ABSTRACT

Induction generator can be used on low power generation based microhydro power plant. The advantages of using induction generator on this system are more simple and robust construction than synchronous machine. Voltage and frequency output of Induction generator is very sensitive to load changes. Induction generator output fluctuated under load changes. Therefore, induction generator output regulation required in way to get unfluctuating voltage and frequency output of induction generator under load changes. This final project design induction generator with voltage source inverter. There is dc chopper put on dc side inverter to dissipate induction generator power output that not delivered to load. Simulation of Induction generator operated under constant load and load changes. Simulation of induction generator with 750 Watt machine has shown that power output keep constant 438.5 Watt for each load condition. Voltage of induction generator in steady-state keep constant 380 Volt with 50 Hz frequency.

Keywords: Induction generator, microhydro power plant, voltage source inverter, dc chopper.