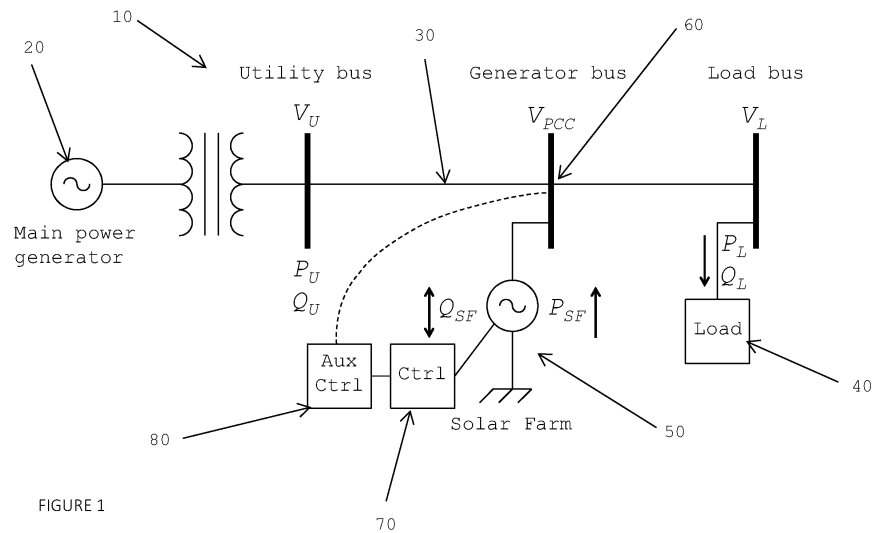


ABSTRACT

“USE OF DISTRIBUTED GENERATOR (DG) INVERTERS AS STATCOMS FOR DECREASING LINE LOSSES”

The invention provides systems, methods, and devices relating to the provision of system-wide coordinated control voltage regulation support in power transmission and distribution networks using multiple inverter based power generation facilities, which are coupled to the power transmission and distribution networks for minimizing transmission and distribution line losses. The invention uses a novel control method of inverter based Distributed Generators as Static Synchronous Compensator (STATCOM) in a way that provides a dynamic voltage regulation/control with the inverter capacity remaining after real power generation, thereby decreasing system line losses.



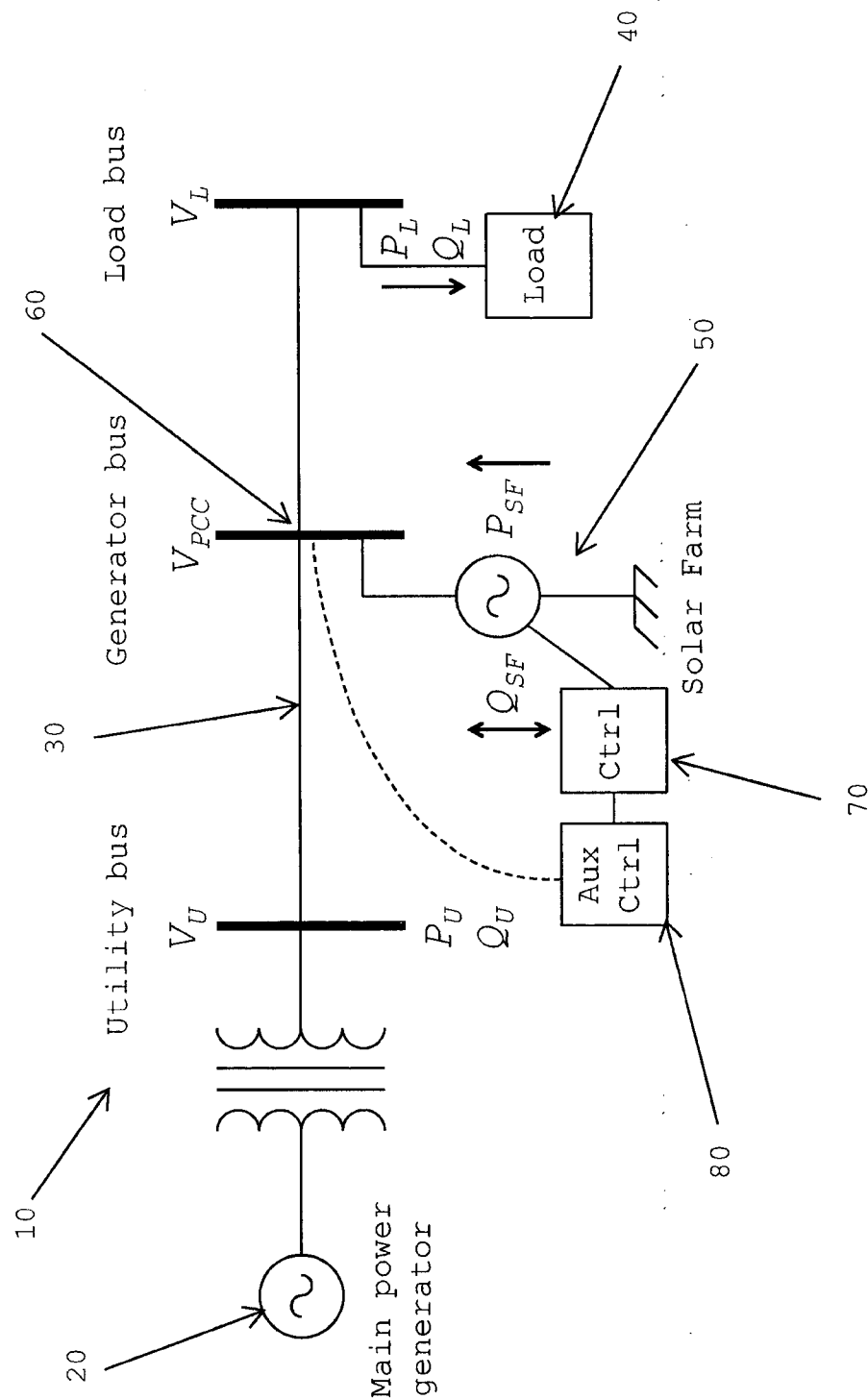


FIGURE 1

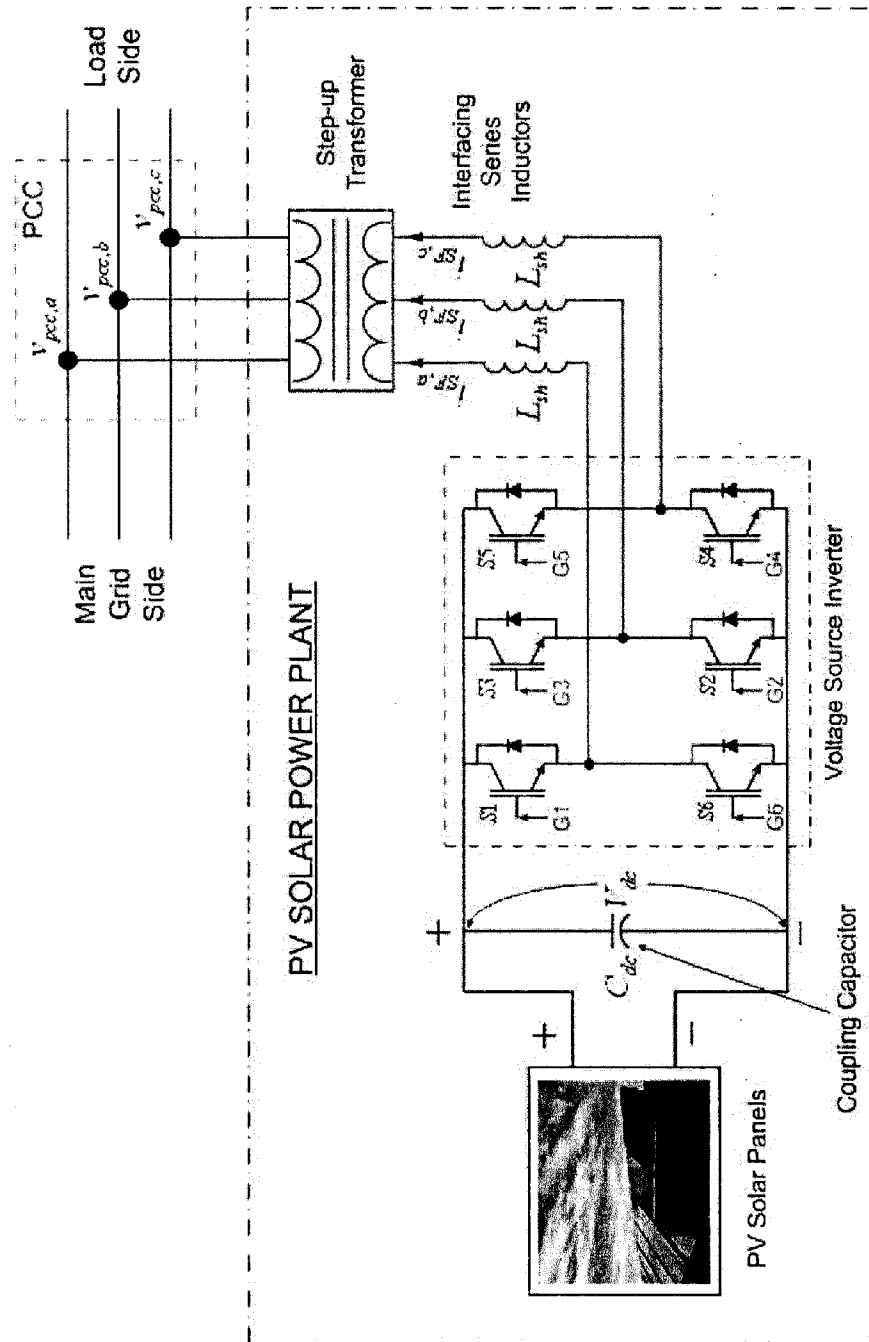


FIGURE 2

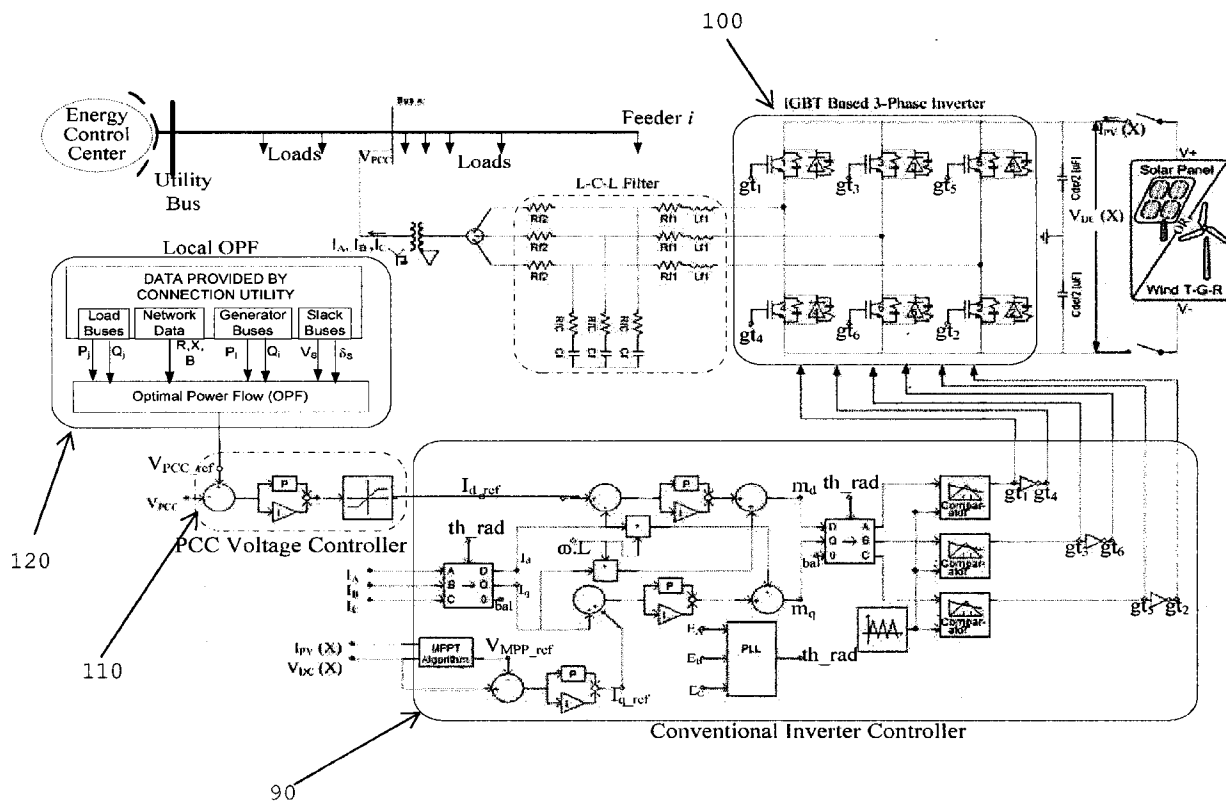


FIGURE 3

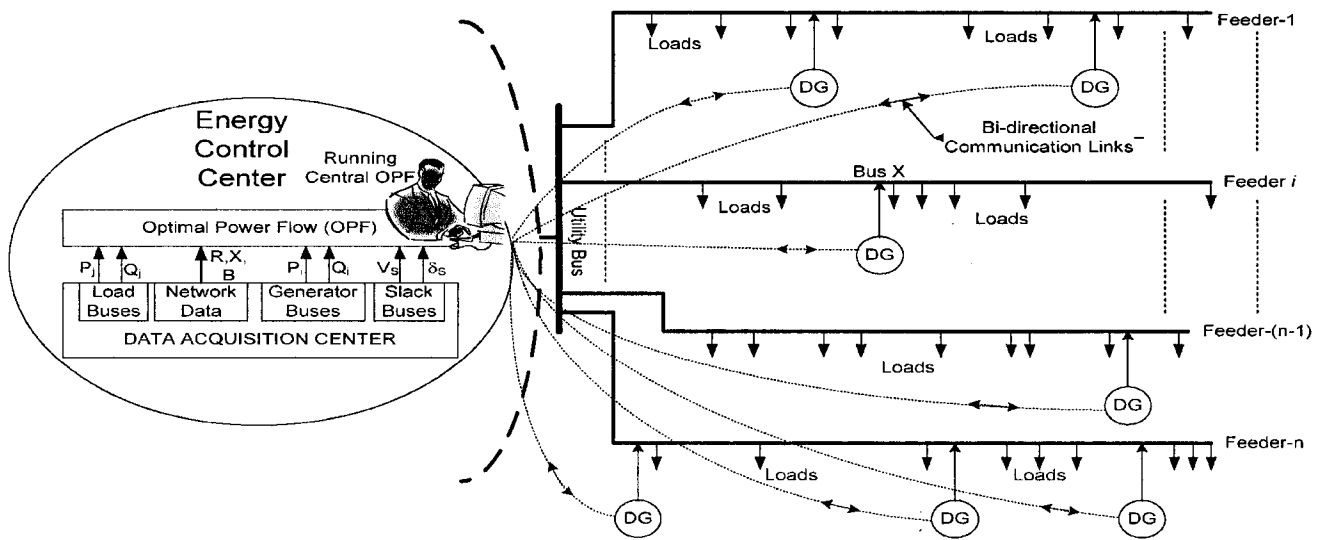


FIGURE 4

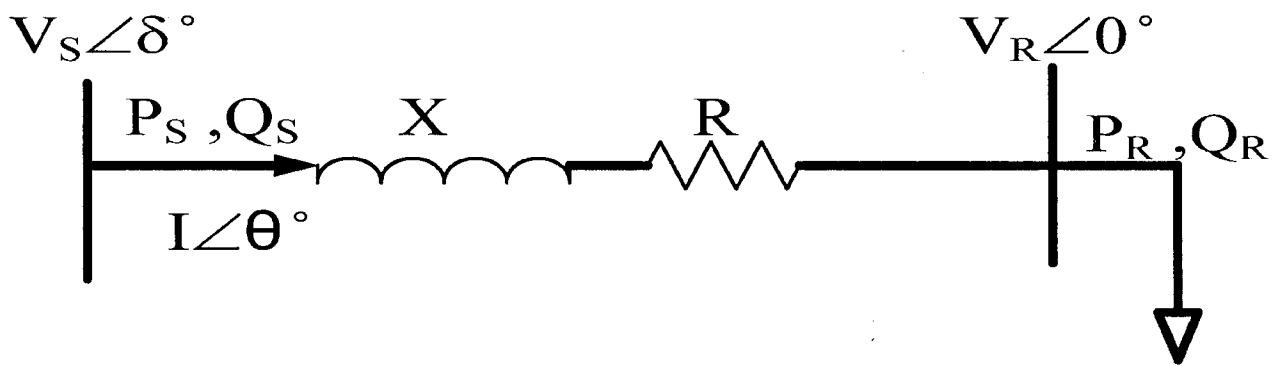


FIGURE 5

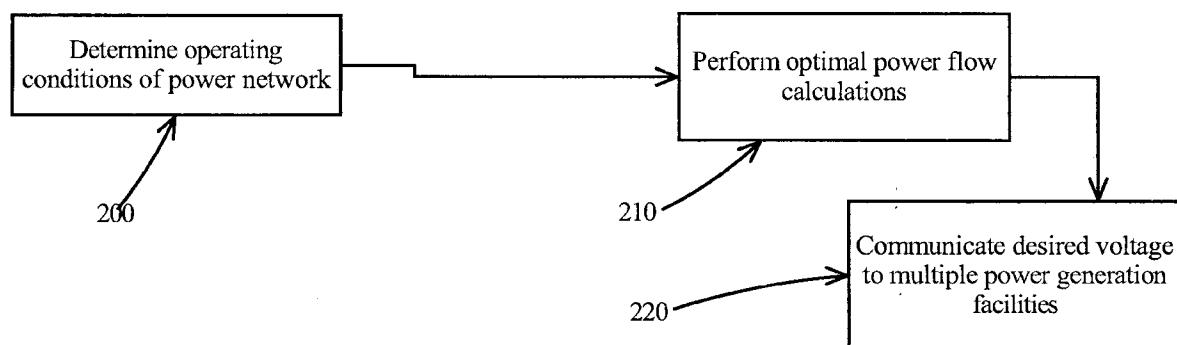


FIGURE 6

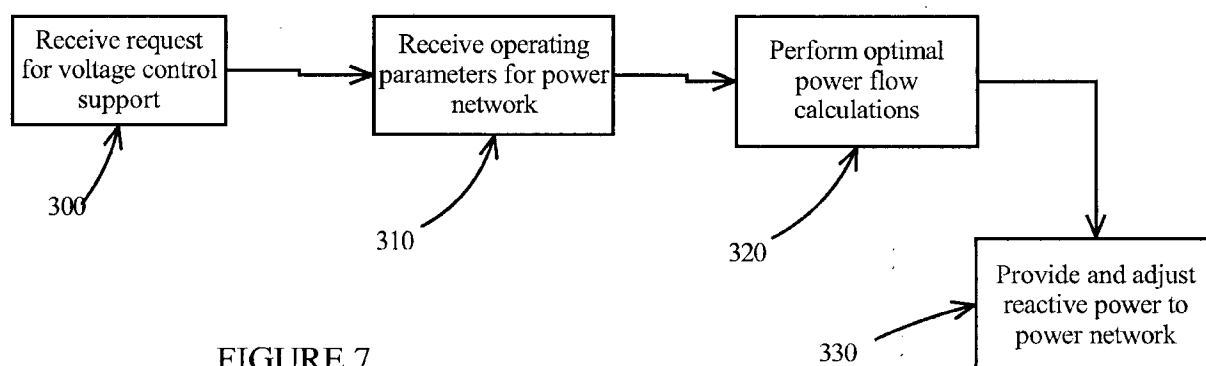


FIGURE 7