

GOVERNMENT COLLEGE OF TECHNOLOGY, COIMBATORE-13

DEPARTMENT OF ELECTRICAL ENGINEERING

CENTER OF EXCELLENCE ON ALTERNATE ENERGY RESEARCH

“Action Plan” on the implementation of recommendations made in the CoE-AER review meeting on 20.06.2014

Recommendations and action plans:

1. Most of the work presented is on electronic basis only. There is need to carry out research on development of fluid mechanics/mechanical aspects for micro turbine development in the area of wind energy. The CoE should link up with mechanical engineering and examine small wind turbine design and control.

- 3 kW – Micro wind Turbine Design in collaboration with Karpagam University, Coimbatore

Objective:

To increase aero dynamic efficiency of micro Wind Turbine using modified NREL blade Profile and advanced composite materials

2. Need to increase course offering in Energy i.e. M.tech, Regulation of Ph.D students in the college is not easily done.

- The department offers two post graduate courses in Power Systems Engineering and Power Electronics and Drives. The students are doing their thesis work in wind and solar energy. Being a state government institution, starting a new PG course is the decision of Government.
- Already one full time Ph.D scholar is working on renewable energy and one more has registered during June-2014 session through Anna University, Chennai.

3. Already lot of research work is going on in these areas; Specific areas are required to be identified for carrying out research.

- Grid Tied Renewable energy sources- Design & Analysis
- Dynamic Grid fault simulator – Fault Ride through Capability of Grid Inverters
- Trans Z source Converter design for solar applications.
- Optimal design of self excited Induction Generator

- Improving Fault Ride Through Capability of Doubly fed Induction Generator based wind turbine using Static Compensators.
- Power quality improvement in grid connected wind farms.
- Sensor less dual – axis sun tracker based solar PV system for irrigation Applications
- Analysis and design of performance of mechanical and electronics based maximum power point tracking of Solar PV system.