

Proceedings of the Institute of Acoustics

COMPETENCE TO ASSESS WORK PLACE NOISE EXPOSURE

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INTRODUCTION

The purpose of this paper is to describe how the Institute of Acoustics Certificate of Competence course trains course delegates to carry out Workplace Noise Assessments. Full details of the course; aims and objectives, syllabus and regulations are given in a booklet published by the Institute.

The course is designed to help employers meet the requirements of the Noise at Work Regulations 1989, and of Regulation 4 in particular. Regulation 4 states that:

Every employer shall, when any of his employees is likely to be exposed to the first action level or above or to the peak action level or above, ensure that a competent person makes a noise assessment which is adequate for the purpose -

- (a) of identifying which of his employees are so exposed; and
- (b) of providing him with such information with regard to the noise to which those employees may be exposed as will facilitate compliance with his duties under regulations 7, 8, 9 and 11.

It is not possible to define precisely the amount of knowledge experience or training that the competent person must have. This is because there are an extremely wide range of possible assessment situations which can occur in different work places and which will vary enormously in complexity. The simplest situation might involve a single employee working in one fixed location in a constant noise level whereas a complex situation might involve several employees working on a variety of different noisy machines with no fixed work pattern. The level of knowledge and training required will obviously vary. Noise Guide 1 (paragraphs 33-36) suggests that for any given assessment situation a competent person is one who is capable of carrying out an assessment meeting the objectives implicit in Regulation 4 and restated in paragraph 21 of Noise Guide 1, i.e.

- (a) identify all workers likely to be so exposed
- (b) provide enough information to enable appropriate action to be taken

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CARRYING OUR WORKPLACE NOISE ASSESSMENTS

Carrying out an assessment involves obtaining information about noise levels in the workplace and about the times for which employees are exposed to these noise levels (i.e. about work patterns) and combining these two items of information in order to produce an estimate of each employee's personal daily noise exposure level. Therefore in order to carry out such an assignment competently different sorts of information and knowledge are required:

- (a) knowledge about noise and how it is measured
- (b) knowledge of the Noise at Work Regulations
- (c) knowledge of the workplace and its operations and procedures
- (d) the ability to communicate and to write a clear simple report giving the results of the assessment.

NOISE ASSESSMENTS ON THE CERTIFICATE COURSE

As mentioned earlier there are an almost infinite variety of assessment situations. It is obviously impossible for the course to cover all of these - some noise consultants who spend a lot of time doing assessments still find a challenge in meeting new situations. The course aims to introduce delegates to as wide a variety of situations as possible in the time available, and to equip them with a set of techniques which they can adapt to new situations. Examples of methods which might be discussed include the use of survey grids, noise level contours, 'spot' noise level samples, activity samples (i.e. short term Leq measurements of particular activities), static samples (i.e. Leq measurements at particular locations), use of dose meters.

About one and a half days of the course is devoted to assessments. At NEScot for example this time would be spent: selecting and using various types of sound level meter, carrying out an assessment in the College wood machine workshop, visiting one (or two, if time permits) local factories with noise problems, discussing case studies about carrying out assessments, discussing the writing of assessment reports.

THE PRACTICAL TEST

This test is designed to check that at the end of the course the delegate is able to carry out a noise assessment of a very simple situation and produce a satisfactory report. The practical part of the test takes approximately half an hour. In this time the candidate has to set up his/her sound level meter, obtain all the necessary information from the "employee" and take appropriate and accurate noise readings. This part of the test is closely observed by a tutor who has a checklist of essential points about both the use of the sound level meter and about the gathering of essential information. Fifty per cent of the marks are allocated for this part of the test. The candidate has then to prepare a brief report which should take about an hour. Fifty per cent of the marks are given for the report.

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THE ASSESSMENT REPORT

The quality of the assessment will be judged by the quality of the report. If the employer is not provided with information which he/she can understand and act upon then the report is unsatisfactory, no matter how detailed the work on which it is based and no matter how much data about noise levels is included. The report should clearly present the information required in paragraph 21 of Noise Guide 1 and in Regulation 4 itself i.e. who is at risk, and what should be done about it.

In the Certificate of Competence course no attempt is made to impose a report writing style, because each organisation may have its own in-house style, but a checklist has been produced of possible information which should be included in the report. (The word possible is included because bearing in mind the variety of different assessment situations some of the information will be necessary in some situations but not in others.) A copy of the checklist is attached.

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I.O.A. CERTIFICATE OF COMPETENCE COURSE in WORKPLACE NOISE ASSESSMENT

NOISE ASSESSMENT REPORTS

Assessment Reports should contain the following information:

OBJECTIVE OF THE ASSESSMENT e.g. - to measure noise levels in
- to estimate personal daily noise
- exposure levels of employees in....
- to make recommendations with regard to employers duties under Noise at Work Regulations, 1990.

BASIC INFORMATION: Date, time, location, name of person carrying out the survey.

INFORMATION ABOUT THE WORKPLACE:

Types of machines, processes, work patterns.
Machine operating conditions, Map or Plan showing layout of workplace, dimensions and relevant construction details about the workplace.
Information about hearing protectors and any existing noise control measures in use.

INFORMATION ABOUT NOISE MEASUREMENT EQUIPMENT (including calibrators)
type, serial number, service and calibration history.

DETAILS OF THE NOISE MEASUREMENT PROGRAMME

Types of measurement - 'spot' levels (if steady)
- Leq (if time varying)
- activity samples, static samples, dose meter readings
microphone positions and details of the noise measurement samples (where, when, what etc.)
calibration details
Any limitations of the survey - e.g. machines not working etc.

THE RESULTS of the noise measurements (clearly presented)

ASSESSMENT OF PERSONAL DAILY NOISE EXPOSURE LEVELS of employees
Calculations of LEP,d levels based on NOISE LEVELS and EXPOSURE TIMES.

Identification of employees at risk, above action levels, and areas to be designated as Hearing Protection Zones.

RECOMMENDATIONS (NB Recommendations should relate to the particular workplace, and not be standard phrases taken from the Regulations)

- Actions necessary to comply with the Noise and Work regulations.
 - Advice about Noise Reduction measures.*
 - Advice about suitable and effective Hearing Protectors.
- (Records of assessments, and actions taken to be kept. The need for further surveys in the future).

- * Simple and obvious noise control measures e.g. of a 'good housekeeping' nature, should be included in the assessment Report. More detailed advice may well be require a further survey and report.

SUMMARY OF CONCLUSIONS and RECOMMENDATIONS

APPENDICES - GLOSSARY OF TERMS: dB(A), Leq, LEP,d etc.
- SUMMARY OF NOISE AT WORK REGULATIONS.