

ABSTRACT

At PT. Perkebunan Nusantara VIII there is one workstation named enzymatic oxidation area. Activities performed on the workstation is to move the filtered tea leaves that are on the trolley to the conveyor belt oven to go into the process of drying the tea leaves. In the transferring process of this tea leaves, the worker's body posture is still not good because the existing posture allows the risk and also excessive fatigue. Complaints and risks that may occur with this condition is evidenced by the calculation of Nordic Body Map (NBM) questionnaire that has a final score of 58, which means it may need improvement. The design of new material handling equipment is one way to anticipate the occurrence of risk. The design of this material handling equipment using ergonomic function deployment approach with the aim that this tool is in good value in terms of its ergonomics, and using EASNE principle (Effective, Safe, Healthy, Comfortable, Efficient). After obtaining the material handling equipment design, then simulated to find out the value of LBA, OWAS, RULA, and PEI. Based on the simulation results, it was obtained that PEI score when using proposed material handling equipment has a smaller score than the existing condition, which originally PEI score of 2.35 to 1.00. By comparing in terms of ergonomics, based on the results of the simulation can be said that the proposed material handling equipment can improve the worker's posture so as to reduce the risk that may occur.

Keywords: Ergonomic Function Deployment, Material Handling Equipment, Nordic Body Map, EASNE, PEI.