ANALISIS TATA LETAK FASILITAS DAN ALIRAN ENERGI PABRIK MI KUNING

(Studi Kasus Pabrik Mi Kuning Sinar Matahari Pariaman)

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ANALISIS TATA LETAK FASILITAS PRODUKSI DAN ALIRAN ENERGI PABRIK MI KUNING

(Studi Kasus Mi Kuning Sinar Matahari Pariaman)

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ABSTRAK

Tata letak fasilitas menjadi aspek penting yang akan memengaruhi tingkat produktivitas dan efektifitas kegiatan produksi. Audit energi merupakan penghitungan total penggunaan energi pada proses produksi. *Output* audit energi yaitu dapat melihat potensi penghematan energi pada proses produksi. Tata letak fasilitas pabrik mi kuning Sinar Matahari tergolong belum efektif dan efisien sehingga memengaruhi jumlah energi yang dikeluarkan pada proses produksi. Pada penelitian ini dilakukan perancangan ulang tata letak fasilitas pabrik mi kuning Sinar Matahari menggunakan metode *Activity Relationship Chart* (ARC) dan *Total Closesness Rating* (TCR), serta menghitung aliran energi pada proses produksi, yang bertujuan untuk menganalisis tata letak fasilitas produksi dan jumlah konsumsi energi pada proses produksi mi kuning di pabrik Sinar Matahari. Hasil penelitian menunjukkan pada tata letak fasilitas produksi mi kuning Sinar Matahari pada beberapa departemen memiliki jarak antara departemen yang berlebih sehingga memengaruhi jarak dan waktu perpindahan. Energi yang dikeluarkan pada proses pembuatan mi kuning pada pabrik Sinar Matahari sebesar 43.151.675.872,4 kJ. Distribusi konsumsi energi *input* berdasarkan aktivitas produksi energi yang dikeluarkan adalah sebagai berikut : pada pengadukan sebesar 2.920.051 kJ, pada penggilingan sebesar 415.826,60 kJ, pada pengukusan sebesar 15.624.098 kJ, pada penggulungan sebesar 35.147 kJ, pada penjemuran sebesar 43.132.570.000 kJ, dan pada pengemasan sebesar 11.128,60 kJ. Perancangan tata letak fasilitas rekomendasi produksi pada pabrik mi kuning Sinar Matahari terdapat pengurangan jarak dan waktu perpindahan per departemen, tata letak awal sebesar 211 m menjadi 196 m pada tata letak rekomendasi, sedangkan waktu perpindahan pada tata letak awal sebesar 375 detik menjadi 349 detik pada tata letak rekomendasi.

Kata kunci : mi kuning, tata letak, aliran energi, ARC, TCR

ANALYSIS OF PRODUCTION FACILITY LAYOUT AND ENERGY FLOW OF YELLOW NOODLE FACTORY

(Case of Study Sinar Matahari Pariaman Yellow Noodle Factory)

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ABSTRACT

Facility layout is an important aspect that will affect the level of productivity and effectiveness of production activities. An energy audit is a calculation of the total energy usage in the production process. The output of an energy audit is to see the potential for energy savings in the production process. The facility layout of the Sinar Matahari yellow noodle factory is not effective and efficient, which affects the amount of energy expended in the production process. In this study, a redesign of the facility layout of the Sinar Matahari yellow noodle factory using the Activity Relationship Chart (ARC) and Total Closesness Rating (TCR) methods was carried out, as well as calculating the energy flow in the production process, which aims to analyze the layout of production facilities and the amount of energy consumption in the yellow noodle production process at the Sinar Matahari factory. The results showed that the layout of Sinar Matahari's yellow noodle production facilities in several departments had excessive distance between departments, affecting the distance and time of movement. The results showed that the layout of the Sinar Matahari yellow noodle production facility in several departments had excessive distances between departments that affected the distance and time of movement. The energy expended in the process of making yellow noodles at the Sinar Matahari factory amounted to 43,151,675,872.4 kJ. The distribution of input energy consumption based on the energy production activities expended is as follows: in stirring by 2,920,051 kJ, in grinding by 415,826.60 kJ, in steaming by 15,624,098 kJ, in rolling by 35,147 kJ, in drying by 43,132,570,000 kJ, and in packaging by 11,128.60 kJ. The layout design of the production recommendation facility at the Sinar Matahari yellow noodle factory has a reduction in distance and displacement time per department, the initial layout is 211 m to 196 m in the recommendation layout, while the displacement time in the initial layout is 375 seconds to 349 seconds in the recommendation layout.

Keywords: yellow noodles, layout, energy flow, ARC, TCR