STRATEGY TO MINIMIZE LOAD SHEDDING USING SENSITIVITY METHOD TO PREVENT VOLTAGE COLLAPSE AT ELECTRICAL SYSTEM OF JAVA-BALI 500 KV

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ABSTRACT

Frequency stability is very important in power system. In the Java-Bali power system frequency stability must be maintained to operate at a nominal value of 50 Hz. Generator outage or failure of the generator which is connected to the interconnected system when peak loads can cause a decrease in the frequency of the power system. This condition occurs because of an imbalance between generation and load. Besides effect on the decrease frequency, voltage will also be affected so that it can cause black out the system. Therefore, the exact pattern of load shedding is needed to prevent a decrease in the frequency of the system. In this research the objectives are to determine the optimal point and the efficiency of load shedding at electrical Java-Bali power system using sensitivity method to prevent voltage collapse. Research results shows that using sensitivity method the load shedding amount is 8.57% less than PLN standard.

Keywords: Frequency stability, sensitivity method, efficiency and load shedding.
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