Proceedings of the International Conference on Industrial Engineering and Operations Management
Pilsen, Czech Republic, July 23-26, 2019

Biogas Power Generation Plant with Power of Hydrogen (PH) and Gas Flow Regulation

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Abstract

Biogas production by anaerobic digestion is matured technology. The biogas production is widely used worldwide. The biogas is commonly used for the direct combustion. Usage of biogas for the production of electricity is still in developing stage. The work is required to use the biogas technology for the power generation. In biogas plants the conversion of biomass to biogas depends on the number of micro organisms. The number of micro organisms depends on the power of hydrogen (PH) of the Slurry in the digester. The PH of the digester is monitored by microcomputer. The PH is regulated by adding the acidic medium or base medium to the slurry of digester. The biogas power generation plant the use of biogas is needed to be regulated. Therefore the flow of biogas is monitored and regulated according to the load condition on the generator. The biogas flow is regulated with help of microcomputer.

Keywords
Anaerobic Digestion, Biogas, Gas Regulation, Hydrogen and PH.

Biographies

Abdulgader Gadi, Mohammad Saharti, Khaled Alghamdi and Muhannad Alharbi are final year undergraduate students. They are studying electrical engineering. They are expected to graduate in 2020. They are working in Biogas power generation for their final year project.

Imran Fazal is a lecturer at Electrical and Electronics department, Yanbu Industrial College. He has taught courses in machinery, microcontrollers and power electronics for engineers. Mr. Imran is the main supervisor for this project.

Mohammed Alsumiri is an assistant professor at Electrical and Electronics department, Yanbu Industrial College. He has taught courses in power electronics, electrical machinery and renewable energy for engineers. Dr. Alsumiri is the second supervisor for this project.