

ABSTRACT

The Cisadane Irrigation Area Rehabilitation Project in Tangerang Regency is a linear construction project characterized by repetitive work, requiring an effective scheduling method to optimize execution time. This study aims to implement the Line of Balance (LoB) method for project scheduling and compare its results with the existing schedule to determine the effectiveness of the LoB method. The research utilizes duration time schedule data, work volumes, and Unit Price Analysis (AHSP), which are analyzed through the identification of repetitive tasks, determination of predecessor–successor relationships, calculation of LoB parameters, construction of LoB diagrams, and delay trials to eliminate line crossings. The results demonstrate that applying the LoB method produces a more effective schedule with a project completion duration of 249 days, which is shorter than the existing schedule of 270 days, resulting in a time efficiency of 21 days or approximately 7,78%. Consequently, the Line of Balance method can be effectively applied as an alternative scheduling approach for irrigation area rehabilitation projects to enhance execution time efficiency, optimize resources and simplify work monitoring and control.

Keywords: *Line of Balance, project scheduling, repetitive projects.*