

ABSTRACT

PT. INTI is one of telecommunication business company in Indonesia. For more than thirty years as a supporting system of national telephone network development handled by PT. Telkom, Indosat and Excelindo. Cellular Telecommunication Network (JTS) has a right to integrate system on the network. It has a sub division called Operation 1, which has two jobs, which are 'repair' and 'module' upgrade. Production that happens in 'repair' and 'module' upgrade room are repair and upgrade, voltage, high pot, heavy and burning. Based on interview result from JTS division management, they want an increase production to finish the broken modules on time. Production target that had been planned is 400 broken modules can be repaired in a month. In fact, only 50% or about 200 modules that can be repaired. Based on watching in 2007 year, this thing happened because work system and layout are ineffective. Therefore, in this research, reparations are done, like repair the work system and repair facilities layout to be more effective by using CRAFT algorithm and repair work method by using work map analysis. Beside that, in order to know the performance of the reparation that have been made, a representative model has made and will be simulated then.

Reparation started by doing work reparation using work map analysis that is process flow map. Beside that, re layout the facilities in Operation I part by using CRAFT algorithm. CRAFT algorithm is a double criteria algorithm which need quantitative data, that is "From to Chart" and qualitative data, that is "ARC". CRAFT algorithm input is first layout. Then repair representations models are made, and compare with first model that represent first condition (existing) so the performance of reparations can be known.

From this research can be known that work method reparation results a work method advice where work loads handled by operators decreases 33,25%, then increase production capacity from 17 rectifier modules to 395 modules, time changing decrease is 44%, utility risen of machine using is 55,52%, and time material decrease in system is 1,14%. Re layout facilities decrease moving moment into 34,38 %. This research has resulted a worth reparations on work system and facilities layout to the company. Simulation model that has been made is valid enough to be performance standard from existing condition and advising condition.

Keyword: Repair, work system, work method, layout, CRAFT, process flow map, simulation.