ABSTRACT

Labuan power plant is one of the power plants that supply electricity to the Java-Bali 150kV system. At the power plant, the availability and continuity of supply of electric power is very major, given the growing consumer power increased rapidly thus causing disruption or loss of units stop production due to equipment malfunction (de-rating) should be minimized. From the operation data in 2013, recorded the largest contributor unit 1 de-rating due to frequent disturbances at medium speed mill machine (MSM) HP963. The purpose of this study was to determine the performance of first-line maintenance (FLM) MSM HP963 machine, identifying the main causes de-rating Labuan power plant, and provide recommendations increasing the performance of FLM. Two method, pareto diagram and fish bone diagram used to analyze interference and de-rating, while the method of problem solving using 5W +1 H. The results showed that performance appraisal FLM in 2013, was increasing in the first semester while in second semester even was decreased. The analysis also produced six factors cause disruption MSM machine HP963 to cause disruption de-rating namely pyrite gate, lube oil system, shut off dampers, coal pipe, as well as many varieties of pyrite voice. From above analysis, then compiled recommendations FLM performance improvements by applying the seven steps of autonomous maintenance that is: return the equipment as early condition; eliminate sources of dirt, the constraints are difficult to clean and light; prepare a tentative standard for cleaning, lubricating, inspection, and re-tightening (CLIR); general inspection; revised standards and measuring work performance, revised standard best practice patterns FLM and autonomous maintenance with continuous improvement.

Key words: TPM, Autonomous maintenance, First line maintenance, Performance, De-rating

ABSTRAK

PLTU batu bara merupakan salah satu tipe pembangkit tenaga listrik yang dioperasikan oleh PT. IP, anak perusahaan PT. PLN. Salah satu PLTU batu bara yang dikelola PT. IP adalah PLTU Labuan yang berkapasitas 2 x 300 MW. Pada tahun 2013, unit 1 menjadi penyumbang terbesar terjadi kerugian akibat kehilangan produksi listrik *(derating).* Penyebab utama derating unit 1 disebabkan oleh seringnya gangguan mesin *medium speed mill* (MSM) HP963. Mesin MSM HP963 merupakan salah satu peralatan utama PLTU batu bara yang berfungsi untuk menggiling bahan bakar batu bara menjadi serbuk batu bara dengan ukuran dan temperatur sesuai spesifikasi ruang bakar *boiler*. Untuk mengurangi *derating* akibat mesin MSM HP963, dilakukan analisa terhadap pola *maintenance* pada mesin tersebut yang mengasilkan data rata-rata jumlah *maintenance* per bulan tahun 2013, diketahui bahwa pola *first line maintenance* (FLM) merupakan yang terendah. Sedangkan dari penilaian kinerja FLM di tahun 2013, pada semester 1 terjadi peningkatan namun pada semester 2 malah terjadi penurunan. Analisa juga menghasilkan enam faktor penyebab gangguan mesin MSM HP963 sehingga penyebab derating yaitu gangguan *pyrite gate, lube oil system, shut off damper, coal pipe,* kelainan suara serta banyak *pyrite*. Dari pembahasan diatas disusun rekomendasi peningkatan kinerja FLM dengan menerapkan tujuh langkah *autonomous maintenance*, salah satu pilar TPM, yang dibeberapa penelitian terdahulu terbukti mampu meningkatkan availibilitas & kinerja mesin serta moralitas pegawai.

Kata kunci : TPM, *Autonomous maintenance*, *First line maintenance*, Kinerja, *Derating*