# RINGKASAN

Berdasarkan Peraturan Menteri Ketenagakerjaan Republik Indonesia No.5 tahun 2018 tentang Keselamatan dan Kesehatan Kerja serta Lingkungan Kerja, bahwa kebisingan adalah suara yang tidak dikehendaki yang bersumber dari alat-alat proses produksi dan atau alat-alat kerja yang pada tingkat tertentu dapat menimbulkan gangguan pendengaran, adapun untuk batas maksimal tingkat kebisingan di angka 85 dBA.

Tujuan dari penelitian ini menghitung intensitas kebisingan pada area *central maintenance, utilities* dan *mobile equipment maintenance* serta menganalisis adanya hubungan antara intensitas kebisingan terhadap kelelahan kerja.

Berdasarkan hasil penelitian, tingginya intensitas kebisingan dari alat-alat mempengaruhi kelelahan pekerja, pengaruh lain seperti bentuk bangunan serta denah didalamnya berpengaruh terhadap suara yang dihasilkan, seperti menggema, mendengung ataupun memantul. Pada area *central maintenance* mencapai intensitas 86,4 dbA dan 87,5 dbA. Pada area *utilities* mencapai intensitas 84,8 dbA dan 80,4 dbA. Pada area *mobile equipment maintenance* mencapai intensitas 75,3 dbA dan 81,3 dbA. Beberapa pekerja diindikasikan mengalami kelelahan, dengan mengacu pada data peningkatan tekanan darah setelah bekerja sebanyak 17 pekerja, peningkatan denyut nadi setelah bekerja sebanyak 16 pekerja, berdasarkan indeks masa tubuh sebanyak 16 pekerja dapat dikategorikan mudah mengalami kelelahan, berdasarkan perhitungan konsumsi oksigen, sebanyak 8 pekerja akan mudah mengalami kelelahan karena beban kerja yang dilakukan serta berdasarkan perhitungan konsumsi oksigen maksimal, sebanyak 21 pekerja akan mudah mengalami kelelahan serta diharapkan untuk melatih kondisi fisik dan pernafasan. Namun pada perhitungan *cardiovascular load* belum ditemukannya adanya kelelahan. Serta dilakukan juga uji statistik *chi-square* dari intensitas kebisingan terhadap peningkatan tekanan darah sistole dan diastole, didapatkan hasil nilai *chi-square* hitung sebesar 24,0 pada sistole dan 21,0 pada diastole nilai tersebut lebih kecil daripada *chi-square* tabel sebesar 33,92 pada sistole dan 28,86 pada diastole. Berdasarkan syarat penerimaan hipotesis, apabila *chi-square* hitung lebih kecil daripada *chi-square* tabel, maka H0 ditolak dan Ha diterima, yang berarti bahwa kebisingan berpengaruh terhadap peningkatan darah sistole dan diastole.

# *SUMMARY*

*Based on the Regulation of the Minister of Manpower of the Republic of Indonesia No. 5 of 2018 concerning Occupational Safety and Health, Work Environment, noise is an unwanted sound originating from production process tools and/or work tools which at a certain level can cause hearing loss and the maximum noise level limit is 85 dBA.*

*The purpose of this study is to calculate the noise intensity in the central maintenance, utilities and mobile equipment maintenance areas and to analyze the relationship between noise intensity and work fatigue.*

*Based on the research results, the high intensity of noise from the equipment affects worker fatigue, other influences such as the shape of the building and the layout inside affect the sound produced, such as echoing, buzzing or bouncing. In the central maintenance area, the intensity reaches 86.4 dbA and 87.5 dbA. In the utilities area, the intensity reaches 84.8 dbA and 80.4 dbA. In the mobile equipment maintenance area, the intensity reaches 75.3 dbA and 81.3 dbA. Several workers are indicated to be experiencing fatigue, referring to data on increased blood pressure after work of 17 workers, increased pulse rate after work of 16 workers, based on body mass index, 16 workers can be categorized as prone to fatigue, based on the calculation of oxygen consumption, 8 workers will easily experience fatigue due to the workload carried out and based on the calculation of maximum oxygen consumption, 21 workers will easily experience fatigue and are expected to train their physical and respiratory conditions. However, in the calculation of cardiovascular load, fatigue has not been found. And also conducted a chi-square statistical test of noise intensity on increasing systolic and diastolic blood pressure, obtained the results of the calculated chi-square value of 24.0 in systolic and 21.0 in diastolic, the value is smaller than the chi-square table of 33.92 in systolic and 28.86 in diastolic. Based on the hypothesis acceptance requirements, if the calculated chi-square is smaller than the chi-square table, then H0 is rejected and Ha is accepted, which means that noise has an effect on increasing systolic and diastolic blood.*