspondence:

- 1 The EPA is a determining authority for the project under Part 5 of the EP&A Act as it will need to grant an Environmental Protection Licence for the construction of the project.

Tollway construction is a scheduled activity under the *Protection of the Environment Operations Act 1997* ("POEO Act"). Accordingly, the RTA will need to apply for and obtain an environment protection licence from the EPA. The RTA does not require a licence for the operation of the tollway. This is confirmed by the EPA in its letter dated 31 December 2001 commenting on the EIS (Attachment, Section 2).

The EPA states that it is awaiting outstanding information in relation to air quality issues so that it can determine whether or not the EPA can issue an Environmental Protection Licence "for the construction of the motorway". However, in its submission to Planning NSW, the EPA confirms that the environmental impacts associated with the construction of the Tunnel "are manageable to acceptable levels."

The "outstanding information" relates to the predicted air quality impacts which the EPA identifies as the "principal operational phase environmental concern."

Accordingly, as the "outstanding information" is only relevant to the operational phase and given that the EPA has already confirmed that construction phase environmental impacts are manageable, the EPA has already confirmed that it can issue an Environmental Protection Licence for the construction of the project. There is, therefore, no reason why the EPA's concerns relating to the predicted air quality impacts should delay the Part 5 approval process or the discharge of the EPA's statutory functions.

The EPA's role as a determining authority under Part 5 is to take into account to the fullest extent possible all matters affecting or likely to affect the environment by reason of the EPA granting an Environmental Protection Licence to enable the activity to be carried out.

The fact that the EPA may consider that some environmental issues have not been resolved to its satisfaction does not preclude the RTA seeking the Minister's approval for the project. The EPA can seek clarification on any issues which it considers to be outstanding at the time that it determines whether to grant an Environmental Protection Licence to enable the activity to be carried out.

Having made a submission in response to the EIS, it is a matter for the Director-General of Planning NSW and ultimately the Minister, to consider the issues raised by the EPA and to determine whether to approve the activity and, if so, what appropriate conditions to impose on the approval.

There is no statutory provision under Part 5 of the EP&A Act which makes it necessary for the EPA to be satisfied that all environmental issues (relevant to its functions) have been resolved before the RTA can seek the Minister's approval for the project.

This view has been confirmed by Brian Preston SC.

- 2 As you are aware, there is no statutory provision for submissions in response to Representations Reports. I note that the EPA refers to its submission as being "an interim response".
- 3 The EPA does not need to resolve operational air quality issues "prior to ... finalising its determination of the project". The EPA's role as a determining authority relates only to construction phase issues. Air quality issues are only relevant to the extent that construction work on the project may affect air quality.
- 4 There is no statutory basis for the EPA seeking to review the draft conditions of approval under Part 5 of the EP&A Act.
- 5 In relation to the particular issues raised by the EPA in response to the Representations Report, I make the following comments on the issues which you identified as being of particular concern:

General Environmental Management – Schedules and Reporting

In terms of the EPA's statutory functions under the POEO Act, there is no reason why the "complaints register" referred to on page 7.23 of the Representations Report should be made publicly available on the project web site "to enable the EPA to determine the nature of the complaint, the action taken in response to the complaint, and who was responsible for the action." Any complaints relevant to the EPA's statutory functions would be required to be provided to the EPA pursuant to the usual conditions of the Environmental Protection Licence.

In any event, environmental performance monitoring was covered in the EPA's comments of 31 December 2001 on the EIS and recommendation 2.1 "That the proponent commit to establishing independent monitoring and reporting of environmental performance against EIS commitments (as amended by consent conditions and environmental protection licence conditions) as part of the project's management decision-making process".

Air Quality Impact Assessment

In relation to air quality impact assessment, stack emission concentrations and load limits, and stack exhaust velocity, the EPA raised concerns in relation to the adequacy of the assessment of these operational issues in its submissions in response to the EIS and made appropriate recommendations (see section 3.2). Holmes Air Sciences prepared a Lane Cove Tunnel Air Quality Study: Preliminary Responses to Preliminary Submission from NSW EPA (5 April 2002) in order to address these issues.

Tunnel Ventilation System Design and Management

The EPA states that a detailed analysis should be prepared to identify and eliminate any conflicts in the integration of tunnel ventilation design and operation, incident response triggers and procedures, and traffic management.

The EPA raised these operational issues in its submissions in response to the EIS (see section 3.2.5).

Given that the above issues were previously raised by the EPA in response to the EIS and dealt with as part of the Representations Report, there is little point in the EPA raising the issues again in its submission on the Representations Report. There has to be finality in such submissions. The appropriate legal position is for the EPA to now leave these issues (including any suggestion that

the EIS may have inadequately dealt with the issues) for consideration by Planning NSW and the Minister.

The fact that the EPA is still not satisfied with the information provided by the RTA on what are clearly operational issues, is no basis for delaying the approval process under Part 5.

Michael Najum

Major, Environmental & Property.