ABSTRACT

PT. Kaltim Methanol Industri is a petrochemical industry which produces methanol located in industrial area of PT. Kaltim Industrial Estate (a subsidiary company of PT. Pupuk Kalimantan Timur) Bontang, East Kalimantan. PT KMI will integrate their system with KDM for anticipating load demand and will turn off the emergency power generator (EPG) by replacing the power supply from KDM. Due to change in this configuration, it is required modeling system, that can be used to analyze overall system performance. This final project analyzes transient stability that includes the rotor angle, frequency and voltage stability due to short circuit, loss generator, and motor starting at PT Kaltim Methanol Industri. According result, KDM generator’s trip causes electrical system will be unstable and may result blackout at all of KMI electrical system. The other case, short circuit at load with voltage level 6.6 kV, causes system will be unstable, therefore, it should be cleared as soon as possible by determining Critical Clearing Time.

Keywords: Transient Stability, Critical Clearing Time, Governor Setting.
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