

59. Title: A microgrid with seamless transfer capability between utility grid and diesel generator

Inventor: Prof. Bhim Singh, Department of Electrical Engineering

Key Words: Utility grid, Diesel generator, Solar PV

Domain: Renewable Energy

Summary: An adaptive control is developed for a power electronic converter to obtain a high-quality power supply. This is an uninterrupted power supply for critical loads. It provides seamless synchronization of microgrid into utility grid. It lowers the rate of short-term demand spikes by peak shaving. The peak loads appearing on the utility grid are smoothed out.

Advantages:

- » Uninterrupted power supply to the critical loads
- » Manages the overall demand by lowering the rate of short-term demand spikes
- » Reduces the overall cost of demand charges
- » Mitigation of power quality issues
- » Anti-islanding protection

Applications: Energy management in Microgrid

Scale of Development: A functional prototype system is developed and tested in simulated Laboratory environment for different values of peak loads on the utility grid.

Technology Readiness Level: 4

IP Status: Indian Patent Application 202011050933