Kajian optimalisasi operasional terminal peti kemas menuju pelabuhan berwawasan lingkungan (kasus belawan international container terminal) = Research of container terminal operational optimalization toward green seaport a case study of belawan international container terminal (BICT)

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Abstrak

Persaingan antar pelabuhan khususnya di terminal peti kemas, mendesak pihak Terminal Peti Kemas Belawan BICT untuk meningkatkan kinerja operasional pelabuhan. Meningkatnya isu lingkungan seperti perubahan iklim dan konsumsi energi menjadikan pengelola pelabuhan harus merancang pengembangan pelabuhan berwawasan lingkungan yang berkelanjutan. Operasional terminal peti kemas mencakup tiga jenis peralatan bongkar muat, yaitu container crane CC , Rubber Tyred Gantry Crane RTGC dan truk. Tingginya biaya investasi peralatan bongkar muat membuat pengelola pelabuhan menerapkan optimalisasi operasional menuju pelabuhan berwawasan lingkungan.
Penelitian ini bertujuan untuk merekonstruksi kembali operasional dengan menggunakan metode penjadualan peralatan dan modified distribution pada penataan peti kemas. Hasil optimalisasi penelitian ini dapat mengurangi 44 effective time, konsumsi energi, efisiensi tenaga kerja dan efisiensi biaya logistik dengan peningkatan produktivitas menjadi 25B/C/H. Penelitian ini berkontribusi pada tataran teknis pengembangan pelabuhan berkelanjutan tanpa melakukan investasi.
.....Competition between ports, especially container terminal, urges Belawan International Container Terminal BICT to improve their operational performance. The environmental issues such as climate change and energy consumption have been increasing and they pushed port operator to design green seaport. The operation of container terminal includes three kinds of cargo handling equipments, which are container crane CC , Rubber Tyred Gantry Crane RTGC and truck. The high cost investment on cargo handling equipments at container terminal has made port operator implement operational optimalization heading to green seaport.
This research has a purpose of restructuring the operation by using cargo handling equipments scheduling and modified distribution method. The result of the optimalization research can improve effective time, energy consumption, human resource and logistic cost efficiency by 44 while also increasing productivity to 28B C H. This research contributes to the technical aspect of green seaport development without the need of any monetary investment.