

ABSTRACT

Effective project scheduling is crucial in project management to ensure timely completion and minimize the risk of delays. This study analyzes project scheduling using the Critical Path Method (CPM) for the Dismantle and Erection Spherical Tank project by PT. Rekabangun Energi Nusantara. Data was obtained through field observations, interviews, and project documents. By applying the CPM method using Microsoft Project, the project's initial duration of 110 days was optimized to 98 days, achieving a 10.9% time efficiency with a 12-day reduction in project duration. The project's critical path includes key activities such as Work Permit and HSE Plan, Dismantle Work, and Erection and Welding Work. Progress monitoring was conducted using the Curve-S graph to compare actual progress against the planned baseline. Resource efficiency was achieved by optimizing the workforce in the welding and rigging sections and improving the effectiveness of heavy equipment usage, such as cranes and generator sets, which previously had high idle time. The study results indicate that applying the CPM method not only reduces project delays but also enhances resource allocation efficiency. Therefore, this study recommends implementing the CPM method in future projects and combining it with the PERT method to improve the accuracy of project completion time estimation.

Keywords: Critical Path Method, Curve-S, Critical Path, Project Management, Project Scheduling, Time Efficiency