# Risk Assessment
# RA058 – Noise & Vibration at Work – Use of an Impact Wrench

| ABI Equipment Ltd | Creation Date: 13/01/2022 |
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| Noise & Vibration at Work – Use of an Impact Wrench | |

| Main Hazards are: | |
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| Permanent noise induced hearing loss caused from noise produced from workshop tools | Temporary noise induced hearing loss caused from noise produced from workshop tools |
| Tinnitus caused from noise produced from workshop tools | Extreme tiredness due to tinnitus induced sleep problems |
| Accidents caused when an employee cannot hear safety instructions due to excessive noise | Accidents as the employee is unable to hear moving equipment or fire alarms. |
| Accidents caused when noise is a constant distraction | Tools causing injury when parts are ejected due to the vibration |
| Carpel Tunnel Syndrome (CTS) | Hand-arm vibration (HAV) |
| **Persons / Property affected** | |
| All Employees working outside the welding bay shutter door | Visitors to the building |
| All Employees moving around the workshop | Neighbours in adjoining buildings |

| Summary of Noise Assessment where measurement is over 80dB | | | |
|---|---|---|---|
| Location | Measurement (15m) | Distance from door | |
| CML Inspection May 2023 | From 93 dB(A) | To 114 dB(A) | |
| Summary of Vibration Assessment if the HAVS ELV is above 5.0m/s² | | | |
| Vibration figure m/s2 | From 5.89 m/s² | To 7.42 m/s² | |
| Time to reach EAV | From 54 mins | To 1 hr 26 mins | |
| Time to reach ELV | From 3 hrs 38 mins | To 5 hrs 46 mins | |

| **Assessment of Risk**: | Severity | 3 | X | Likelihood | 4 | = Risk | 12 |
|---|---|---|---|---|---|---|---|

| Control Measures already in Place | PPE Required | |
|---|---|---|
| 1. This risk assessment should be read in conjunction with RA044 General Noise at Work and RA043 Vibration at work | Safety helmets | ☐ |
| 2. Before use the employee should look up the EAV (Exposure Action Value) and the ELV (Exposure Limit Value) of the impact wrench being used. | Hi-Vis Jackets | ☐ |
| 3. If there is a choice the Lowest vibration/decibel level impact wrench should be used wherever possible | Safety footwear | ☒ |
| 4. The impact wrench should not be used for more than 20 minutes at a time. Tasks should be alternated to reduce exposure to noise & vibration | Eye protection | ☒ |
| 5. The impact wrench should preferably be used in the welding bay where possible. If the tool is used outside the welding bay, then screens and warning signed should be used to protect other staff from the noise | Dust masks | ☒ |
| 6. Consideration should be given as to whether a more suitable tool with lower noise and vibration levels can be used instead | Ear plugs | ☒ |
| 7. The impact wrench must be suitable for the job in hand | Earmuffs | ☒ |
| 8. The impact wrench must be inspected before use for any signs of damage or wear and tear. If damaged it should not be used | Gloves | ☒ |
| 9. Employees to record their exposure to noise and vibration on a task-by-task basis in the books provided. | Protective overalls | ☒ |
| 10. Gripping hard or applying force with the impact wrench should be avoided | Gauntlets | ☒ |
| | Harnesses | ☐ |
| | Breathing apparatus | ☒ |
| | Face Masks | ☒ |

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| 11. All hearing protection PPE must be suitable to the task in hand and should be inspected for damage and wear before use. If damaged the hearing protection should be disposed if and replaced. | |
| 12. All equipment should be regularly serviced and maintained, and the maintenance should be planned in advance. | |
| 13. Ensure the impact wrench must have been PAT tested in the last 12 months | |

| **Assessment of Risk**: | Severity | 3 | X | Likelihood | 3 | = Risk | 9 |
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| **Additional Controls required** | **PPE/Equipment** |
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| Employees to be trained to understand Vibration and noise at work | |
| Employees trained to notice the first signs of HAV and hearing impairment.<br>Employees trained to notice the first signs of HAV<br>• Tingling & numbness in fingers<br>• Not being able to feel things with fingers<br>• Loss of strength in hands<br>• Tips of fingers going white then red with pain when cold and wet<br>• Unable to hear what other employees are saying<br>• People reporting TV and radio turned up too loud<br>• Ringing in the ears or tinnitus | |
| The impact wrench should be assessed every 12-18 months for vibration and noise. | |
| The employee must be adequately trained and competent to use the s impact wrench | |
| Newly trained staff should be supervised until a suitable level of competency has been achieved | |

| **Assessment of Risk**: | Severity | 3 | X | Likelihood | 2 | = Risk | 6 |
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| **Approval and Review** | | |
|---|---|---|
| Prepared by: | Cathy Sheehan | 13/01/2022 |
| Updated by | Ash Soliman | 04/10/2024 |
| Review by: | Ash Soliman | 04/10/2024 |

| **RISK RATING = L x S** | | | **Hazard Severity (S)** | | | | |
|---|---|---|---|---|---|---|---|
| | | | 1 | 2 | 3 | 4 | 5 |
| | | | Negligible | Slight | Moderate | High | Very High |
| **Likelihood (L)** | 1 | Very Unlikely | LOW | LOW | LOW | LOW | LOW |
| | 2 | Unlikely | LOW | LOW | LOW | MEDIUM | MEDIUM |
| | 3 | Possible | LOW | LOW | MEDIUM | HIGH | HIGH |
| | 4 | Likely | LOW | MEDIUM | HIGH | HIGH | HIGH |
| | 5 | Very Likely | LOW | MEDIUM | HIGH | HIGH | HIGH |

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| **Likelihood** | |
| 1. Very Unlikely | A freak combination of factors would be required for an accident/incident to occur |
| 2. Unlikely | A rare combination of factors would be required for an accident/incident to occur |
| 3. Possible | Could happen when accidental factors are present but otherwise unlikely |
| 4. Likely | Not certain to happen but an additional factor may result in an accident/incident |
| 5. Very Likely | Almost inevitable that an accident/incident would occur |
| **Hazard Severity** | |
| 1. Negligible | Negligible injury, no absence from work |
| 2. Slight | Minor injury requiring first aid |
| 3. Moderate | Injury leading to a lost time accident |
| 4. High | Involving a single person with a serious injury / death |
| 5. Very High | Multiple persons with serious injury / death |
| **Outcomes** | |
| LOW | Score (1-6) May be acceptable. Annual Review to see if risks can be reduced further |
| MEDIUM | Score (8-10) Identify controls must be identified or specific method statement required |
| HIGH | Score (12-25) Task **must not** proceed. Senior Management to consider if the risks can be reduced by purchase of additional training, additional equipment, additional staff, additional signage, safe system of work, permit to work or radical changes in method. |

| **Version Number** | **RA058-1024-1.0** |
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| Document location | M:\Health & Safety\Risk Assessments |
| Prepared by | Cathy Sheehan |
| Reviewed by | Ash Soliman |
| Next review Date | October 2027 |