

Proceedings of the Institute of Acoustics

ACCREDITATION, CALIBRATION AND RESOURCES

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Laboratory accreditation against the requirements of ISO Guide 25 and EN 45001 is a mature system for giving confidence in calibration and test data. NAMAS assesses, accredits and monitors calibration and testing laboratories to these internationally recognised criteria. The reports or certificates issued by NAMAS accredited laboratories provide assurance that the specified methods and procedures have been followed and that measurements are traceable to national or international standards.

Assessment is carried out by trained assessors with experience of the technical discipline being assessed. Laboratories seeking accreditation will need to:

- * have established a quality management system which has been formalised into a quality assurance manual and demonstrate that it is suitable to the operation of the particular organisation. This will have encompassed the essential requirements of the model quality assurance scheme described in the ISO 9000 series of documents
- * demonstrate the technical competence of all laboratory staff and ensure their continued satisfactory performance
- * show that laboratory staff are meeting in full the requirements laid down for the specific test
- * demonstrate that equipment has been calibrated in a manner that is traceable to national standards, is properly maintained and, where applicable, used in a suitable environment.

The modern acoustics laboratory possesses a wide range of measuring equipment. Traditional sound level meters and filters are generally built to comply with international standards but full verification against these standards is time consuming and may be particularly difficult where embedded software is involved. Other equipment used in the measurement process may be so complex that calibration or verification facilities are not readily available.

Such issues present difficulties for laboratories wishing to test to the relevant standards, and also for NAMAS who are required to ensure that equipment used is calibrated to the extent necessary and traceable to national standards, wherever possible through a NAMAS accredited calibration laboratory, so that confidence may be placed in the quality of the measurement. For the laboratory seeking to meet the calibration demands of the NAMAS accreditation standard there is (as yet) no clear guidance on how to proceed or what will satisfy NAMAS without undue strain on limited resources.

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Where the concept of traceability of measurement is not applicable but the instrument plays an important role in the testing/measuring process what constitutes satisfactory evidence that the instrument is performing its function correctly?

These issues are currently under discussion in NAMAS prior to preparation of a guidance document for existing and applicant acoustic testing laboratories. The lecture will outline the thinking of the working group tasked with preparing this document.