

The Study on Energy Saving in Clarification Process for Water Treatment Plant

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Abstract : Clarification is the turbidity removal process of water treatment plant. This paper was to study the factors affecting on energy consumption in order to control energy saving strategy. The factors studied were raw water turbidity in the range of 26-40 NTU and production rate in the range of 3.76-5.20 m³/sec. Clarifiers were sludge blanket and sludge recirculation clarifier. Experimental results found that the raw water turbidity was not affected significantly by energy consumption, while the production rate was affected significantly by energy consumption. Sludge blanket clarifier provided lower energy consumption than sludge recirculation clarifier about 32-37%. Subsequently, the operating pattern in production rate can be arranged to decreased energy consumption. The results showed that it can be reduced about 5.09 % of energy saving of clarification process about 754,655 Baht per year.

Keywords : sludge blanket clarifier, sludge recirculation clarifier, water treatment plant, energy

Conference Title : ICWEEM 2017 : International Conference on Water, Energy and Environmental Management

Conference Location : Bangkok, Thailand

Conference Dates : December 18-19, 2017