PT Pupuk Kaltim (PKT) is one of the largest fertilizer company in Indonesia where placed in East Kalimantan. PT PKT uses integrated electrical system that connected with PT Kaltim Daya Mandiri (KDM) to fulfill the needs of the electrical power. On that integrated electrical system, PT PKT and PT KDM operate 5 generator with 111.1 MW capable power to fulfill the needs of 83.9 MW loading capacity. On it development, PT KPT plans to build a new factory (PKT-5) with the 31.5 MW of generator and 60 MW of load (normal operation at 25.5 MW). In this final project, Power System Analysis focused on the transient stability analysis including voltage stability and frequency stability, and also load shedding during an interruption of a generator trip, on the PT Pupuk Kaltim (PKT) integration system with the addition of the new PKT-5 factory. From the analysis of transient stability, there is changes indicate in load shedding scheme of PT Pupuk Kaltim. In the case of the PKT-1 generator factory trip, there should be no load shedding, but when the case of a generator at the plant PKT-2, PKT-3 PKT-4 PKT-5, and KDM unit trip, the load shedding is necessary to have with each value is 6.2 MW, 9 MW, 7.7 MW, 16.6 MW and 14.8 MW.

Keywords: Transient Stability, Load Shedding
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