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Noise Assessment of Potential Machine-Generated Noise at the Faculty of Engineering, UiTM Shah Alam, Selangor

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Structured Abstract

Background: Noise pollution refers to the presence of unwanted or disturbing sounds in the workplace that can have adverse effects on people. The purpose of this study is to identify the sound pressure level released by machines and equipment that are used in facilities at the Faculty of Engineering Uitm Shah Alam. To develop noise mapping of facilities and to make sure equipment is used to produce noise levels that comply with Occupational Safety and Health (Noise Exposure) Regulations 2019.

Methods: Noise level area monitoring was conducted by performing noise measurement. By using Sound Level Meter, Noise Calibrator and measuring tape to monitor and identify noise generated from noise source. In compliance with the 2019 Occupational Safety and Health (Noise Exposure) Regulations, the noise level produced by machines was compared to the noise exposure limit. Noise mapping was created to show work areas and noise exposure levels on a general workplace layout design. Area monitoring was done to measure the noise level in five machines areas.

Results: This study shows that the highest noise level was produced by Metal Cutter Machine. The noise levels generated by Metal Cutter Machine reaches its peak at 104.1 dB(A) and reaches it minimum level at 96.1 dB(A). The results indicate that all the machines area generated noise level that exceeded noise exposure limit which is above 85 dB(A) except area where Hydraulic Tilt Shear located. Four equipment areas were in the high noise zone which is red colour zone, while one was in the moderate noise zone which is yellow colour zone.

Conclusion: In conclusion, the findings of this study indicated that noise levels generated by various machinery at the Faculty of Engineering UiTM Shah Alam using a Sound Level Meter was identified. The noise level obtained at the laboratory and workshop was compared with the regulations. The noise mapping in the laboratory and workshop at the Faculty of Engineering at UiTM Shah Alam was developed to visualise the workspace and noise level exposure in relation to the general workplace design.

Keywords: Sound Level Meter, Noise Measurement, Noise Mapping, Noise Level, Laboratory

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