



## Training module on Smart grids

A training program on smart grids typically covers the fundamental principles of smart grids, their design, implementation, and operation. The program may cover topics such as the concept of smart grids, their components and subsystems, such as advanced metering infrastructure, distribution automation, and demand response, and their integration with renewable energy sources and electric vehicles. At the end of the training program, participants should have a sound understanding of smart grids, be able to design and implement basic smart grid systems, and be equipped with the skills and knowledge to operate and optimize them. They would also be aware of the challenges and opportunities associated with smart grids, such as cybersecurity, interoperability, and privacy, and be able to address them in their respective roles.

Programme Title		Smart Grids
Duration		5 days
Venue		NTPC School of Business, Noida, India
Day	Time	Topic
Day 1	Forenoon (FN) 3 hours	Concept of Smart Electric Utility Introduction to smart grid, Smart grid building blocks & architecture
	Afternoon (AN) 3 hours	Peak load management and demand response Grid Integration of Renewables: Role of Smart Grid
Day 2	FN	Loss Reduction, Asset Monitoring Optimization and Outage Management Systems
	AN	Grid Integration of Renewables, Role of Smart Grid Business Models for smart grid applications Experience from smart grid projects in India and other countries
Day 3	FN	Smart Grid and Quality of Supply and Service (QoS) Smart Grid Communication Systems
	AN	Cyber Security in Power Smart Grids Systems Smart Grid Analytics and use of AI Use of Block Chain in Smart Microgrids
Day 4	FN	Policy and Regulatory Considerations in Smart Grid Projects, Consumer Engagement and Participation
	AN	Cost benefits/economics and tariffs of smart microgrids Cost benefits regarding microgrids, Hybrid microgrids
Day 5	FN	Field visit to NTPC facilities
	AN	Felicitation of participants