

## **Occupational Noise Exposure on Workers at Construction Site Industry in Bukit Jelutong, Shah Alam, Selangor**

Amira Ilyana Mohd Norddin, Zitty Sarah Ismail

### **Structured Abstract**

**Background:** The issue of noise that arises during construction from building operations or construction sites, receives less attention. Construction site workers are subjected to potentially dangerous noise levels. The purpose of this study was to determine the level of occupational noise exposure among workers in working area at construction site. The study also aimed to identify the personal noise exposure among the workers at construction site at specific working areas. Additionally, to develop noise mapping of the working areas into noise zones.

**Methods:** This study conducted area monitoring, personal monitoring, and a walk-around survey method. Noise exposure levels during working hours are assessed using a Sound Level Meter (SLM) for area monitoring and walk-around survey. Personal monitoring is conducted with selected workers using a dosimeter to determine daily noise exposure. The results from the walk-around survey are used to categorize working areas into noise zones. The collected data on noise exposure is then compared with sound pressure levels according to the Occupational Safety Health (Noise Exposure) Regulation 2019.

**Results:** In conclusion, the occupational noise exposure levels in the construction site working areas, particularly in Blocks A and B, consistently surpass both the Noise Exposure Limit (NEL) of 85 dBA and the excessive noise level of 82 dBA. The monitored noise levels range from 90.1 dB(A) to 105.8 dB(A), indicating that all equipment at the site exposes employees to high noise levels during work hours. Personal exposure monitoring for two workers recorded levels of 86.1 dBA and 92.2 dBA, both exceeding the excessive noise level of 82 dBA. Noise mapping of Blocks A and B highlights the need for signage designating them as hearing protection zones due to excessive noise generated by various tools and machinery.

**Conclusion:** The results show that all equipment of noise source that being assessed during the assessment of area monitoring, personal monitoring and noise mapping is exceeds the excessive noise of noise exposure level is 82 dBA daily and noise exposure level (NEL) of 85 dBA. The noise mapping results indicate that all areas of the noise source needed to have a warning signage of hearing protection zones.

**Keywords:** Occupational noise exposure, area monitoring, personal monitoring, noise mapping, construction site.

---

\*Correspondence: [zitty@uitm.edu.my](mailto:zitty@uitm.edu.my)

Faculty of Applied Sciences, Universiti Teknologi MARA, Shah Alam, Malaysia