ABSTRACT

The control problem associated with the stability of electrical power systems is investigated. It is found that an improvement in the rate of change of generation is highly desirable. A method of achieving this improvement is proposed and incorporated in the design of a steam-driven electrical power generating station. The mathematical model of the station is implemented on a hybrid computer and the resulting computer model is used to design a set of controls. Simulation results show that the desired improvement in transient response is feasible with the proposed method. Furthermore, by this method the reliability of power generation is improved in the sense that transients caused by 'shedding' a boiler or turbogenerator due to a fault are reduced.