STUDY ON EFFICIENCY OF PROCESS LAYOUT IN THE PRODUCTION OF ETHANOL FUEL

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"I declared that this thesis is the result of my own work except the ideas and summaries which I clarified their sources. The thesis has not been accepted for any degree and is not concurrently submitted in the candidature of any degree."

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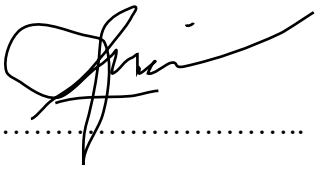
Signed :  ……..

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ABSTRACT

Due to depletion of petroleum reserves and environmental impact of fossil fuels, an alternative solution is introduced in form of ethanol fuels. Ethanol fuels have promising potential in the transport sector and in generation of electricity. However, the implementation of ethanol fuels in transport sector are not very successful compared to fossil fuels, thus limiting the readiness to replace fossil fuels. Moreover, very few researches highlighted the production cost of ethanol fuel for the transportation sector. Therefore, this research will focus on finding the effective process layout in the production of ethanol fuel. The first main objective of this research is to simulate the layout of ethanol fuel plant using DELMIA QUEST software. The secondary objective is to determine the most efficient process layout in the production of ethanol fuel. The layout of ethanol fuel plant will be simulated and the most efficient layout in terms of ethanol production will be suggested from the simulation. At the end of this research, the most efficient process layout is successfully suggested. For future work, the suggested process layout can be further studied in order to implement it in real time production process.