

## **ABSTRAK**

*PT. Purnama Siwi Mandiri merupakan perusahaan manufaktur skala kecil yang bergerak di bidang engineering supplier, construction engineering, dan fabrication. Dari kelima stasiun kerja di PT. Purnama Siwi Mandiri diketahui bahwa operator welding memiliki tingkat skor kelelahan yang paling tinggi dan mengindikasikan diperlukan adanya tindakan segera. Berdasarkan pokok permasalahan yang ditemukan, fokus penelitian ini yaitu memperbaiki sistem kerja operator welding dimana dalam proses menganalisa postur kerja operator welding digunakan 4 metode ergonomi: Nordic Body Map (NBM), Quick Exposure Check (QEC), Ovako Work Posture Analysis System (OWAS) dan Rapid Entire Body Assessment (REBA). Dan untuk meminimalisir keluhan fisik yang terjadi, dirancang 3 desain meja pengelasan yang ergonomis untuk dijadikan alternative. Pemilihan desain meja menggunakan metode AHP menghasilkan keputusan tipe meja moveable yang terpilih. Pasca implementasi dilakukan, diketahui bahwa keluhan fisik yang dirasakan operator sudah sangat berkurang berdasarkan hasil skor Nordic Body Map berada pada kategori 1 dimana mengindikasikan minim resiko cedera. Hal tersebut dikarenakan postur kerja yang ideal, nampak pada perubahan hasil Analisa QEC, REBA, dan OWAS. Dimana ketiga metode tersebut menunjukkan penurunan yang signifikan. Dari metode QEC, penurunan terbesar sebanyak 6.17 %, metode REBA dari kategori 4 menjadi kategori 2, serta metode OWAS dari kategori 4 menjadi kategori 1.*

**Kata Kunci:** *Ergonomis, Nordic Body Map, Postur Kerja, Welding*

## **ABSTRACT**

*PT. Purnama Siwi Mandiri is a small-scale manufacturing which is engaged in supplier engineering, construction engineering, and fabrication. From the five workstations, it has known that the welding operator has the highest level of fatigue score and indicates that immediate action is needed. Based on the main problems found, the focus of this research is to improve the welding operator work system wherein the process of analyzing the welding operator's work posture four ergonomics methods are used: Nordic Body Map (NBM), Quick Exposure Check (QEC), Ovako Work Posture Analysis System (OWAS) and Rapid Entire Body Assessment (REBA). And to minimize physical complaints that occur, three ergonomic welding table designs are designed to be used as alternatives. The final result through selection of the table design using the Analytical Hierarchy Process (AHP) method is a moveable type. After the implementation, it has known that the physical complaints felt by the operator have been greatly reduced based on the result of the Nordic Body Map score being in category 1 which indicates a minimal risk of injury. This is due to the ideal work posture, as seen in the changes in the changes in the result of the QEC, REBA, and OWAS analysis. Where three methods show a significant decrease. From the QEC method, the largest decrease was 6.17%, the REBA method from category 4 into category 2, and the OWAS method from category 4 into category 1.*

**Keywords:** *Ergonomic, Nordic Body Map, Work Posture, REBA*