INTISARI

Pembangunan infrastruktur jalan tol memerlukan manajemen waktu dan sumber daya efisien, termasuk pemanfaatan *crawler crane*. Dalam Proyek Tol Solo-Yogyakarta-NYIA Kulon Progo Paket 2.2, pekerjaan *erection PC-I Girder* dengan *double crawler crane* krusial bagi kelancaran proyek. Seringkali, produktivitas rencana dan realisasi lapangan berbeda, memengaruhi efisiensi. Penelitian ini bertujuan menganalisis perbandingan produktivitas *crawler crane* antara rencana dan lapangan pada pekerjaan *erection PC-I Girder*.

Penelitian ini menggunakan metode analisis komparatif dengan pendekatan kuantitatif. Data produktivitas rencana diambil dari dokumen perencanaan proyek, sementara data produktivitas lapangan dikumpulkan melalui observasi langsung di lapangan selama pekerjaan *erection PC-I Girder*. Metode analisis yang diterapkan mencakup perhitungan selang kepercayaan produktivitas lapangan. Pendekatan ini memungkinkan evaluasi efisiensi waktu pelaksanaan di lapangan dan memberikan estimasi rentang nilai produktivitas aktual.

Hasil penelitian menunjukkan produktivitas *crawler crane* di lapangan lebih tinggi dari rencana, meski efisiensi alat aktual lebih rendah. Produktivitas rencana 0,624 *girder*/jam, lapangan mencapai 0,710 *girder*/jam (selisih 0,086 *girder*/jam). Perhitungan selang kepercayaan produktivitas lapangan menunjukkan produktivitas rencana termasuk dalam rentang hasil lapangan, mengindikasikan bahwa target produktivitas yang direncanakan dapat dicapai atau realistis berdasarkan kinerja aktual di lapangan. Faktor-faktor memengaruhi produktivitas lapangan meliputi kondisi lapangan bervariasi dan cuaca (curah hujan, intensitas angin). Studi ini menekankan pentingnya memahami hubungan faktor efisiensi alat dan waktu siklus untuk meningkatkan efisiensi waktu serta menjaga kualitas pekerjaan.

Kata-kata kunci: *Crawler Crane*, Produktivitas Rencana, Selang Kepercayaan Produktivitas Lapangan.

ABSTRACT

The development of toll road infrastructure necessitates efficient time and resource management, including the utilization of crawler cranes. In the Solo-Yogyakarta-NYIA Kulon Progo Toll Road Project Package 2.2, the erection of PC-I Girders using double crawler cranes is crucial for project smooth execution. Frequently, discrepancies exist between planned and actual field productivity, affecting efficiency. This study aims to analyze the comparative productivity of crawler cranes between planned and actual field operations during PC-I Girder erection.

This research employs a comparative analysis method with a quantitative approach. Planned productivity data were obtained from project planning documents, while field productivity data were collected through direct on-site observation during PC-I Girder erection. The analytical method applied includes //////calculating the field productivity confidence interval. This approach allows for evaluating the time efficiency of field implementation and provides an estimated range for actual productivity values.

Research findings indicate that crawler crane productivity in the field is higher than planned, despite a lower actual equipment efficiency factor. Planned productivity was 0.624 girders/hour, while field productivity reached 0.710 girders/hour (a difference of 0.086 girders/hour). The calculation of the confidence interval for field productivity indicates that the planned productivity falls within the range of actual field results, suggesting that the targeted productivity can be achieved or is realistic based on the actual performance in the field. Factors influencing field productivity include varying field conditions and weather (rainfall, wind intensity). This study emphasizes the importance of understanding the relationship between equipment efficiency factors and cycle times to enhance time efficiency and maintain work quality.

Keywords: Crawler Crane, Planned Productivity, Field Productivity Confidence Interval.