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ABSTRACT

The function of peer reviewing is one which Acoustical Consultants and other experts are called upon to undertake on a frequent basis. Having been involved in a large number of such reviews, both as the reviewer and reviewed, the author considers it a reasonable statement that the standard of professional reviewing varies widely and there is scope for major improvement.

This is probably not surprising as formal training for this function appears to be almost entirely absent from professional education for engineers and scientists in New Zealand, and possibly elsewhere.

This paper sets out what is seen as the principle objectives of peer reviewing and the commonly occurring defects evident in peer reviews which have come to the attention of the author, and proposes a set of principles to be followed with the objective of raising the performance and consistency of consultants in the carrying out of this function.

Introduction

Peer reviewing can take various forms: technical veracity of academic publications internal, within an organisation, or external for the purposes of ensuring that the document is fit for intended purpose.

This paper focuses primarily on the external reviewing of the work of other acoustical consultants when engaged by a third party, such as a local authority in relation to resource consent applications.

The primary functions of peer reviewing should be kept in the forefront of the reviewers mind when under-taking this task, and that the reviewing process is of limited utility if it becomes sidetracked by motives other than those of serving that primary purpose.

The authors experience in this regard is that the standard of reviewing in New Zealand is of variable quality and that this is evident not only to other acoustical consultants, but also to members of other professions such as lawyers and planners who have to deal with the collected documentation and its ramifications, relating to resource consent applications and Environment Court appeals for example.

The poor quality of some reviews has reflected, and has the potential to continue to reflect detrimentally on the acoustical profession in New Zealand.

Objectives

It is considered that the primary objectives and duties of peer reviewing are as follows:

- To serve the purpose of the client in a professional, accurate and relevant manner.
- To ensure that the comments made are professional and accurate in regard to available technical knowledge.

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- To request further information from the subject reporter if justified.
- To support the conclusions of the original re-port (subject report) where appropriate to do so.
- To draw attention to defects in the subject re-port where relevant in an appropriate manner.
- To provide a review report which is relevant to the clients needs, is commensurate to the scale of the project and its potential effects, and is technically and practicably justifiable.

Notification To Author

When engaged to undertake a review, early notification should be provided to the author of the subject report that review is being undertaken so as accord with the requirements of the “Code of Ethics of The NZ Acoustical Society (1) and the IPENZ Code of Ethical Conduct (2).

This is a matter of good manners and civilised behaviour rather than having any technical basis. It gives the author an understanding that there may be challenges ahead and provides the opportunity to give consideration to issues which may have been addressed only briefly or considered unnecessary at the time of the writing of the original report (subject report). It also gives the author the opportunity to point out any restrictions in original brief

Requests for Further Information

Requests for further information in terms of section 92 of the RMA are common and in many cases have some justification.

Typical deficiencies which may need to be rectified in this regard include lack of information relating to:

- Noise sources
- Predicted noise levels
- Information relating to the existing

ambient noise environment

- Lack of overall assessment of potential noise effects.

However, such requests for further information do not always have rational basis in terms of the intended purpose of the peer review report. Such requests need to have a justifiable basis in terms of the reviewer's client's needs and on technical grounds.

Requests for further information that provide no useful additional information in relation to that required for the purposes of the assessment of noise effects for a resource consent application, are counter productive and add further cost to what is already an expensive RMA consenting process.

Before making such requests it is important to subject them to an examination on this basis to ensure that they are not merely an exercise in 'nitpicking' or 'oneupmanship', or for the purposes of extracting intellectual property from the author, or simply for gaining information not held by the reviewer.

It is useful to remember that unproductive requests of this type are typically seen as such by planners and lawyers, which does nothing for the reputation of the consultant involved. It also leaves the author of the original report with the unenviable task of attempting to defend the Acoustical profession in light of the perceived defects in one of its members.

Relevance To Clients Needs

Of primary importance, is to serve the reasonable needs and expectations of the client, provided that these needs are ethically sustainable and not merely commercial in nature. This involves not only appropriate technical examination of the subject report, but also to undertake this in a manner which is commensurate with the scale of the consent application.

Sustainability

Can the review report withstand rigorous examination when viewed from the point of view of the purpose of the consent application? It

is not an infrequent occurrence for objections raised in review reports to dissolve when examined on this basis. This is not useful for either the local authority considering the application, or beneficial to the reviewer whose reputation becomes tarnished when this situation becomes evident.

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Length Of Review Report

The length of a review and amount of detail contained in it is seen to be governed by the following factors:

- Length of the subject report
- Adequacy of the subject report
- The significance of the potential noise effects which are being assessed
- Scale of the project being assessed

In cases where the review report is longer than the subject report this generally indicates defect in the review report or a failure to recognise the scale of the project under examination. It is not a proper purpose of a review to rework in detail the entire assessment.

If this is carried out it is not a review but second assessment which could come to different conclusions, but has not served the review process. In cases where a reviewer finds that the review they have produced is of excessive length in relation to the subject report, the reviewer should re-examine the review in light of the principles of peer review.

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Cost Effectiveness

This issue is related to that of the length of the review report. Although

not a technical one, it is nevertheless important from the point of view of the client, who has finally, to answer to the applicant for the cost incurred.

Also of course, such cost, in the end, lands on the consumer. Therefore, it is considered that there is a duty to undertake sufficient work to ensure an adequate review, but not to indulge in unnecessary detail and challenge merely for the purposes of egotism, point scoring and oneupmanship.

Inappropriate Objectives

This is the area where the authors experience has detected a tendency for some reviewers to lose sight of the primary objectives of the review process and where it is considered that the exercise of profession discipline is called for.

The Double Standard

What is becoming evident in an increasing number of cases of peer review reports, is the double standard being applied by reviewers. By this, it is meant that reviewers apply different standards to their own original reports as compared to their peer review reports.

This is evidenced by the production of an original report on a similar project which contains significant deficiencies, but when reviewing the reports of others, the same author demonstrates an expectation that such deficiencies should not be present in the reviewed report.

This display of the 'double standard' is evident, not only to the author of the subject report, but also to others involved in the resource consenting process and inevitably has a detrimental effect on the reputation of the Acoustical Consulting profession.

From the point of view of the author of the subject report this is a situation hard to accept without coming to conclusions of inadequacy in the reviewer, and again, can result in the author having to attempt to justify the actions of the reviewer in order to attempt to defend the reputation of the profession. It is considered advantageous to keep the consequences of this kind of attitude clearly in mind. Also, in order to ensure that peer review reports have the

character of rationality, such reports should themselves be internally reviewed in the originating organisation.

Significance of Identified Defects

Where a reviewer identifies a defect in a subject report it is vital to decide whether this apparent defect constitutes a matter of material significance and if its remedy would have any effect on the conclusions of the report.

For example, where noise level contours have been generated by means of computer modelling, experience has demonstrated that where this has been challenged on five inputs to a model, four of these made only a difference of the thickness of the contour line. Clearly, in this case the identification of the “defects” had no material significance and served no useful purpose. In fact, it had a detrimental effect in that it increased cost with no subsequent benefit.

Suggested Checklist

It is proposed that reviewers should subject requests for further information and the identification of perceived defects to the following check list in order to determine whether or not they are of consequence and can be justified in terms of the objectives identified above.

- Has the author been notified of the

impending review.

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- What is the purpose of the review and does the review serve that purpose.
- Where defects are identified:
- What is the significance of this defect
- Will the defect change the overall conclusions of the report
- Where omission is identified, has the reviewer included such information in their own reports.

“... In summary, a peer review report should be focused on the client’s needs and the intended function of the report. The big picture should be kept in mind and a report produced which is commensurate in all respects to the scale and potential noise effects of the proposed activity...”

- In the case of identified omissions and defects which will have no

bearing on the conclusions, if considered worthy, can these be dealt with by the review without further reference to the author of the subject report.

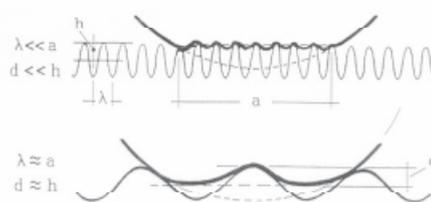
Can the review report support the conclusions of the subject report. If so, this should be stated.

- Will the review report be assessed by others as being relevant and appropriate to the purpose of the application.

Conclusions

In summary, a peer review report should be focused on the client’s needs and the intended function of the report. The big picture should be kept in mind and a report produced which is commensurate in all respects to the scale and potential noise effects of the proposed activity. In particular, the raising of inconsequential issues should be avoided at all costs.

Of major importance also, is the relevance and utility of review reports as viewed by other professions who deal with the consent application in the overall context. Where review reports are judged to be lacking or inappropriate in relation to the purpose of the application, this reflects detrimentally on all members of the acoustical profession in New Zealand. □



sound weighted standardized impact sound pressure
 levels structure born sound low frequency noise octave
 band time weighting sabin speech intelligibility
 noise reduction engineering sound level
 environment spectrum resource
 management SIL ambient sound
 insulation vibration rumble
 sound level meter noise map
 silencer emission speaker
 amenity value
 reverberation time noise reduction co-
 efficient Dntw speech transmission index dBA
 frequency band noise Hertz or Hz far field
 octave airborne sound impact sound pressure
 level immission plane wave SEL line source
 random incidence sound reduction index,
 R best practical option frequency
 spectrum noise exchange rate logarithm
 live room limiter calibration room
 criterion curves habitat structure
 sound power sound
 pressure level hiss free field Ctr articulation
 class ambience Bel acoustics environment
 assessment structural analysis apparent sound
 reduction index resonance natural frequency
 flow kinetic measurement prediction signal
 processing threshold shift shadow zone
 transducer wavelength narrow band
 overtone reflection percentile
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