



## Training module on Microgrids

The program covers the fundamental principles of microgrids, their design, implementation, and operation. The program shall cover topics such as the concept of microgrids, their components and subsystems, such as generation, storage, and control, and their integration with the main grid. At the end of the training program, participants should have an understanding of microgrids, will be able to design and implement basic microgrids and be equipped with the skills and knowledge to operate and optimize them. They should also be aware of the challenges and opportunities associated with microgrids.

Programme Title		Microgrids
Duration		5 days
Venue		NTPC School of Business, Noida, India
Day	Time	Topic
Day 1	Forenoon (FN) 3 hours	Overview of Power systems studies; Introduction to microgrids, Utility of microgrids, Different types of loads in microgrids, Components of microgrid, Microgrid configurations/architecture & design, AC and DC microgrids
	Afternoon (AN) 3 hours	Solid State Transformers in microgrids Fault tolerance in microgrids
Day 2	FN	Techno-institutional/Business models (with and without entrepreneurial models & anchor loads) for rural and urban Microgrids – examples from South Asia, Southeast Asia and Africa
	AN	Microgrid Policies & Regulations, International best practices, Grid integrated microgrids
Day 3	FN	Distributed loads in microgrids; Demand response in microgrids; Smart, hybrid & P2P microgrids; Use of block chain in microgrids
	AN	Conventional energy storage systems; Applications of energy storage systems in microgrids Microgrid stability assessment and protection
Day 4	FN	Planning and design of Microgrids; Use of HOMER for design
	AN	Cost benefits/economics and tariffs of microgrids
Day 5	FN	Field visit to NTPC facilities
	AN	Felicitation of participants