ABSTRAK

PT. SOUTH EAST ASIA PIPE INDUSTRIES (SEAPI) berdiri pada tahun 1996 sebagai unit PT Bakrie & Brothers Tbk. dan merupakan anak perusahaan PT. Bakrie Pipe Industries yang telah bergelut dalam bidang yang sama sejak 1959. PT. SEAPI memulai produksi komersialnya pada Juli 1999. Dengan didukung teknologi mesin yang modern, pengelolaan yang efisien dan efektif, serta sumber daya manusia yang inovatif, SEAPI berhasil memproduksi pipa baja dengan kualitas dunia dan memenuhi standar internasional. Pada saat proses produksi pipa baja dengan mesin las spiral (HSAW) sering terjadi penyimpangan kinerja mesin dari proses produksinya. Penelitian menggunakan metode OEE. OEE merupakan formula matematis berupa perkalian *availability*, *performance efficiency* dan *rate of quality*. Tujuan penelitian menentukan nilai *six big losses,* OEE pada mesin HSAW di PT. SEAPI. Objek dalam penelitian ini yaitu mesin HSAW yang merupakan mesin las spiral. Hasil pengukuran efektivitas menunjukan bahwa rata-rata nilai *availability* yaitu 77,28%, *performance efficiency* 54,84% dan *rate of quality* 70,56% sehingga OEE rata-rata bernilai 34,46%. Nilai OEE tersebut belum memenuhi syarat standar OEE ideal yakni sebesar 85%. Kemudian dilakukan usulan perbaikan untuk kontribusi yang terdapat nilai terbesar pada *losses*. Hasil pengukuran menunjukan bahwa *idling and minor stoppage* memiliki pengaruh terbesar pada efektivitas dan yang terakhir *reduced speed*. Berdasarkan analisis dengan menggunakan metode FMEA didapat nilai RPN terbesar pertama yaitu 448 pada jenis kegagalan menurunnya kecepatan proses pengelasan (*reduced speed*), terbesar kedua yaitu dengan nilai 392 pada jenis kegagalan mesin tidak beroperasi (*idling and minor stoppage*), terbesar ketiga yaitu dengan nilai 392 pada jenis kegagalan menurunnya kecepatan proses pengelasan (*reduced speed*).

Kata kunci: OEE, *Six Big Losses,* FMEA

ABSTRACT

*PT. SOUTH EAST ASIA PIPE INDUSTRIES (SEAPI) was established in 1996 as a unit of PT Bakrie & Brothers Tbk. and is a subsidiary of PT. Bakrie Pipe Industries which has been in the same field since 1959. SEAPI started its commercial production in July 1999. With the support of modern machine technology, efficient and effective management, and innovative human resources, SEAPI has succeeded in producing steel pipes of world quality and meet international standards. During the production process of steel pipes using a spiral welding machine (*HSAW*) there are often deviations in the performance of the machine from the production process. The research uses the* OEE *method.* OEE *is a mathematical formula in the form of multiplication of availability, performance efficiency and rate of quality. The research objective is to determine the value of six big losses,* OEE *on the* HSAW *machine at PT. SEAPI. The object of this research is the* HSAW *machine which is a spiral welding machine. The results of the effectiveness measurement show that the average availability value is 77.28%, performance efficiency is 54.84% and the rate of quality is 70.56% so that the average* OEE *is 34.46%. The* OEE *value does not meet the requirements of the ideal* OEE *standard, which is 85%. Then make suggestions for improvements for the contribution that has the largest value in losses. The measurement results show that idling and minor stoppage have the greatest influence on effectiveness and the last is reduced speed. Based on the analysis using the* FMEA *method, the first largest RPN value is 448 for the type of failure, the welding process speed is reduced (reduced speed), the second largest is with a value of 392 for the type of engine failure not operating (idling and minor stoppage), the third largest is with a value of 392. on the type of failure the reduced speed of the welding process (reduced speed).*

Keywords: OEE*, Six Big Losses,* FMEA