

ABSTRACT

This research is focused on the performance of maintenance process on wind turbine 1 KW at Hybrid Power Plant (PLTH Bayu Baru) and measurement of the optimal of human resource involved. optimal of human resource of maintenance process is determined by analyzing the network diagram that has been developed by Project Evaluation Review Technique (PERT). By analyzing the critical path and the slack duration, the labor allocation has been conducted in activity 18 and 20 which are replaced 7 technicians with 7 helpers and 4 technicians with 4 helpers. Moreover, the crashing method also has been elaborated after the number of labor already known. By crashing method by added 1 hour to overtime the completion time, the duration of the maintenance process can be shortened from the normal maintenance data from 65,1 hours became 54,1 hours. The probability of the project are finished in 54,1 hours is 0,03%. Therefore, the total cost of maintenance also increased from Rp 3.629.277,38 became Rp 4.648.975,33. The total maintenance cost for this project has gap Rp1.184.697,94 which came from the calculation of crash cost, cost slope and labor allocation for the maintenance project of wind turbine 1 KW. With the probability of 0,03%, this project are available to complete the project in 54,1 hours by additional cost Rp1.184.697,94.

Keywords: *Maintenance, Network Analysis, PERT, Crashing, Project Management.*