

ABSTRACT

The procurement of tower cranes for highrise building project is influenced by position of supply points and conditions or project layout. Determination of tower crane position without considering other scenario of supply points make contractor does not know the effect of working method to optimize the position of tower crane. This research conducted the scenario analysis of tower crane position from contractor's initial planning and modified position. The analyses used in this research are work balance analysis and conflict index analysis in tower crane group. Based on the analysis conducted on two scenarios, the results obtained that the placement of supply points greatly affect the optimal position of tower crane. In scenario 1, the position of the placement the supply point determine the contractor's initial planning resulting a large conflict index and work balanced. In scenario 2, the position of the placement of the supply point is modified as far as possible not located in the intersection area between the tower cranes. So there is a conflict index that is much smaller than the scenario 1. Moving the supply point in scenario 2 also results in a smaller work balance value of 50% of the scenario 1. Determination of appropriate supply point placement can reduce the conflict index, the small work balance value thus affecting the optimal position of the tower crane.

Keywords: tower crane, highrise building, conflict index, work balanced, supply point.