SRI SAIRAM ENGINEERING COLLEGE

WEST TAMBARAM 44

POWER ELECTRONICS APPLICATION IN MICROGRID POWER SYSTEM

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JUNE 20
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DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

IEEE PELS SEC SB CHAPTER

EVENT ID
SEC202406IEEEPELS005

PROUDLY PRESENTS

REGIONAL DISTINGUISHED LECTURE PROGRAM ON

Power Electronics Applications in Microgrid Connected Power System

27.06.2024, Thursday

10.00 AM - 11.45 AM

ALPA HALL

SPEAKER

Prof. Dr. Mahesh Kumar Mishra
Indian Institute of Technology Madras

Ms. J. Shalini Priya STAFF COORDINATOR	**Dr.T.Porselvi** SEC IEEE PELS ADVISOR	**Dr.R.Azhagumurugan** HOD / EEE IEEE PES TREASURER - MS	**Dr.J.Raja** PRINCIPAL / SEC	**Dr. Sai Prakash LeoMuthu** CHAIRMAN & CEO SAIRAM INSTITUTIONS

IEEE PELS & DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

EVENT : Power Electronics Applications in MicroGrid Connected Power System

DATE : 27/06/2024

TIME : 10:00 AM to 11:45 AM

VENUE : Alpha Hall

NO OF PARTICIPANTS : 120+

ABOUT THE SPEAKER :

Dr.Mahesh Kumar Mishra - Professor at Indian Institute of Technology , Madras

ABOUT THE EVENT

1. Enabling Renewable Energy Integration:

Interfacing renewable sources: Power electronic converters efficiently convert the variable output of renewable energy sources like solar PV and wind turbines into grid-compatible AC power.

Maximum Power Point Tracking (MPPT): They optimize the power output from these sources by continuously adjusting the operating point to maximize energy harvest.

2. Facilitating Energy Storage:

Battery charging and discharging: Power electronic converters control the charging and discharging of batteries in energy storage systems, ensuring efficient and reliable operation.

3. Enhancing Grid Stability and Control:

Voltage and frequency regulation: Power electronic devices maintain stable voltage and frequency levels within the microgrid, ensuring reliable power supply to consumers.

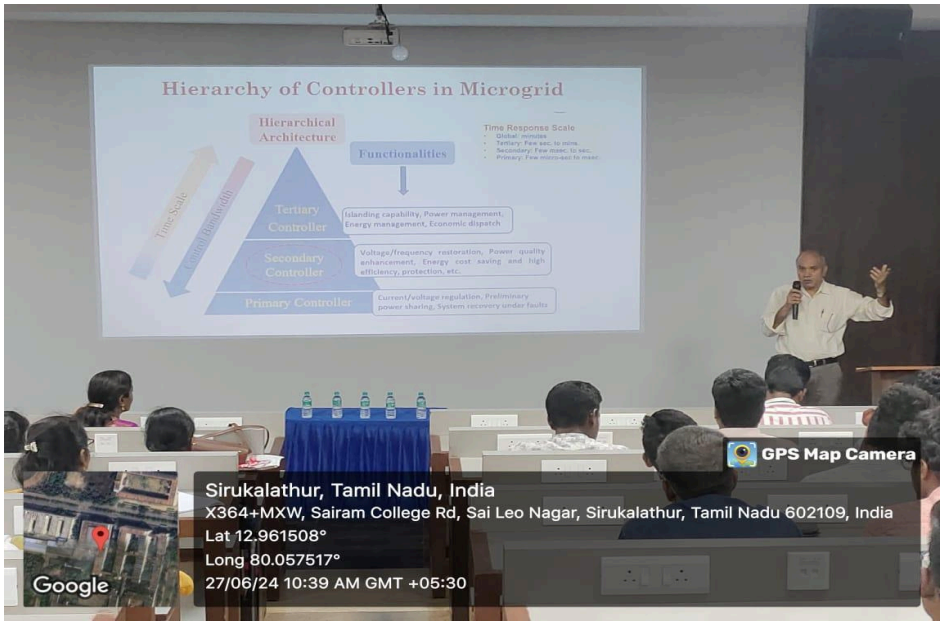
Fault management: They quickly isolate faults and prevent their propagation, enhancing the resilience of the microgrid.

Grid synchronization: They facilitate the seamless connection and disconnection of the microgrid from the main grid.

4. Improving Power Quality:

Harmonic mitigation: Power electronic filters reduce harmonic distortions in the current and voltage waveforms, improving power quality and preventing equipment damage.

MINUTES OF THE MEETING :


Hierarchy of Controllers in Microgrid
Hierarchical Architecture
Functionalities
Time Response Scale
Tertiary Controller
Islanding capability, Power management, Energy management, Economic dispatch
Secondary Controller
Voltage/frequency restoration, Power quality enhancement, Energy cost saving and high efficiency, protection, etc.
Primary Controller
Current/voltage regulation, Preliminary power sharing, System recovery under faults
Time Scale
Control Bandwidth
GPS Map Camera
Sirukalathur, Tamil Nadu, India
X364+MXW, Sairam College Rd, Sai Leo Nagar, Sirukalathur, Tamil Nadu 602109, India
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Long 80.057517°
27/06/24 10:39 AM GMT +05:30
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PROGRAM OUTCOME

The event on "Power Electronics Applications in Microgrid Connected Power System" was successfully conducted at Sri Sairam Engineering College on June 27, 2024, with over 120 participants. The session, led by Dr. Mahesh Kumar Mishra from IIT Madras,

provided valuable insights into microgrid power systems and their applications. The event was well-received, and the organizers expressed gratitude

to the institution’s leadership for their support in making it possible.

CONCLUSION:

We thank our righteous CEO Shri. Sai Prakash Leo Muthu Sir, beloved principal Dr Porkumaran Sir and our HOD of EEE Dr.Azhagumurugan sir and Chapter Advisor Dr.T.Porselvi mam for giving this wonderful opportunity to attend this event.