QIP SHORT TERM COURSE
ON
POWER SYSTEM STABILITY AND CONTROL IN SMART GRID ARCHITECTURE

JULY 3-8, 2017

Organized by

Department of Electrical Engineering
Indian Institute of Technology (Banaras Hindu University),
Varanasi-221005
Uttar Pradesh (INDIA)

About Indian Institute of Technology (BHU)

Banaras Hindu University, a temple of learning of international repute, is situated in Varanasi, the only living holy city of the world of more than ten thousand years history of Uttar Pradesh. This creative and innovative university was founded by the great nationalist leader, Pandit Madan Mohan Malviya, in 1916 with cooperation of great personalities like Dr Annie Besant, who viewed it as the University of India. Banaras Hindu University was created under the Parliamentary legislation - B.H.U. Act 1915. A large number of students from foreign countries like the U.S.A, the countries of Europe, Asia, Middle East, Africa etc., come to study here. The university has taken a leadership role in promoting new ideas, the spirit of integration of the world, and cultivation of intellect and culture. Banaras Hindu University is small virtually the universe in microcosm.

Indian Institute of Technology, like all other Faculties and Departments of the Banaras Hindu University, also owes its existence to the far-sighted vision and relentless efforts of its founder Mahamana Pandit Madan Mohan Malviya. Since its formation, the Indian Institute of Technology has not only developed as a premier professional educational institution producing graduate engineers with foolproof sound scientific and technological background, but has grown into a Centre which provides versatile postgraduate training and conducts advanced research in Engineering and Technology. A large number of alumni of the Institute are occupying top positions in many leading utilities, industries, educational institutions and research establishments in India and abroad.

Objective

Power system stability has been considered as an important threat for researchers and utilities since 1920. Minimization of grid failures against instability requires on-line monitoring and control of power systems. Smart grid permits two way flows of electricity, and information through fast communication network. Supervisory Control and Data Acquisition (SCADA) system has to be supplemented by Wide Area Monitoring System (WAMS) employing Phasor Measurement units (PMUs) for fast stability assessment in real time framework. Smart grid encourages supplementing conventional generations with renewable sources of energy. Introduction of renewable energy resources may pose new threats to system instability due to their variable nature of availability. Restructuring of power systems has created competition between power producers resulting in stressed operation of transmission corridors. Sufficient Available Transfer Capability (ATC) has to be maintained and congestion is to be managed properly for smart grid to be stable under competitive environment. Flexible AC Transmission System (FACTS) have been proven to be effective means of enhancing stability of power systems. FACTS parameters are to be synchronized to PMU measurements for effective stability control of real time systems.

This course is aimed to provide participants about insight on monitoring and control of stability of real time systems in smart grid architecture.

Course Contents

- Concept, analysis and control of power system stability.
- Operation and control of modern power systems including the role of FACTS controllers.
- SCADA and WAMS.
- Concept of smart grid, challenge of maintaining stability in smart grid.
- Stability monitoring in smart grid using PMUs.
- Role of FACTS controllers and other control strategies for stability enhancement in smart grid.

Who can participate?

- Faculty from academic institutions
- Scientist from R & D organizations
- Engineers from utilities
- Research scholars

Limited number of of Participants (30) from AICTE approved engineering colleges will be eligible for to and fro railway fare via shortest route by AC three tier class and free boarding and lodging in the Institute Guest House/Hostels during course periods. Candidates attending the course in full only will be eligible for TA and DA. Local participants under this category will be given TA charges as per institute rules.

Participants of AICTE non-approved engineering colleges, Scientist from R & D organizations, Engineers from utilities and Research scholars will not be paid any TA/DA for attending the course.

Speakers

The experts for delivering lectures will be from IIT (BHU), leading institutions such as IITs, IISc Bangalore, NITs and utilities.

Registration Fee

Faculty from AICTE approved institutions	NIL
Faculty from other academic institutions	Rs.3000/
Scientist from R & D organizations	Rs.3000/
Engineers from utilities	Rs.6000/
Research scholars	Rs.1000/

Registration fee include charges for registration materials, breakfast, lunch and dinner, but exclude travelling expanses & accommodation charges.

Registration fee is to be in the form of a demand draft on any Nationalized Bank in favour of Registrar, IIT (BHU), Varanasi payable at Varanasi.

Deadlines

Submission of completed application form along with required demand draft (photo-copy of application form is also acceptable)	**31/5/2017**
Intimation about selection or otherwise to the participants	**7/6/2017**
Submission of caution deposit (for selected participants of AICTE approved institutions)	**30/6/2017**
Duration of the workshop	**3/7/2017 to 8/7/2017**

Accommodation

Boarding and lodging facilities will be provided for the selected participants from AICTE approved institutions in the institute guest house/hostels.

Venue

Department of Electrical Engineering
Indian Institute of Technology
(Banaras Hindu University),
Varanasi (INDIA)

How to Apply?

Completed application form in the format enclosed (photocopy also acceptable) along with required registration fee (no registration fee required for applicants from AICTE approved institutions) has to reach Course Coordinator by due date.

Selected participants from AICTE approved institutions have to send a Caution Deposit of Rs.1000/ in the form of Demand Draft of Rs.1000/ on any Nationalized Bank in favour of Registrar, IIT (BHU), Varanasi payable at Varanasi. The Caution Deposit will be returned back only if the candidate attends the course.

Correspondence Address:

Course Coordinator

Prof. M. K. Verma
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(Banaras Hindu University),
Varanasi-221005
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Varanasi- The Eternal City

The holy city of Varanasi, known as the city of temples and learning, is a place of great historical and cultural importance. This religious capital of India is situated on the banks of the holy river Ganges and is presided over by Lord Shiva. It is the heart of India and an epitome of the synthesis of cultures, religions and races. The river-front of the city is decorated by hundreds of well built ghats which is a unique feature. It will be a pleasant time to be in holy city of this country. The temperature during summer may range between 20-45^{O}C.

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APPLICATION F O R M

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ON
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JULY 3-8, 2017

Name : Prof/Dr./Mr./Mrs./Ms.(in block letters).....

Designation & pay scale : .....

Organisation : .....

Areas of interest: .....

Mailing Address : .....

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Tel : .....

Fax : .....

E-mail : .....

Highest Academic Qualification: .....

Specialization: .....

Experience (in years):

(a) Teaching: .....

(b) Industrial: .....

Payment details: DD No. ..... Date of issue .....
Amount ..... Bank / Branch .....

Accommodation required: Yes / No

Amount of TA required as per entitlement mentioned in this brochure (only for AICTE approved college teachers): .....

Please register me for the course on "Power System Stability and Control in Smart Grid Architecture" to be held at Department of Electrical Engineering, IIT (BHU), Varanasi.

Date..... .....
Place ..... (Signature of applicant)