A PROPOSAL TO IMPROVE CYCLE TIME OF PUT ON PRODUCTION (POP) ON NEW OIL WELLS IN THE SUMATERA LIGHT NORTH OPEARATION UNIT USING LEAN SIX SIGMA APPROACH

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ABSTRACT

Improvement program of crude oil production in the Sumatera Light North Operation unit requires a long process. Starting from the submission of the project proposal to the government, public land acquisition process, construction, drilling until Put on Production (POP). Various problems that often happen is that the land acquisition process takes quite a long duration, the construction phase is hampered with the lack of resources and equipment of the contractor, availability of materials, design changes, mother nature, the changes of drilling rigs and initial completion rig schedule and so forth. These condition lead to the delay in the oil production and give impact to the delay in value obtained by the company and the national income.

The Purpose of this research is to provide an improvement proposal to shorten Put on Production (POP) time cycle on new oil wells by identifying waste that occurs and conduct optimize process during the construction process start from Drilling rig Moved Out (DRMO) until Put on Production (POP) with lean six sigma approach. The Methodology that will be used is DMAIC (Define, Measure, Analyze, Improve, Control). Each stage in the DMAIC used to waste mitigation and improve the construction process flow in the Cycle time POP.

In general, there are three causes of the occurrence of delay in the implementation of POP, these are the waiting time of IC rig move in, duration of IC rig and delay of production facilities duration. Once implemented lean six sigma methods, the results obtained are quite better. It can be seen not only sigma level and DPMO but also actual cycle time POP. Prior to the repair, cycle time POP on 2011 and 2012 is 12.1 days and 9.6 days with sigma level and DPMO each 0.4089 and 341,322. After repairing cycle time POP become 7.2 days, sigma level 1.7866 and DPMO of 37,327.

Keywords: Put On Production, Cycle Time POP, Lean Sigma, DMAIC, waste, construction