IMPLEMENTING LEAN CONCEPT TO REDUCE RESPONSE TIME OF MAINTENANCE WORKS

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ABSTRACT

HEAVY OIL OPERATING UNIT (HOOU) is part of PT CVX located in Sumatra that dealing with heavy oil exploration and exploitation. HOOU operates thousand of equipment to lift oil from sub surface, to separate and to purify in order to meet standards quality prior to shipment. Maintenance management is required to ensure the availability and reliability of equipment to achieve production target. Quick Response time in repairing equipment failures which can cause lost production is an example of maintenance activities that can increase equipment availability and reliability. Thus HOOU needs to identify all value added maintenance activities and eliminate or reduce non value added maintenance activities.

This research is intended to identify value-added and non-value added maintenance activities. The process activities are described in the value stream mapping to show information flow and work processes. Root cause will be got from data analysis. Thus the results are recommendations for improvement to reduce wastes in order to have response time become shorter.

Results showed that the dominant waste is delay time (waiting) about 15.9 days (95.2%) of the total activity. By implementing Failure database scoping time can reduce becomes 2.55 days or equal to 41% compared to the previous. By implementing the Future State Map HOOU can reduce delay due to waiting weekly meeting and scheduling about 13 hours or equal to 7.3% compared to the previous. In overall response time can be reduced from 16.7 days to 13.3 days.

The results of simulation using software vensim 6.0b, response time of current condition is about 17.13 days and after improvement is about 12.98 days.