

Vibration Exposures in Industries

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Abstract

As the industrial operations get mechanized, the rate of profit generation increases and so do the rate of occupational hazards. This study deals with one such oft neglected hazard – Occupational Vibration. The present study was carried out in two different industries with a view to determine the Whole Body Vibration (WBV) exposure of the Heavy Earth Moving Machinery (HEMM) operators in Iron ore mines and machinery vibration in a thermal power plant of India, during the active phase of production. The Vibration Dose Value (VDV) for dumper operators in Iron ore mine were observed to be $10.81 \pm 3.44 \text{ m/s}^{7/4}$ with 14.62% readings on the higher side. This indicated that the WBV exposure is not dependent on the type of the mine but is dependent on the working condition and type of HEMM in operation. In case of the thermal power plant the Peak Sound Pressure Level (PSPL) values for all sources were observed to be in the range of 104.9 - 124.3 dB(L). This was well within the specified Bureau of Indian Standards (BIS). However, maximum PSPL was observed near the Exciter i.e. 124.3 dB(L). It can therefore be concluded that such high levels were capable of damaging the equipments and industrial RCC structures.