

# Proceedings of the Institute of Acoustics

## LIVING WITH NAMAS - THE VIEW OF AN ACCREDITED TESTING LABORATORY

A J Jones

Acoustical Investigation & Research Organisation Ltd (AIRO), Hemel Hempstead

### 1. BACKGROUND

AIRO was formed in 1958, offering services in the fields of consultancy and measurements in acoustics. The testing laboratory was opened in 1959 - the first commercial acoustics test house in the UK.

Naturally, the Company has always been committed to a high quality of service and when the National Measurement Accreditation Service was created, it was deemed appropriate to seek accreditation for both the Company's permanent test laboratory activities (NAMAS Category 0) and the site testing activities (NAMAS Category 1). After a period of preparation - covering a year or two - AIRO made its application and was accredited in 1987.

This paper outlines some of the experiences and procedures involved in acquiring and maintaining NAMAS accreditation.

### 2. INITIAL PREPARATION

It is a requirement of NAMAS that the arrangements for ensuring that the quality policy of the laboratory to be followed by its staff at all times is documented in a Quality Manual. This manual embraces all the important operational functions of the laboratory.

NAMAS publication M16 provides guidance for the preparation of the Quality Manual, covering the following headings:-

- 1 Quality Policy
- 2 Quality System
- 3 Organisation and Management
- 4 Quality Audit and Quality System Review
- 5 Equipment
- 6 Measurement Traceability and Calibration
- 7 Methods and Procedures for Calibration/Tests
- 8 Laboratory Accommodation and Environment
- 9 Handling of Calibration/Test Items
- 10 Records
- 11 Calibration Certificates, Test Reports and Test Certificates
- 12 Handling of Complaints and Anomalies
- 13 Sub-Contracting of Calibrations/Tests
- 14 Outside Support Services and Supplies
- 15 Site Security
- 16 Site Testing

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The Quality Manual contains mandatory instructions for the operation of the laboratory. In support, a number of other manuals and registers are maintained in order to provide the detailed procedures or records.

In AIRO's case, these include the following:-

- Test Procedures Manual
- Calibration Procedures Manual
- Calibration Records
- Equipment Register
- Equipment Fault Register
- Site Register
- EC Type Approval Site Certification Register
- Repeatability Register
- Verification Sample Register
- Staff Training Register
- Reports/Certificates Layout Manual
- Register of Forms
- Document Register
- Complaints Register
- Health & Safety Procedures Manual
- Account Facilities Register

### 3. ASSESSMENT & SURVEILLANCE

Having prepared these manuals - a task incidentally involving many man months - the application is made. The Quality Manual is forwarded to NAMAS, along with key manuals such as calibration and test procedures.

The day of the assessment arrives and there's a thorough grilling on the Company's various procedures, investigation of job files, internal audit records, witnessing of tests and so on. At the end, there is the summing up and the verdict.

The story doesn't end of course with attaining accredited status. There is a continuing programme of annual surveillance visits and every fourth year a reassessment exercise.

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Taking as an example our most recent surveillance visit, the day went something like this:

- 10.00 am Site visit to witness sound insulation testing
- 10.30 am Thorough review of Quality Manual checking compliance with NAMAS Accreditation Standards, particular focus was on:
  - Audits
  - Company's Annual Review
  - Equipment Lists
  - Staff records
  - Calibration
  - Review of technical procedures
- 4.30 pm Closing Meeting:
  - presentation of forms detailing any non-compliances,
  - together with a summary of findings and an agreed date by which any non-compliances have to be rectified

### 4. CONCLUDING REMARKS

Well, are NAMAS accredited testing laboratories (and their clients) beneficiaries of improved efficiency and quality as a result of all this or are the laboratories the victims of a beaurocratic process.

On the one hand there's no doubt that it involves a considerable amount of time, effort and cost to implement the required formal quality regime. In the small firm typical of acoustic testing this can be quite a significant additional overhead compared with a less formal regime which might apply in a non-accredited laboratory.

On the other hand, there is the benefit of the fully documented quality system which ensures that all laboratory staff know their duties and responsibilities and, through the associated audit and review system, assurance and feedback is provided on the day to day operation of the laboratory. It is also valuable to have available a confidential external professional view on the laboratory's working practices. Overall, the client should be fully confident about the accuracy of test data provided by a NAMAS Testing Laboratory.

Adding a commercial footnote, whereas BS 5750 seems to have become a byword for quality assurance, the rather more stringent and importantly the more appropriate NAMAS scheme seems less well known in the relevant market-place. It would appear that there remains an important marketing job to be done, namely the education of potential clients about the virtues of using NAMAS laboratories when requiring independent testing.

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