Hybrid-type Power System Simulator

Purpose: To vitalize power transactions and maximize the benefit under the electric power market, it becomes more and more important to establish stable operation scheme of a wide area power system. The hybrid-type power system simulator makes it possible to develop control schemes of a wide area power system by simulating the system dynamics of an actual power system precisely.

Main Specifications:

The hybrid-type simulator, which is a combination of analogue and digital simulators, makes it possible to simulate an actual power system precisely by adding the following devices to an existing analogue simulator.

- (a) Real time digital simulator
 - Computer system to simulate a part of power system with real time
 - Power system with about 10 generators can be simulated
- (b) Connection interface
 - Interface using two inverters with BTB configuration to connect between existing analogue simulator and the above (a) digital simulator
- (c) Control equipment of generator station and substation
 - Workstation system to simulate control equipment (8 sets) of generator station or substation
- (d) Operation and monitoring equipment, communication system model
 - Overall system operation and monitoring equipment model
 - Communication system model using LAN
- (e) Load, shunt devices
 - System load (150kW=50kW*3)
 - Shunt capacitor (70kVar), Shunt reactor (60kVar)

Location and Date of Installation:

System Engineering Research Laboratory, March 2004

Configuration of the hybrid-type power system simulator

