Analisis Penerapan Lean Manufacturing melalui Value Stream Mapping pada Proses Manufacturing Aneka Produk Emas Unit Bisnis Pengolahan dan Pemurnian Logam Mulia PT. ANTAM TBK = Analysis of Lean Manufacuring Implementation Through Value Stream Mapping in Manufacuring Process of Various Gold Products in the Precious Metals Processing and Refining Business Unit PT ANTAM TBK

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Abstrak

Proses manufacturing di Biro Manufaktur UBPP LM mulai weighing sampai dengan engraving terdapat beberapa aktifitas non value added seperti pencatatan/rekaman produksi secara manual, belum adanya standarisasi dan digitalisasi yang menyebabkan loss time serta operator memerankan peranan penting didalam proses produksi sehingga apabila terjadi kesalahan dapat menyebabkan ketidaksesuaian produk yang dihasilkan. Tujuan penelitian ini mengidentifikasi dan mengeliminasi berbagai pemborosan yang ada dalam proses manufacturing menggunakan Value Stream Mapping (VSM). Pendekatan VSM untuk memahami manufacturing emas yang dipetakan dalam current state map serta improvement yang diterapkan pada future state map dengan tujuan menghilangkan pemborosan, mengurangi cycle time dan akhirnya akan meningkatkan produktifitas. Cycle time di proses weight check, cleaning, press dan gravir untuk tiap varian gramasi masih di atas 7,2 detik per pcs (takt time) dengan target harian 9,000 keping. Usulan improvement dibuat dalam skenario prioritas untuk menghilangkan waste ataupun non value-added activities seperti re-layout equipment, peremajaan peralatan punch, press, gravir. Dengan penerapan improvement yang diusulkan maka dampak yang diberikan yaitu penurunan cycle time terhadap takt time. Dari perbandingan cycle time sebelum dan sesudah improvement menunjukan penurunan signifikan terhadap cycle time dengan persentase yaitu 68,76% jika usulan improvement diterapkan semuanya.

.....The manufacturing process at the UBPP LM Manufacturing Bureau from weighing to engraving includes several non-value-added activities such as manual recording/recording of production, the lack of standardization and digitization which causes time loss and operators play an important role in the production process which means if an error occurs it can result in defect of the manufactured products. Using Value Stream Mapping (VSM), the purpose of this study is to identify and eliminate various wastes in the manufacturing process. VSM approach to comprehend the manufacturing gold mapped in the current state map as well as improvements applied to the future state map in order to eliminate waste, reduce cycle time, and potentially increase productivity. Cycle time in the weight check, cleaning, press, and gravir processes for each gram variant is still greater than 7.2 seconds per piece (takt time) with a daily production goal of 9,000 pieces. In priority scenarios, proposed improvements are implemented to eliminate waste or non-value-added activities such as the re-layout of equipment, the refurbishment of punch, press, and gravir equipment. The impact of implementing the proposed improvements is a reduction in cycle time compared to takt time. Comparing cycle time before and after improvement shows a significant 68.76% reduction in cycle time if all of the proposed improvements are implemented.