ABSTRACT

Fiber optic expanding project is a project carried out by TELKOM as owner to expand the service area by building the node with MSAN technology so that to the need for the customer will satisfy. In implementation, fiber optic expanding project are still too expensive to do. This resulted in the number of cost incurred, which is about $ 6 / m so that the value of the project is not optimal. To improve the conditions, then a plan is needed to reverse the effective value of the project with the value engineering (VE) method. This method which is done in the fiber optic expanding project, especially to STO A. Yani with the goal to find an alternative to the cost so that the economic value of the project to be optimal and the function of the products or services will be fullfilled ($V = F / C$, where V is value, F is a function and C is the cost).

Five stages in the VE has been run and evaluated available alternatives, then yield the best alternative. In choosing the best alternative used a election method, called Analytical Hierarchy Process (AHP). Each alternative and criteria weighted in accordance with each functions. After carrying out the analysis, it can be recommended for the best alternative. Meanwhile, to find out the total cost project used the analysis of unit price activity on the alternative selected. Therefore total project costp of fiber optic expanding project in STO A. Yani will be obtained with economic cost.

This research produced several conclusions, that is, the best alternative recommendations: some of the cable installation for air, land and duct type with single mode and drawn by human power, grounding with the electrode Rod, terminasi with closure, splicing with fusion splicer and commissioning with OTDR. From the whole of the best alternative in the fiber optic expanding project, then obtained the total project cost is of Rp. 616.777.329

Keyword : Fiber optic Expanding Project, Function, Value, Value Engineering, Analytical Hierarchy Process, Unit Price Analysis