

**INQUIRY INTO PERFORMANCE OF THE NSW
ENVIRONMENT PROTECTION AUTHORITY**

Name: Dr John Goldberg

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COVER LETTER

Mr Samuel Griffith
A/Principal Council Officer
Upper House Committees
Legislative Council
Parliament of NSW
26 August 2014

Dear Mr Griffith,
As foreshadowed in my e-mail of 27 July, I am forwarding my submission as attached for the EPA Inquiry.

The submission is in five parts

1. Main submission
2. Appendix A-Correspondence (word)
3. Appendix B-My questions to the EPA and its response (pdf)
4. Appendix C-My audit of the EPA responses(word)
5. Appendix D-Analysis of the ONVR (word).

I would be grateful if you could merge these five documents. I was unable to satisfactorily transform the EPA Document (3) from pdf to word because of an unexpected problem with the converter.

Yours sincerely
Dr John L Goldberg
Former Honorary Associate
The University of Sydney

An audit of the Environmental Protection Authority(EPA)in respect of community noise

A personal submission in the public interest to the
NSW Parliamentary Inquiry into the EPA

by

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29 August 2014

¹formerly

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1. Introduction

This submission is largely concerned with the results of an audit carried out to examine the competence, integrity and objectivity of the EPA's operation in relation to community noise. These qualities would be expected of the Authority under the provisions of the Protection of the Environment Administration Act 1991. These requirements have become increasingly important in view of developments in transportation in major cities which generate serious noise problems for communities.

The need for this audit arose as a result of consultation with the NSW Ombudsman about widespread dissatisfaction by the community with control of the rail noise generated by existing freight movements on the Northern Line and the inability of the EPA to mitigate the problem. Moreover, any expansion of the freight carrying capacity of this line would exacerbate the existing serious noise problem despite promises of mitigation.

The audit was carried out by submitting a series of 62 questions to the EPA and evaluating the response to each question.

The results of the audit are applicable in general to all types of noise problems. In respect of rail noise in particular, the audit has raised serious questions about the provenance and integrity of the rail noise guideline documents IGANRIP² and RING³. For a number of reasons which will be explained, these documents, which were also endorsed by the NSW Department of Planning, do not provide a proper basis for meaningful control of rail noise.

The second part of this submission deals with an examination of the document ONVR (Operational Noise and Vibration Review) one of the 87 conditions used to support the planning consent for the Epping to Thornleigh Third Track (ETTT) project. The document is shown to be incompetent and deceptive. Its content is of little value as a basis for noise mitigation. The document appears to have been influenced by predetermination of its outcome and by the need to conform to rail noise guidelines already mentioned.

² Interim guidelines for the assessment of noise for rail infrastructure projects

³ Rail infrastructure noise guidelines

Generally speaking, noise problems arise because of the lack of a proper holistic approach to planning and land use in NSW. The ONVR is shown to be nothing more than a cover story to compensate for a flawed planning decision by the NSW Department of Planning. The main findings of the audit have been extracted and presented below.

2. Summary of findings from the EPA audit results.

No.	Finding
2.1	According to the World Health Organisation (WHO) a noise guideline is a noise level at or below a level at which an adverse impact is discernible. Both IGANRIP ⁴ and RING ⁵ are based on an artificially created guideline which is based on 24 hour averages of noise from all noise sources in the neighbourhood. It disregards the fact that human perception of noise is governed by how much the disturbance exceeds the true background level. This level in relatively quiet neighbourhoods is likely to be much lower level to which the person has become adapted over a long period. In effect, the EPA guidelines ignore fundamental psycho-acoustic principles which have thus been replaced by bureaucratic exigencies. This finding means that the EPA and the Department of Planning are unable to make proper meaningful assessments of noise impact,
2.2	An additional serious flaw in the EPA's evaluation of noise impact as defined above is its misunderstanding of dose-response relationships and their applicability. In adopting a dose-response relationship given in the RING document to specify the percentage of "highly annoyed" persons likely to result from a given level of noise exposure, it failed to understand that the relationship was derived from what are known as "steady state" surveys in which the population has been exposed for a long period of time to a substantially constant noise level.
2.3	However, when the noise exposure is increased as would be the case when for example, there is an increase of freight train movements on the Northern Line, there will be a failure to adapt to the increased noise levels and the increased number of movements (which have an equivalent value in terms of noise level increase). The actual response to the noise will exceed that forecast. This response to a change in noise exposure was explained by the author in evidence to the Senate Inquiry into Aircraft Noise in Sydney in 1991.
2.4	There is another effect investigated by French authorities called the "new infrastructure" effect which tends to enhance annoyance irrespective of the noise level. This is another reason why it is a mistake to attribute noise annoyance by specifying noise level (in decibels) alone.

⁴ op.cit.

⁵ op.cit

Audit of the EPA-Goldberg

2.5	The key issue of sleep disturbance has been marginalised by the EPA. It claims that it is not responsible for preventing sleep disturbance yet it has misrepresented the meaning of the criteria developed by the European Union. It appeals to the fact that these criteria are not standards, despite the evidence that they are the same as those of the World Health Organisation (WHO). It has failed to anticipate the likely impact of noise levels arising from new developments both from sleep disturbance and annoyance as already discussed.
2.6	Evidence of collusion between the EPA and the Department of Planning to remove sleep disturbance from consideration in the approval for the Epping Thornleigh Third Track has emerged from the audit.(see the audit of EPA's response to questions 22-24 and 28).
2.7	Advice was given to the EPA in 2012 by Dr Kerry Chant, Deputy Director-General of the NSW Health Department about the medical effects associated with chronic sleep arousal. Dr Chant drew on the work of the European Union but this was not responded to by the EPA. (See Appendix C)
2.8	The EPA claimed without any evidence that sleep disturbance is not as widespread as suggested by the author's survey carried out in 2012-2013 which showed that 76% of 412 persons exposed to rail noise suffered sleep disturbance. It did not carry out any alternative surveys of its own or evaluate the existing serious situation for residents in the Northern rail corridor.The detailed survey results are given as well as the results of one resident's experience over a three month period..
2.9	The EPA has shown that it was unable to understand the difference in the physical mechanisms that cause sleep disturbance,which are EEG reactions, and the cause of annoyance which is a conscious feeling of displeasure caused by exposure to noise when awake. There is evidence to suggest that the EPA wished to divert attention from the sleep disturbance issue by concentrating on criteria for limiting annoyance, which in any case are shown to be of little value.
3.0	The EPA appears to have been unaware of measurement techniques used to measure noise containing tonal components. For example, the method to measure rail squeal is the power spectral density (PSD). The averaging method used by the EPA is likely to underestimate the real noise level.

3. Comments and Recommendations to the Inquiry in regard to the above findings

1. The EPA's operations must always be based on the proper application of scientific method to its activities above all other considerations if it is to fulfil its obligations under the POE Act and be trusted by the public.
2. The disturbing tendency to misrepresent and misuse scientific results from other sources to cope with political and other demands and to self-justify the EPA's position must be curbed. This misrepresentation has disadvantaged the community and created serious anomalies in the development of proper criteria for community protection as shown, for example in the case of rail noise.
3. The EPA must set an example to acoustical consultants who are employed by the State and other organisations to help curb the lack of integrity that has become an unacceptable feature of their operations.
4. The EPA staff need training in risk assessment and should be encouraged to attend appropriate University courses in Statistics and Probability.
5. The tenure of existing staff should be periodically reviewed for competence. Replacement of some members by better qualified persons should be considered..

Structure of this submission

- Main submission as above summarising the findings and recommendations.
- Appendix A. Correspondence with EPA and NSW Ombudsman(word)
- Appendix B. EPA responses to questions (pdf)
- Appendix C. Audit of the EPA responses (word)
- Appendix D. Analysis of the ONVR (word)