

MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE, GWALIOR
(A Govt.Aided UGC Autonomous & NAAC Accredited Institute Affiliated to RGPV Bhopal)
DEPARTMENT ELECTRICAL ENGINEERING

Event Report

Expert Lecture topic: **Modern Smart NHPC Power Grid,**

Name of Expert: Er. G K Pharlia, former GM, NHPC

Date of Event: **23.1.2022**, 5-7 pm (Sunday)

Major Objectives of the Event:

The expert lecture was intended to provide:

- Fundamental knowledge and development of Smart Grid, from the basic concepts of power systems.
- Concept of Smart electric power grids, including the design criteria, and related technology.

Salient points of discussion:

The speaker discussed about the Smart Grid Technologies and recent developments. Major key points/highlights of the expert lecture are summarized below:

- Smart Grid is an Electrical Grid with Automation, Communication and IT systems that can monitor power flows from points of generation to points of consumption (even down to appliances level) and control the power flow or curtail the load to match generation in real time or near real time.
- Smart grid solutions helps to monitor, measure and control power flows in real time that can contribute to identification of losses and thereby appropriate technical and managerial actions can be taken to arrest the losses.
- Smart grid solutions can contribute to reduction of T&D losses, Peak load management, improved quality of Service, increased reliability, better asset management, renewable integration, better accessibility to electricity etc. and also lead to self-healing grids.

Features of Smart Grid

- Smart grid has several positive features that give direct benefit to consumers:
- Real time monitoring.
- Automated outage management and faster restoration.
- Dynamic pricing mechanisms.
- Incentivize consumers to alter usage during different times of day based on pricing signals.
- Better energy management.
- In-house displays.
- Web portals and mobile apps.
- Track and manage energy usage.
- Opportunities to reduce and conserve electricity etc.

- Smart Grid will also facilitate distributed generation, especially the roof top solar generation, by allowing movement and measurement of energy in both directions using control systems and net metering that will help “prosumers” i.e. the consumers who both produce and consume electricity, to safely connect to the grid.

Benefits of Smart Grid Deployments

- Several groups of the society are provided with multiple benefits through the Smart Grid implementations. Such include utility, customers and the regulators while some of the benefits include:
 - Reduction of T&D losses.
 - Peak load management, improved QoS and reliability.
 - Reduction in power purchase cost.
 - Better asset management.
 - Increased grid visibility and self-healing grids.
 - Renewable integration and accessibility to electricity.
 - Increased options such as ToU tariff, DR programs, net metering.
 - Satisfied customers and financially sound utilities etc.

Attendance: Total 74 students attended the expert lecture

S.No	Enrollment number	Student Name	Pursuing Year
1	0901EE201014	Aditya Sharma	Second year
2	0901EE191116	Shruti Shrivastava	Third year
3	0901EE191089	Rishabh Rajput	Third year
4	0901EE191026	Anurag nema	Third year
5	0901EE191092	RITUL SHRIVASTAVA	Third year
6	0901ee213d07	Versha Verma	Second year
7	0901EE191102	Shalu Pal	Third year
8	0901EE1910051	Imdrajeet Dangi	Third year
9	0901EE20ME07	Soma Das	Second year
10	0901EE201131	Vinod Barman	Second year
11	0901EE201008	Adarsh Sahu	Second year
12	0901EE201129	VIKASHE ACHUMI	Second year
13	0901EE203D07	MOHD SHAHBAZ KHAN	Third year
14	0901EE191120	Sourabh yadav	Third year
15	0901EE191038	Ayush Tiwari	Third year
16	0901EE191107	Shivam Choudhry	Third year
17	0901EE191021	Ankit kumar patel	Third year
18	0901EE203D04	Arti Singh	Third year
19	0901EE201060	Jasvendra kumar ahirwar	Second year
20	0901EE191109	Shivam Mahawar	Third year

21	0901EE191007	Aditi Jain	Third year
22	0901EE191065	Mridul Gupta	Third year
23	0901EE181043	Drishti bhadoriya	Forth Year
24	0901EE201003	Abhishek Ahirwar	Second year
25	0901EE191048	Harshit Agrawal	Third year
26	0901EE201124	Suraj maitoliya	Second year
27	0901ee191112	Shivam shivhare	Third year
28	0901EE191011	Akshat Baranwal	Third year
29	0901ee191022	Ankit Rana	Third year
30	0901EE191136	Yash sharma	Third year
31	0901EE201084	Oam Shankar A	Second year
32	0901EE201050	Harshit Gupta	Second year
33	0901EE201056	HIMANSHU ARYA	Second year
34	0901EE201080	Nishant shrivastava	Second year
35	0901EE213d02	Mantavy Kishor Sandal	Second year
36	0901EE191135	Vishesh Arora	Third year
37	0901EE201015	Ajay sharma	Second year
38	0901EE201118	Shruti Rajput	Second year
39	0901EE191053	JISHA GUPTA	Third year
40	0901EE201009	Aditi Jain	Second year
41	0901EE201066	Kumar Nivedan Surya	Second year
42	0901EE201020	Ankit Sharma	Second year
43	0901EE191004	Abhishek Arya	Third year
44	0901EE201049	Harsh Goyal	Second year
45	0901EE191096	Sakshi Savita	Third year
46	0901EE191081	Priyanshi Yadav	Third year
47	0901EE201025	ANUSHKA JAIN	Second year
48	0901EE201113	Shakti Pandey	Second year
49	0901EE201115	Shivam Yadav	Second year
50	0901EE201054	Harshita Shakya	Second year
51	0901IO213D03	Parag singh gaur	Second year
52	0901EE181013	Akash Singh	Forth Year
53	0901EE201091	priya patel	Second year
54	0901EE201037	DANISH SINGHAL	Second year
55	0901EE201108	Sanjana Patel	Second year
56	0901EE191088	Rishabh Rajodiya	Third year
57	0901EE201067	Kunal Jolly Saxena	Second year
58	0901AU201007	Ansh Mahana	Second year
59	0901EE201082	Nitin Dwivedi	Second year

60	0901EE201094	Rachit patel	Second year
61	0901EE191128	Vaibhav Rajoriya	Third year
62	0901EO201049	Saksham Singh	Second year
63	0901EE201101	Riddhi bansal	Second year
64	0901EE201093	Priyanshi tiwari	Second year
65	0901EE201021	Ankush Agrawal	Second year
66	0901EE201140	Chinmay Gupta	Second year
67	0901EE201041	Divya Parihar	Second year
68	0901EE201092	Priya Singh	Second year
69		Vipin Sharma	Second year
70	0901EE201076	Nandani	Second year
71	0901EE201059	Indrajeet Mourya	Second year
72	00901EE201106	Sanidhya Mudgal	Second year
73	0901EE201005	Abhishek Kori	Second year
74	0901EE201065	Krishna kushwaha	Second year

Participant's Feedback:

Enrollment number	Student Name	How was the expert lecture given by Er. G K Pharlia (overall rating, on a scale of 5, 1 being low & 5 being highest)	How was the knowledge imparted	In which area do you think, future expert lectures must be organized	what are the key take aways from this lecture? (what you learnt)
0901EE201014	Aditya Sharma	2	Useful	N	N
0901EE191116	Shruti Shrivastava	5	Very useful	yes	..
0901EE191089	Rishabh Rajput	4	Very useful	Internship session	very useful concepts.
0901EE191026	Anurag nema	3	Useful	Gwalior	Knowledge
0901EE191092	RITUL SHRIVASTAVA	4	Useful	Non conventional energy resources	Availability of tarif
0901ee213d07	Versha Verma	4	Useful	In my college	Get knowledge
0901EE191102	Shalu Pal	4	Useful	Zoom	I learnt about tarrif
0901EE1910051	Imdrajeet Dangi	4	Useful	Humanities	About power generation.
0901EE20ME07	Soma Das	4	Useful	Electric Vehicle	Power Distribution
0901EE201131	Vinod Barman	4	Useful	Yes	Power transmission
0901EE201008	Adarsh Sahu	5	Very useful	On Different Power Supply	How Electricity is Transmitted on long distance from Power plant
0901EE201129	VIKASHE ACHUMI	3	Useful	Well organised	Tariff UI

0901EE203D07	MOHD SHAHBAZ KHAN	4	Useful	HVDC	KNOWLEDGE REGARDING POWER SYSTEM GRID
0901EE191120	Sourabh yadav	4	Very useful	Transformers mechanism	Every line of this meeting is knowledgeable
0901EE191038	Ayush Tiwari	2	So so	Today topic is good	Speaker use hindi ...he will connect very easily in that
0901EE191107	Shivam Choudhry	5	Very useful	Core area	Everything
0901EE191021	Ankit kumar patel	5	Very useful	Computer science	Load
0901EE203D04	Arti Singh	4	Useful	Gwalior	Transmission sector
0901EE201060	Jasvendra kumar ahirwar	4	Useful	Don't know	Many things
0901EE191109	Shivam Mahawar	5	Very useful	Gate exam related	Grid operations
0901EE191007	Aditi Jain	3	Useful	Artificial intelligence	Industrial applications
0901EE191065	Mridul Gupta	5	Very useful	Scope in Electrical field.	.
0901EE181043	Drishti bhadoriya	4	Useful	-	-
0901EE201003	Abhishek Ahirwar	4	Useful	Solar power system	This lecture is very useful for understanding Power system, Grid operations and etc.
0901EE191048	Harshit Agrawal	5	Very useful	In Industrial aspects	Got to know about the Power grids and their working
0901EE201124	Suraj maitoliya	4	Useful	Yes	Electrical Grid distribution system
0901ee191112	Shivam shivhare	5	Very useful	Non renewable energy	Inhance our knowledge
0901EE191011	Akshat Baranwal	4	Useful	No opinion	Power distribution
0901ee191022	Ankit Rana	3	Useful	Power Transmission	Regarding working of transformers
0901EE191136	Yash sharma	5	Useful	Solar	Got knowledge about load
0901EE201084	Oam Shankar A	3	Useful	Communication	Nothing special
0901EE201050	Harshit Gupta	4	Useful	Motivation	All the positive points
0901EE201056	HIMANSHU ARYA	5	Very useful	Live visit	Learnt all about smart grid
0901EE201080	Nishant shrivastava	4	Useful		
0901EE213d02	Mantavy Kishor Sandal	3	Useful	Solar power and PV cell manufacturing	Relays
0901EE191135	Vishesh Arora	5	Very useful	None	None
0901EE201015	Ajay sharma	4	Useful	Information technology	It will help in future
0901EE201118	Shruti Rajput	4	Useful	.	.
0901EE191053	JISHA GUPTA	5	Useful	.	.

0901EE201009	Aditi Jain	4	Useful	Last year of graduation	About artificial robotics in future used
0901EE201066	Kumar Nivedan Surya	4	Very useful	Industries working machines	Knowledge of machines
0901EE201020	Ankit Sharma	4	Useful	Mits	NA
0901EE191004	Abhishek Arya	5	Very useful	Power system	Good
0901EE201049	Harsh Goyal	4	So so	Any	Intresting
0901EE191096	Sakshi Savita	4	Very useful	Emerging areas of electrical engineering	The lecture was overall very useful.
0901EE191081	Priyanshi Yadav	4	Useful	Industrial	It was overall good
0901EE201025	ANUSHKA JAIN	3	Useful	2nd year	Knowledge
0901EE201113	Shakti Pandey	3	Useful	Electrical Machine	I have learnt so many things from this lecture
0901EE201115	Shivam Yadav	5	Useful	.	.
0901EE201054	Harshita Shakya	4	Useful	EE	About smart electric grid, power distribution
0901IO213D03	Parag singh gaur	5	Very useful	Cyber security	.
0901EE181013	Akash Singh	5	Very useful	Traction	Advance in Grid supply
0901EE201091	priya patel	5	Very useful	psu's	consistency
0901EE201037	DANISH SINGHAL	3	Useful	Knowledgeable based	It is good
0901EE201108	Sanjana Patel	5	Useful	.	.
0901EE191088	Rishabh Rajodiya	5	Very useful	Career through Matlab	.
0901EE201067	Kunal Jolly Saxena	4	Very useful	Distribution	How the transmission grid works
0901AU201007	Ansh Mahana	3	Useful	AI	..
0901EE201082	Nitin Dwivedi	4	Very useful	Latest Changes & challenges to electricity supply in India.	How electrical power is distributed in grid.
0901EE201094	Rachit patel	4	Very useful	Different power supply	We learn about how electricity supply in different ways.
0901EE191128	Vaibhav Rajoriya	4	Useful	On the opportunities of the electrical engineers in further future.	How we can learn about upcoming new concepts
0901EO201049	Saksham Singh	5	Very useful	Power system	Transmission line and power supply chain and also so many topics
0901EE201101	Riddhi bansal	3	Useful	Nuclear Power plant & energy	About smart electrical grid
0901EE201093	Priyanshi tiwari	4	Very useful	Power supply system	I is knowledgeable

0901EE201021	Ankush Agrawal	4	Useful	In the direction of focusing on studies and to focus on aim	Working environment of the place
0901EE201140	Chinmay Gupta	5	Useful	Generation of 3 phase electricity	It is knowledgeable
0901EE201041	Divya Parihar	4	Useful	Renewable energy Uses	Industrial Knowledge
0901EE201092	Priya Singh	5	Very useful	It should be organised on electricity power generation and transmission.	By this lecture I get to know about grid connection.
	Vipin Sharma	4	Useful	Placements and how to study in programming	Ok
0901EE201076	Nandani	4	Very useful	Power system in industrial area	Concept
0901EE201059	Indrajeet Mourya	5	Very useful	In Everything	Much more
00901EE201106	Sanidhya Mudgal	4	Very useful	Career guidance	Technical knowledge
0901EE201005	Abhishek Kori	5	Useful	Programming and aptitude	.
0901EE201065	Krishna kushwaha	3	Useful	Yes	Electrical grids distribution system


Prof. Ashish Patra
 (Coordinator)