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Control of Noise at Work Regulations 2005

Peter Milner, Senior Consultant, Bureau Veritas. Peter has had 30 years of experience, first of all in Consultancy, followed by some time working for Local Authorities, then into private Industry and, finally, now back into consultancy once more!

Peter introduced his subject by describing the history of Noise Legislation from 1975, when it was an implicit requirement of the Health and Safety at Work Act, through to the latest EU Physical Agents (Noise) Directive and the UK 2005 Regulations. Since 1999, the Management Regulations have enhanced worker protection with tighter requirements to carry out Health Surveillance.

The Control of Noise at Work Regulations 2005 (ConAWR) changes in philosophy.

Away from

- Noise assessment as the end point
- Excessive quantification of noise exposure
- Reliance on hearing protection

Towards

- Control of Noise Risks Managed through a risk assessment and prioritised, five-stage action plans.

The CoNAWR tightens the legal requirements in relation to noise by lowering the first (lower) and second (upper) level exposure action values, and introducing a "limit value"

- Lower exposure action value $L_{EP,d}$ = 80 dB(A) p_{peak} = 112 Pa
- Upper exposure action value $L_{EP,d}$ = 85 dB(A) p_{peak} = 140 Pa
- The above action values apply <u>without</u> the use of hearing protection
- Exposure limit value $L_{EP,d}$ = 87 dB(A) p_{peak} = 200 Pa
- The above limit value takes into account the attenuation provided by the individual hearing protection worn by the worker
- NB the corresponding 12-hour exposure levels are 2dB less than the above and where the exposure varies widely from day-day, the employer may make use of weekly noise exposure levels.

One of the features of the new Regulations is that the general duty on employers is to lower the noise risks to the lowest level possible. This applies, even if it is below the first Action Level! The aim should always be to control risk by technical and organisational means, applying good practice, industry standards and known solutions!

Surprisingly, the HSE do not expect employers to obtain measured justification to start a risk assessment initiative. The time-honoured yardstick of shouting at 2 metres (> 80 dBA) or 1 metre (>90dBA), is enough to take action. Above the first action level, PPE should be made available to employees and they should be made aware of the risks resulting from exposure to noise by training and information. The requirements if the upper exposure action level is exceeded are more demanding: -

- **Establish and implement a programme of technical and/or organisational measures to reduce the exposure to noise**
  - **take account of technical progress**
  - **the availability of suitable noise control measures**
  - **eliminate at source, or reduce to a minimum, the risks arising from exposure to noise.**

Mark with appropriate signs all work areas where workers are likely to be exposed to noise levels in excess of the Upper Exposure Action Level

- **areas shall also be delimited, and access restricted, where this is technically feasible and the risk of exposure so justifies.**

- **Provide employees with suitable hearing protection and ensure it is worn effectively**

Provide health surveillance (which shall include audiometric testing)

- **employees to have their hearing checked by a suitably qualified medical practitioner**
- **individual health records to be maintained for each employee who undergoes audiometric testing.Where evidence of hearing damage is identified, employees will be examined by a doctor.**Peter added the comment that consideration should also be given to situations when employees walked from a quiet area, through a noisy area, to a second quiet area. It may be necessary to re-route such journeys to achieve adequate segregation, or to provide acoustic shielding to protect all pedestrians in the noisy area.

If the upper exposure limit is exceeded, the employer shall: -

- Take immediate action to reduce the noise exposure to below the Exposure Limit Levels. This may necessitate closing part of the workplace for a short time.
- Identify all the reasons why the over exposure occurred
- Amend the prevention and protection measures in order to prevent a recurrence

In general, the principles of prevention are: -

- Use other working methods which reduce exposure
- Choose work equipment emitting least possible noise, taking account of the work to be done
- Design and layout of workplaces, workstations and rest facilities
- Inform/train employees in the correct use of work equipment to minimise their exposure to noise
- Reduce noise by technical means
- Maintain work equipment, the workplace and workplace systems
- Limit duration and intensity of exposure to noise
- Appropriate work schedules with adequate rest periodsPeter added that the HSE compiled a lot of guidance before the Regulations came into force and backed this up with training for specialist inspectors. The following industrial sectors are covered: -

Agriculture, Air Transport, Ceramics, Concrete and Cement, Docks, Construction, Engineering, Food and Drink, Foundries, Glass, Motor Vehicles Repair, Plastics, Paper and Printing, Rubber, Stone Masons, Textiles and Woodworking.

Secretary's Note

These are a couple of useful links to the HSE website: -

http://www.hse.gov.uk/pubns/noisindx.htm
http://www.hse.gov.uk/lau/lacs/59-2.htm

Peter then turned to the practical measures needed to carry out an effective noise assessment survey. The pre-requisite is for a Competent Person, starting with: -

- Tour of the premises
- Make notes about noisy machines
- Ask workers about their work patterns
- Are there any machines that are not working
- Determine shift patterns
- Assess the riskSupplemented with information on: -
- Workers' locations - static or mobile
- Work patterns - time spent in each area
- Noise types - steady continuous
  - continuous - variable
  - continuous - cyclic
  - intermittent
  - impulsive

Sound measurements are usually taken with a Sound Level Meter for consistent sound and working patterns, the design of which can vary in sophistication, according to the requirements of the survey. Where noise sources vary during the work cycle, or where the task takes the operative between areas of changing noise levels, it is better to use a Dosimeter fitted

to the person. The recommendations from the survey should be considered by operations managers before being accepted as Actions, so that they take account of any plans for investment. Their cost-effectiveness should be reviewed in practice and the improvements should be: -

- Keeping up with good practices or the standard for noise control in the industry
- Looking for alternative processes, equipment and/or working methods which would make the work quieter or mean that people are exposed for a shorter time
- Taking noise into account when selecting tools and machinery

Typical Noise Control techniques are: -

- Machines designed to eliminate the risk at source
- Damping of enclosures and trunking
- Placement of screens and barriers – typically 10-15dB(A) reductions
- Enclosures – 35-40 dB(A) reduction
- Vibration isolation mounts to reduce sound transmission into structures
- Refuges for staff in noisy workshops
- Silencers in ductwork
- Acoustic damping on internal walls and ceilings to absorb sound and cut down on reflections to other parts of buildings

In trying to manage hearing protection it is important to: -

- Ensure Hearing Protection Zones are correctly located, well marked at all possible entrances, and repeated at positions within the area.
- Ensure signs are in good condition and clean.
- Ensure supplies of earplugs are available where necessary.
- Assess suitability of any contractor supplied hearing protection.
- Measure noise emissions from hand tools, label if >80 dB(A) at ear.
- Measure noise emissions from temporary equipment, set up additional Hearing Protection Zones if required.
- Ensure supervisors are enforcing the wearing of hearing protection where required.Peter described a method of calculating Assumed Protection levels for use when specifying Ear Defenders and referred Members to the HSE Guidance L108 for the completed instruction on how to apply this in order to comply with the Exposure Limit Value of 87 dB(A).

He added that it was equally important to keep the noise assessment up-to-date by

- Acting as a custodian of the noise assessment package.

- Re-measuring spot noise levels at the plot plan points when these may have changed, and enter these in the noise assessment package.
- Keeping the job/trade titles and occupancy factors up to date.
- Carrying out focussed dosimetry to confirm calculated noise exposures.
- Reviewing the noise data every two years to decide whether a new full survey is required.
- Reporting back to the Safety Reps and workforce on the noise, and particularly on any improvements, trends or lessons learned.
- Using as a tool to support noise exposure improvement

Members' Questions

Peter Evans asked if these latest changes were not just a "sledgehammer to crack a nut"? Peter Milner replied that the 5dB(A) reduction would give cover to an additional 1.7 million workers!

Ben Phillips of Tweeds Project Services enquired if there was any requirement to carry out health surveillance at any set frequency. Peter said that nothing was specified and suggested that in time the courts would establish a reasonable frequency.

Graham Dunn of the Dudley Group of Hospitals asked about establishing a Baseline exposure level, to be followed by an annual review. Peter replied that Company Policy should set the approach and added that this would apply to pre-employment checks. In reply to another question, he said that there were no data for the Construction industry.

Alex White of the Pel Group described a situation where his employees might be adequately protected by their company's risk controls, but an employee from another contractor might start work, which raised the exposure levels too much. Ed Friend gave the answer by saying that it was the role of the Principal Contractor (under MHSWR) to ensure co-operation between employers on the site to ensure safety of all workers! Ed went on to say, in reference to another issue raised, that HSE Inspectors always enforced the law to published standards, so that employers would not be expected to achieve a higher level of protection. He added that assessments should take note of the ***actual time*** that workers were exposed to the operation of a noisy machine, as this was often a lot less than the overall time for the job!

Malcom Rabett of Gleeson Construction asked what advice was available about the application of Section 61 Notices by Local Authorities. Peter answered that they were usually concerned about what plant and equipment was going to be used, such as piling rigs. The Secretary clarified that fact that these notices were related to Noise Pollution of the environment, rather than hearing protection for the workers.

As there were no more questions, the chairman closed the meeting with thanks to Peter and the meeting responded with a very enthusiastic round of applause!

Comparison of Directives		
Provision	**1986 Directive**	**New Directive**
Reduce risk	To lowest level reasonably practicable	Eliminated at source or reduced to a minimum
Assess and where necessary measure exposure	Where noise experienced	Where are, or are likely to be, exposed to risk
Assessment period	8 hours	8 hours or one week
Provide information and training to workers and reps	85 dB(A) and 200 Pa	80 dB(A) and 112 Pa
Health surveillance		Provisions to ensure appropriate health surveillance where risk indicated
Workers' right to hearing checks / audiometric testing	85 dB(A) by or under the responsibility of a doctor	85 dB(A) by or under the responsibility of a doctor. To be available at 80 dB(A) and 112 Pa where risk indicated
Make hearing protection available	85 dB(A) and 200 Pa	80 dB(A) and 112 Pa
Hearing protection to be worn	90 dB(A) and 200 Pa	85 dB(A) and 140 Pa selected to eliminate risk or reduce to a minimum
Limit on exposure		87 dB(A) and 200 Pa at the ear
Programme of control measures	90 dB(A) and 200 Pa	85 dB(A) and 140 Pa
Delimit areas, put up signs and control access	Where reasonably practicable 90 dB(A) and 200 Pa	85 dB(A) and 140 Pa where technically feasible and the risk of exposure so justifies
Workers reps to receive information	85 dB(A) and 200 Pa (assessments) 90 dB(A) and 200 Pa(programmes of measures)	Refers back to Directive 89/391/EEC
Derogations	Weekly exposure averaging; From hearing protection where health and safety risk	From hearing protection where health and safety risk
Transitional periods		5 years from exposure limitation for shipping 2 years from implementation for music and entertainment sectors
Non-application	Sea and air transport	Conflict with public service activities