

CHARISMA INTAN ENGGAR PANJARIKA NPM 19.03.3.1.1.00085. Usulan Perbaikan Desain Mesin Dengan Metode Function Analysis System Technique (FAST) Untuk Meningkatkan Utilisasi dibawah bimbingan **Khoirul Hidayat, S.T., M.T.** dan **Ir. Muhammad Fakhry, M.P.**

ABSTRAK

PT Garam unit Camplong memiliki kapasitas produksi 10 tph (ton per hour), dalam setiap bulan memproduksi 6.020 ton garam. Namun, realita di lapangan perusahaan ini tidak dapat mencapai kapasitas produksi 10 tph. Karena perusahaan memiliki 4 output produk garam dengan kapasitas masing-masing, garam kasar kemasan 1,7 tph, garam halus kemasan 1,6 tph, garam karung 50 kg 4,7 tph, dan garam jumbo bag 2 tph, hanya ada satu line yang jalan yaitu garam karung 50 kg 4,7 tph. Tujuan penelitian ini yaitu mengidentifikasi faktor penyebab tidak tercapainya kapasitas produksi, mendapatkan usulan perbaikan dan biaya untuk mencapai kapasitas 10 tph. Tahap informasi, diperoleh faktor penyebab dari tiga line yang tidak jalan, yaitu line 1,7 tph karena spesifikasi produk yang belum sesuai, line 1,6 tph karena belum memiliki izin edar, line 2 tph karena produk tidak terserap oleh pasar. Tahap analisis fungsi, mengidentifikasi fungsi dari 3 line yang tidak jalan. Lalu memberikan usulan perbaikan di tahap kreatif, dimana usulan perbaikan diberikan untuk ketiga line yang tidak jalan, line garam kasar yaitu membuat spesifikasi produk baru dari hasil kuesioner AHP, line garam halus yaitu investasi mesin bagging 50 kg (4,7 tph), line jumbo bag yaitu Modifikasi bagging 1 ton menjadi 50 kg. Hasil tahap evaluasi yaitu ketiga usulan perbaikan dapat diterapkan guna mencapai kapasitas 10 tph. Hasil studi kelayakan (feasibility study) untuk usulan line jumbo bag 1 ton yaitu dengan biaya pembuatan Rp145.200.000, dan line halus kemasan dengan dengan biaya investasi Rp409.855.629, dikatakan layak untuk diteruskan karena hasil 4 analisis finansial sesuai dengan kriteria.

Kata Kunci : *Analytic Hierarchy Process, FAST Diagram, Feasibility Study*

CHARISMA INTAN ENGGAR PANJARIKA NPM 19.03.3.1.1.00085. Proposed Improvements to Machine Design Using the Function Analysis System Technique (FAST) Method to Increase Utilization under the guidance of **Khoirul Hidayat, S.T., M.T.** dan **Ir. Muhammad Fakhry, M.P.**

ABSTRACT

PT Garam unit Camplong has a production capacity of 10 tph (tons per hour), producing 6,020 tons of salt each month. However, the reality in the field is that this company cannot reach a production capacity of 10 tph. Because the company has 4 salt product outputs with each capacity, 1.7 tph packaged coarse salt, 1.6 tph fine packaged salt, 4.7 tph 50 kg sack salt, and 2 tph jumbo bag salt, there is only one line that road, namely 50 kg sack salt 4.7 tph. The purpose of this research is to identify the factors that cause production capacity not to be achieved, to get suggestions for improvements and costs to reach 10 tph capacity. In the information stage, the causal factors were obtained from the three lines that did not work, namely the 1.7 tph line because the product specifications were not suitable, the 1.6 tph line because it did not have a distribution permit, and the 2 tph line because the product was not absorbed by the market. The function analysis phase identifies the functions of the 3 lines that don't work. Then make suggestions for improvements in the creative stage, where improvement suggestions are given to the three lines that don't work, the coarse salt line, namely making new product specifications from the results of the AHP questionnaire, the fine salt line, namely investing in a 50 kg (4.7 tph) bagging machine, the jumbo line bag namely Modification of 1 ton bagging to 50 kg. The results of the evaluation phase are that the three proposed improvements can be implemented to achieve a capacity of 10 tph. The results of the feasibility study for the proposed 1 ton jumbo bag line, namely with a production cost of IDR 145,200,000, and a fine packaging line with an investment cost of IDR 409,855,629, are said to be feasible to continue because the results of 4 financial analysis are in accordance with the criteria.

Keywords: Analytic Hierarchy Process, FAST Diagram, Feasibility Study