

# **RENEWABLE ENERGY INTEGRATION USING TWO STAGE CASCADED SWITCHED-DIODE MULTILEVEL INVERTER**

## **ABSTRACT**

Now a days People use electricity to do many jobs every day for lighting, heating and cooling etc. Despite its great importance in daily life. Most of the electricity is generating through non-renewable sources, as electricity demand is increasing day by day, to meet the demand non-renewable sources are not sufficient and also going to exhaust in future. So present generation technologies utilize renewable sources to reduce carbon emission and emission of other air pollutants, but renewable energy integration is complex.

In this project, a new topology of two-stage cascaded switched-diode multilevel inverter is proposed for medium-voltage renewable energy integration. First, it aims to reduce the number of switches along with its gate drivers. Thus, the installation space and cost of a multilevel inverter are reduced. The spike removal switch added in the first stage of the inverter provided a flowing path for the reverse load current, and as a result, high voltage spikes occurring at the base of the stepped output voltage based upon conventional multilevel inverter topologies are removed. Moreover, to resolve the problems related to DC source fluctuations of multilevel inverter used for renewable energy integration. Multicarrier in phase disposition SPWM technique is developed to control the two-stage cascaded switched-diode multilevel inverter. This new topology of two-stage cascaded switched-diode multilevel inverter is implemented using MATLAB/SIMULINK software.