
ABSTRAK

Judul : Analisis Percepatan Durasi Proyek dengan Metode Pertukaran Waktu dan Biaya (*Time Cost Trade Off Method*) Dengan Alternatif Penambahan Jam Kerja dan Penambahan Jumlah Tenaga Kerja. (Studi Kasus: Proyek Perumahan Premier Estate 3 , Bekasi), Nama : Puji Utomo, Nim: 41115120018, Dosen Pembimbing : Ir. Ernanda Dharmapribadi, M.M .

Dalam melakukan analisa percepatan durasi proyek menggunakan metode *Time Cost Trade Off*. Analisa dilakukan dengan cara mempercepat (*crashing*) waktu pelaksanaan dengan menggunakan alternatif menambah jam kerja (lembur) dan penambahan jumlah tenaga kerja. Studi kasus dilakukan pada proyek pembangunan Premier Estate 3 yang dikerjakan oleh Kontraktor PT.Rekacipta Bangun Pratama, durasi pelaksanaan proyek pada umumnya dikerjakan 6 bulan, tetapi pihak pengembang meminta pekerjaan selesai dalam 4,5 bulan (15 Juli 2019 - 30 November 2019). Dengan demikian perlu adanya percepatan pelaksanaan proyek 1,5 bulan dari *Schedule* normal.

Data-data yang dibutuhkan dalam penelitian ini antara lain *kurva S*, rekapitulasi perhitungan biaya proyek, daftar Rencana Anggaran Biaya (RAB), dan daftar harga satuan upah pekerja. Metode penelitian yang digunakan adalah dengan merancang *network planning*, menghitung *cost slope* pada penambahan jam kerja dan penambahan jumlah tenaga kerja, menghitung biaya langsung dan biaya tidak langsung pada setiap kegiatan yang berubah akibat perubahan durasi pelaksanaan, percepatan durasi pekerjaan, perhitungan *cost slope*, serta penentuan biaya dan durasi *optimum* akibat penerapan metode *crashing*. Setelah dilakukan percepatan dengan metode *crashing*, untuk alternatif penambahan jam kerja diperoleh pengurangan total *cost* sebesar Rp. 7.144.751 dari total *cost* normal Rp. 5.016.380.000 menjadi Rp. 5.009.235.249 dengan durasi 131 hari. Sementara untuk alternatif penambahan jumlah kerja terjadi pengurangan total *cost* sebesar Rp. 20.660.172 dari total *cost* normal Rp. 5.016.380.000 menjadi Rp. 4.995.719,828 dengan durasi 125 hari.

Kata Kunci: Percepatan, *Time Cost Trade Off*, *Cost Slope*.

ABSTRACT

Title: Analysis of the Project Duration Acceleration with the Time Cost Trade Off Method with Alternatives to Adding Work Hours and Increasing the Number of Workers. (Case Study: Premier Estate 3 Housing Project, Bekasi), Name: Puji Utomo, Nim: 41115120018, Advisor: Ir. Ernanda Dharmapribadi, M.M.

In analyzing the acceleration of the project duration using the Time Cost Trade Off method. Analysis is done by speeding up (crashing) the implementation time by using alternatives to increase working hours (overtime) and increasing the number of workers. The case study was carried out on the Premier Estate 3 development project undertaken by PT.Rekacipta Bangun Pratama Contractor, the duration of the project implementation was generally carried out 6 months, but the developer requested that the work be completed in 4.5 months (15 July 2019 - 30 November 2019). Thus the need for accelerating the implementation of the project 1.5 months from the normal Schedule.

The data needed in this study include the S curve, the recapitulation of project cost calculations, the list of Budget Plans (RAB), and the list of unit price of the worker's wages. The research method used is to design network planning, calculate the cost slope on the addition of working hours and increase the number of workers, calculate the direct costs and indirect costs for each activity that changes due to changes in the duration of implementation, acceleration of work duration, calculation of the cost slope, and determination optimum cost and duration due to the application of the crashing method. After acceleration with the crashing method, an alternative to the addition of working hours obtained a reduction in total cost of Rp. 7,144,751 of the total normal cost of Rp. 5,016,380,000 to Rp. 5,009,235,249 with a duration of 131 days. As for the alternative to the addition of work, a reduction in total cost of Rp. 20,660,172 of the total normal cost of Rp. 5,016,380,000 to Rp. 4,995,719,828 with a duration of 125 days.

Keywords: Acceleration, Time Cost Trade Off, Cost Slope.