

## Noise Monitoring and Risk Assessment

- Part 1 Survey details.
- Part 2 Record of noise measurements for either individual items of equipment or specific work locations.
- Part 3 Control measures required to reduce the likelihood of noise related ill-health.
- Part 4 Action plan to implement the necessary controls identified as part of the risk assessment. All controls **MUST** be brought to the attention of anyone who is exposed to the noise from the equipment surveyed.

### Part 1 Survey Details

|                         |  |
|-------------------------|--|
| Location                |  |
| Date and time of survey |  |
| Survey carried out by   |  |
| Other persons present   |  |
| Reason for survey       |  |
| Equipment used          |  |
| Test run time           |  |
| Date of calibration     |  |

All measurements are taken with a personal noise dosimeter that will be attached at a suitable location near to the operator's ear.

Operators will work as per their normal working routine and the dosimeter will be returned at the end of their working day.

**Part 2 Noise Survey and Exposure**

|  | Noise Survey Data             |                    |        |  | Exposure      |                 |   |
|--|-------------------------------|--------------------|--------|--|---------------|-----------------|---|
| Ref No.  | Location or Item of Equipment | Noise Level (LAeq) | LcPeak | LCeq<br>(Include noise type - continuous, transient, impulsive etc.) | Exposure Time | Exposure Points | Equivalent Lep,d for this location or item of equipment |
| 1  |                               |                    |        |  |               |                 |   |
| 2  |                               |                    |        |  |               |                 |   |
| 3  |                               |                    |        |  |               |                 |   |
| 4  |                               |                    |        |  |               |                 |   |
| 5  |                               |                    |        |  |               |                 |   |
| 6  |                               |                    |        |  |               |                 |   |
| <b>Cumulative Lep,d for exposure to multiple noise sources</b> |                               |                    |        |  |               |                 |   |

**Name of person(s) exposed to harmful noise:**

**Team or Service:**

**Job Role(s):**

**Hours worked:**

**Any pre-existing hearing or noise related conditions? Yes / No**

*If 'yes' then a person specific risk assessment must be completed with the employee for the work that is to be carried out. The Corporate Health and Safety Team can help with the completion of the assessment along with advice from the Council's Occupational Health provider.*

**Additional Information**

$L_{Aeq}$  and  $L_{Cpeak}$  measurements are required to help decide on the level of risk and what control measures would be suitable and sufficient.

Although not required to determine risk,  $L_{Ceq}$  will be needed to determine whether hearing protection is suitable if it has been specified as a control measure as part of the risk assessment ( $L'A=L_{Ceq}-SNR+4$ )

( $L'A$  is the actual level of sound at the ear when hearing protection is in use and needs to be between 70dB and 80dB; SNR is Single Number Rating and is provided by hearing protection manufacturers)

Noise type (High, Medium or Low frequency) is only required for noise with a peak pressure ( $L_{Cpeak}$ ) greater than 135dB(C); this is also needed to assess whether hearing protection is suitable.

### Part 3 - Control Measures

|    | Control Measures  | Yes | No |
|----|---|-----|----|
| 1  | Is hearing protection mandatory?<br>- Hearing protection zones clearly marked. (attach zone plan)                           |     |    |
| 2  | Is hearing protection recommended but not compulsory?   |     |    |
| 3  | Can noise source be eliminated?   |     |    |
| 4  | Is additional maintenance required to help reduce noise levels such as lubrication, tightening, cleaning etc. of equipment? |     |    |
| 5  | Can equipment be modified to reduce noise at source by using dampeners, silencers etc.?                                     |     |    |
| 6  | Can inherently quieter components be selected e.g quieter fans?   |     |    |
| 7  | Can the equipment be isolated (moved away from people at work)?   |     |    |
| 8  | Can the equipment be enclosed?  |     |    |
| 9  | Is there a noise refuge area available? Is one needed?  |     |    |
| 10 | Can absorptive material be used to deaden noise in the workplace?   |     |    |
| 11 | Do employees need training and/or information on noise risks in the workplace?  |     |    |
| 12 | Is health surveillance required?  |     |    |

#### **Additional Information**

Lower Exposure Action Value – 80dB (A) (personal exposure averaged over a day) or 135dB (C) Peak sound pressure.

Upper Exposure Action Value – 85dB (A) (personal exposure averaged over a day) or 137dB (C) Peak sound pressure.

**Hearing Protection Zone** – Any area where noise levels exceed the Upper Exposure Action Value of 85dB MUST be designated as a 'Hearing Protection Zone' and marked with appropriate signage. Within these areas the wearing of hearing protection will be compulsory, even though exposure may only be for a short period of time.

**Hearing Protection** – Hearing protection can be used as an additional control measure once noise has been reduced as far as is reasonably practicable by other means; or as an interim measure whilst other noise reduction is being arranged.

Hearing protection provided must be suitable for the levels and type of noise individuals are exposed to, must not 'over protect' the wearer and must be made available on request if noise levels exceed the Lower Exposure Action Value of 80dB.



**Health Surveillance** – Health surveillance is required for those who are exposed at an  $L_{ep,d}$  of 85dBA or above. It should also be provided for those exposed at an  $L_{ep,d}$  of 80dBA who are known to be vulnerable to noise related hearing loss.

**Additional information relating to control measures including description/map of dedicated hearing protection zones if required:**

DRAFT

**Part 4 - Action Plan**

| Action required  | Who by | Due date | Action completed |
|--|--------|----------|------------------|
| <p style="font-size: 48px; opacity: 0.3; transform: rotate(-30deg);">DRAFT</p> |        |          |                  |

**Risk Assessor:**

|             |  |                  |  |
|-------------|--|------------------|--|
| <b>Name</b> |  | <b>Signature</b> |  |
|-------------|--|------------------|--|

|  |  |                    |  |
|--|--|--------------------|--|
|  |  | <b>Date</b>        |  |
|  |  | <b>Review Date</b> |  |

## HSE Exposure Calculators and Ready-Reckoners

The noise exposure calculators can help work out the daily noise exposure, weekly noise exposures and estimate the performance of hearing protection.

The HSE web pages are below:

[Exposure calculators and ready-reckoners - HSE](#)

The noise exposure ready-reckoners, found via the same web link, also allow you to estimate daily or weekly noise exposure.

To use the daily exposure ready-reckoner you will need to know the levels of noise and durations of exposure which make up a person's working day.

For weekly noise exposure, appropriate where somebody's noise exposure varies markedly from day to day, you will need to know the daily noise exposure for each day in the working week.

### Daily Exposure Ready-Reckoner Example

| Sound pressure level, $L_{Aeq}$ (dB(A)) | Duration of exposure |       |        |        |      |     |      |      |      |      |
|---|----------------------|-------|--------|--------|------|-----|------|------|------|------|
|   | 2 min                | 5 min | 15 min | 30 min | 1 h  | 2 h | 4 h  | 8 h  | 10 h | 12 h |
| 120                                     | 1300                 |       |        |        |      |     |      |      |      |      |
| 110                                     | 130                  | 330   | 1000   | 2000   |      |     |      |      |      |      |
| 105                                     | 42                   | 105   | 315    | 625    | 1250 |     |      |      |      |      |
| 100                                     | 13                   | 34    | 100    | 200    | 395  | 790 | 1600 |      |      |      |
| 98                                      | 8                    | 22    | 60     | 125    | 250  | 500 | 1000 | 2000 |      |      |
| 97                                      | 7                    | 17    | 50     | 100    | 200  | 395 | 790  | 1600 | 2000 |      |
| 95                                      | 4                    | 10    | 32     | 65     | 125  | 250 | 500  | 1000 | 1250 | 1500 |
| 94                                      |                      | 8     | 26     | 50     | 100  | 200 | 395  | 790  | 1000 | 1200 |
| 93                                      |                      | 7     | 20     | 40     | 80   | 160 | 315  | 630  | 790  | 950  |
| 92                                      |                      | 5     | 16     | 32     | 65   | 125 | 250  | 500  | 625  | 750  |
| 91                                      |                      | 4     | 12     | 26     | 50   | 100 | 200  | 400  | 500  | 595  |
| 90                                      |                      |       | 10     | 20     | 40   | 80  | 160  | 315  | 395  | 475  |
| 89                                      |                      |       | 8      | 16     | 32   | 65  | 125  | 250  | 315  | 375  |
| 88                                      |                      |       | 6      | 12     | 26   | 50  | 100  | 200  | 250  | 300  |
| 87                                      |                      |       | 5      | 10     | 20   | 40  | 80   | 160  | 200  | 240  |
| 86                                      |                      |       | 4      | 8      | 16   | 32  | 65   | 125  | 155  | 190  |
| 85                                      |                      |       |        | 6      | 13   | 26  | 50   | 100  | 125  | 150  |
| 84                                      |                      |       |        | 5      | 10   | 20  | 40   | 80   | 100  | 120  |
| 83                                      |                      |       |        | 4      | 8    | 16  | 32   | 65   | 80   | 95   |
| 82                                      |                      |       |        |        | 6    | 13  | 26   | 50   | 65   | 75   |
| 81                                      |                      |       |        |        | 5    | 10  | 20   | 40   | 50   | 60   |
| 80                                      |                      |       |        |        | 4    | 8   | 16   | 32   | 40   | 48   |
| 79                                      |                      |       |        |        |      | 6   | 13   | 26   | 32   | 38   |
| 78                                      |                      |       |        |        |      | 5   | 10   | 20   | 26   | 30   |
| 75                                      |                      |       |        |        |      |     | 5    | 10   | 13   | 15   |

| Daily noise exposure $L_{EP,d}$ (dB(A)) |     |
|---|-----|
| 320000                                  | 120 |
| 32000                                   | 110 |
| 10000                                   | 105 |
| 3200                                    | 100 |
| 2000                                    | 98  |
| 1600                                    | 97  |
| 1000                                    | 95  |
| 790                                     | 94  |
| 630                                     | 93  |
| 500                                     | 92  |
| 400                                     | 91  |
| 315                                     | 90  |
| 250                                     | 89  |
| 200                                     | 88  |
| 160                                     | 87  |
| 125                                     | 86  |
| 100                                     | 85  |
| 80                                      | 84  |
| 65                                      | 83  |
| 50                                      | 82  |
| 40                                      | 81  |
| 32                                      | 80  |
| 26                                      | 79  |
| 20                                      | 78  |
| 10                                      | 75  |

Total exposure points (sum of points from individual exposure components)

|  |  |
|--|--|
|  | Above upper exposure action value ( $L_{EP,d}$ 85 dB(A)) |
|  | Above lower exposure action value ( $L_{EP,d}$ 80 dB(A)) |
|  | Below lower exposure action value ( $L_{EP,d}$ 80 dB(A)) |

