

## Noise Exposure Monitoring at Aircraft Maintenance Services

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### Structured Abstract

**Background:** Noise is a physical hazard that can threaten human health and that will lead to diseases in the population. The Department of Occupational Safety and Health (DOSH) Malaysia statistics from 2018-2022, reported that industrial sectors with the most confirmed cases is manufacturing on occupational noise-related hearing disorders (ONRHD).

**Methods:** Noise level area monitoring was conducted by using Larson Davis Sound Level Meter Level following the requirement for IEC 61672, Class 1 instrumentation. Then, personal noise monitoring was taken by using Cirrus Research plc dosimeter at 4 different workers for their entire work shift.

**Results:** Area noise monitoring was carried out to determine the noise level in working area G, H, I and J of aircraft maintenance services. The results show, there are 4 out of 24 machines in working area G, H, I and J produce noise level that exceeding the excessive noise of 82 dBA (>82 dBA) hence it is not in compliance with OSH (Noise Exposure) regulation 2019. Next is, personal noise monitoring was conducted among selected workers in working area G, H, I and J that exposed to noise. All four workers' noise monitoring in working area G, H, I and J were not exceeding excessive noise of 82 dBA and all the workers were using Hearing Personal Protective (PHP). Lastly, relationship between area noise monitoring and personal noise monitoring was conducted by using Microsoft Excel. Data analysis of Pearson correlation between relationship of area noise monitoring and personal noise monitoring was analyse. This study revealed that there was a insignificant correlation ( $r = -0.984$   $p = 0.3989$ ) between area noise monitoring and personal noise monitoring.

**Conclusion:** In conclusion, the noise level coming from noise source in working area G, H, I and J of aircraft maintenance services have been found and documented through area monitoring and personal monitoring. Pearson correlation between area noise monitoring and personal noise monitoring is insignificant correlation ( $r = -0.984$   $p = 0.3989$ ).

**Keywords:** NIHL, noise monitoring, aircraft maintenance services

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