ABSTRACT

The Artesian Well Construction Project experienced significant delays due to non-value-added activities that caused waste in its implementation. This problem caused the project to exceed the planned schedule and budget. This research aims to design a solution to handle the waste that occurs using the lean principle approach and the Waste Failure Mode and Effect Analysis (W-FMEA) method. The data collection process was conducted through interviews with project parties, direct observation in the field, and documentation studies. The stages of analysis include identifying the types of waste, preparing alternative solutions in the form of If-Then Formulation, assessing solutions using Evaluation Matrix based on cost, time, risk, and result criteria, and estimating cost impact. The process continued with cause analysis using W-FMEA to obtain Waste Priority Number (WPN) and Cause Priority Number (CPN). The final results are waste response, cost impact, and W-FMEA table, which are all used to determine waste priority handling. This solution is expected to help companies increase the efficiency of project implementation, reduce delays, and improve the project management process as a whole and sustainably.

Keywords - waste, non-value-added activities, W-FMEA, lean principles