

Registration Form

(All Entries to be filled in Block Letters)

Name Mr./Ms.

Designation

Qualification

Institute / Organization

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Mailing Address

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District..... State.....

Mobile No.....

Email Id.....

(DD should be in favor of "Director Walchand College of Engineering, Sangli" payable at Sangli)

Details of Registration Fee	
Demand Draft No.	
Amount	
Bank Name and address	
Date	

Accommodation Required: Yes / No

Date:

Place:

Signature
of Applicant

Signature & Seal of
Sponsoring Authority

Advisory Committee

Dr. G.V. Parishwad

Director, WCE, Sangli

Dr. P. J. Kulkarni

Deputy Director, WCE, Sangli

Dr. D.S. More

TEQIP Coordinator and
Head, Electrical Engineering Department

Coordinators

Dr. A. P. Vaidya

Dean R&D and Professor
Electrical Engineering Department
WCE, Sangli

Mr. V. P. Mohale

Assistant Professor
Electrical Engineering Department
WCE, Sangli



One Week In Plant Faculty Development Programme

on

Power Plant Familiarization

(28th Nov - 03rd Dec, 2016 at DTPS, Dahanu)

Sponsored by

Technical Education Quality Improvement
Programme (TEQIP Phase- II)

Organized by



Electrical Engineering Department
Walchand College of Engineering, Sangli
(An Autonomous Institute)

In association with

The logo for Reliance, featuring the word 'RELIANCE' in a bold, blue, sans-serif font. A red triangle is positioned above the letter 'I'.

Reliance Infrastructure Limited,
Dahanu Thermal Power Station,
Technical Training Center,
Dahanu Road, Palghar.

About WCE, Sangli

Walchand College of Engineering, an Autonomous Institute, was established in 1947. It is located on the picturesque campus of about 100 acres in Vishrambag, Sangli. Along with the UG courses, the college runs Post Graduate courses in the Civil (Structural and Environmental), Electronics, Computer Science, Mechanical (Design, Heat Power and Production), Electrical (Control Systems and Power Systems) streams. The college also has the Ph.D. centre affiliated to the Shivaji University and QIP minor research centre, recognized by AICTE, New Dehi.

The Autonomous Status has been awarded to the college by the Government of Maharashtra and UGC in the year 2007. UGC extended this Autonomy for second term in 2014 till 2020. NPIU has released additional funds of Rs. 5.00 Crores based on performance of the Institute in TEQIP II. College is equipped with more than 800 Computers, state of art softwares, 380 MBPS fully functional (24X7) internet connectivity, and intranet with fiber optic backbone. In 2008-09 Seth Walchand Hirachand Memorial (WHM) Trust donated a New Library building named as Ajit Gulabchand Central (AGC) Library with more than 1,00,000 volumes, more than 2000 international e-Journals, plus hard copy journals (national and international) etc.

Sangli is district headquarter and is located on the major railway lines connecting to Mumbai, Bangalore, Nagpur, New Delhi, Ahmedabad.

About Reliance, DTPS, Dahanu

Dahanu Thermal Power Station (DTPS) is a coal based thermal power plant located at coastal town Dahanu in Palghar district in the Indian state of Maharashtra. The power plant is operated by Reliance Infrastructure. The plant is located on Mumbai-Ahmadabad rail line and is approximately 120 km away by road from Mumbai on Mumbai – Ahmadabad – Delhi NH 8 (22 Km inside). Plant is coal based & has an installed capacity of 2x250 MW (**500 MW**). The power plant was commissioned in 1995 and is commercially producing power since 1996. Plant is recognized as one of the consistently best

performing plant in India & received more than 120 National Level & International Level awards in last 15 years. World's well known magazine Platt's also mentioned about this plant as one of the best top 10 plants of the world. Plant is known for its various best practices & various ISO standards & green campus. This plant got world's first ISO 50001 certification in Energy Management Practices. Technical Training Center is CEA Certified in A Category. Reliance DTPS trained more than 850 faculties & 1250 students in last 03 years. Faculty development program for faculty members working in various institutes would help them update their theoretical and practical knowledge and would ultimately benefit the students and society. How Industries are managed is also explained under managerial topics in this 06 days module.

Resource Persons

The course sessions will be conducted by the renowned faculties working with DTPS who are having more than 20 years of plant experience of respective departments.

Eligibility

Faculty members and research scholars of Electrical & Mechanical Department from AICTE approved engineering colleges, polytechnics are eligible to participate.

Course Content

The program will comprise of class room sessions in the pre lunch session & plant visit in the post lunch session on all 6 days. The contents will cover the Power Plant Safety, 220KV Electrical System, HT/LT Switchgear, Motors in DTPS, Energy Management System, Boiler, Turbine, Generator, CHP, AHP, Valves, Dampers, FGD, ESP, Supporting BOP, Power Distribution, Transformer Maintenance & Condition Monitoring etc. The detailed schedule of the program is as per brochure attached.

Registration

Participants are requested to send, filled and signed registration form along with demand draft of course fees in favor of 'Director, Walchand College of Engineering, Sangli' payable at Sangli.

Registration Fees

Participants from the Academia: **Rs.18000/-** (Includes safety kit, accommodation, breakfast, lunch & dinner). Accommodation for participants will be provided by DTPS and it will arranged in guest house of DTPS on request. Travelling expenses for to & fro journey to DTPS, Dahanu shall be borne by participants.

Important Dates

The registration form completed in all respects and the DD should be sent to 'Department of Electrical Engineering, Walchand College of Engineering, Sangli-416415 so as to reach on or before 10th November 2016. A scan copy of registration form & DD can be sent through e-mail to

vijay.mohale@walchandsangli.ac.in

and copy to anil.vaidya@walchandsangli.ac.in

Venue of FDP

Technical Training Center, Dahanu Thermal Power Station, Palghar, Maharashtra, India.

How to Reach?

DTPS is located near Dahanu railway station. Local and express trains are available from Dadar (W) / Thane. Approximately 120km from Dadar. Shared rickshaws are available from Dahanu railway station to DTPS.

Correspondence

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Dahanu Thermal Power Station (DTPS)

Technical Training Centre (CEA Approved - Grade A Institute)

Training Program : Electrical Module for One week.

Duration: 6 days				
Day	Date	Time	Equipment/ Trg aspect/ Dept	Topic
First	28th Nov 2016	9:00	Introduction	Introduction-DTPS : Introduction to DTPS, Role of electrical dept, performance highlights
		10:00	Introduction	Coal to Electricity & Overview - Electrical systems 220 KV Network, Types and Classification of Transmission
		11:15		Tea Break
		11:30	Safety	DTPS Safety Policy & Process at DTPS: Industrial Safety-Working at Height,Causes & factors of accidents
		14:15	Visit	Plant Visit-Overall
		16:30		Visit to Electrical Testing Lab Calibration facilities available at the Lab, Standard equipments in Lab, Testing equipments
Second	29th Nov 2016	9:00	Electrical	Simulator for Electrical charging
		11:15		Tea Break
		11:30	Electrical	Simulator for Electrical charging
		14.15	Electrical	VFD, Magnetic Coupling Need for VFD, Benefits of VFD installation. Description of Magnetic drive coupling.
		15.45	Electrical	Site visit of VFD & Switchyard Equipments at 220 KV Switchyard, Overview of Switchyard, Bus arrangement, Gas circuit breaker - specifications, Air break isolators, Earth switch, CT and PT.
Third	30th Nov 2016	9:00	Electrical	Electrical Condition Monitoring
		11:15		Tea Break
		11:30	Electrical	HT-LT motor working principles & protection system: Abnormal Conditions and Faults in Motor, Comprehensive motor protections, Thermal overload, Short Circuit, Earth fault, Differential, unbalance, phase reversal, under current, stalling, Motor protection relay - RAMDE.
		14:15	Electrical	Switchyard system fundamentals & maintenance
		16:15	Electrical	CHP& ESP Electrical system-maintenance
Fourth	1st DEC 2016	9:00	Electrical	Power & distribution Transformers Maintenance: The Causes Of Transformer Failure' Fault Originating Within The Transformer Tank Disturbances Originating From The System Protection Scheme For Unit Transformer Protection & Relay Use For 60 Mva Transformer.
		11:15		Tea Break
		11:30	Electrical	AVR/DAVR, Energy Management system : Purpose Of Excitation System, Working of AVR, Function Of Excitation System, Characteristics Of Excitation System , Performance Curve, Type Of Excitation System, Effects Of Using Natural Resource, Energy Intensity, Energy Security, Energy Efficiency, Energy Conservation, Ec Act- 2001, Brief About Energy Saving Opportunities In Pumps, Motors etc.
		14.15	Electrical	HT/LT Switchgears maintenance and protection: Selection , Important Features & Categories Of Switchgears, Various Voltage Levels At Dtps, Overview Of Ht/Lt Switchgears At Dtps, Scheme Of 6.6 Kv Sf6 Circuit Breakers, Scheme Of 415 V Emergency Switchgear, Scheme Of Dg Sets & Dgdb, Types Of Feeders, Protection Overview Of Switchgears, Maintenance Of Switchgears,schedules & Practices
		15:00	Electrical	Electrical Safety legal requirement Electrical Inspector:Lifts, Batteries (management & Handling Rules), Earth
		15:45		Tea Break
		16.15	Electrical	Site Visit of of Energy Management system, AVR/DAVR, Switchgears
Fifth	2nd DEC 2016	9:00	Electrical	Emergency supply system at power plant: Need Of Emergency Supply, Emergency Supply System, Single Line Diagram Emergency Supply System.
		11:15		Tea Break
		11:30	Electrical	Generator Working Principles: generator construction - supported auxiliaries like seal oil system, hydrogen gas cooling, generator operational practices, generator commissioning procedure.
		14.15	Electrical	Generator Protections & Testing: Classification Influencing Factors, List of Generator Protection Functions, Group I Generator Protection, Group-II Generator Protection Classification of Tripping, Overall Protection Schematic.
		15:45	Visit-Electrical	Plant visit for Generator and auxilliary systems
Sixth	3rd DEC 2016	9:00	C & I	Six sigma Fundamentals: What is Six Sigma?, Six Sigma Breakthrough Strategy, Six Sigma Initiatives at DTPS – Journey Towards Excellence.
		11:15		Tea Break
		11:30	Electrical	Condition Monitoring: for fans, motors, pumps, turbine. Case studies, oil, wear debris analysis.
		14:15	Electrical	Preventive Maintenance of Electrical System And Major/minor shutdown maintenance electrical equipments
		15:45		Tea Break
		15:50	Electrical	Tools Tackles, Consumables required for Electrical Equipments, Calibration schedules IMTE for Electrical System
		17:00		Certificate distribution

Dahanu Thermal Power Station (DTPS)
Technical Training Centre (CEA Approved - Grade A Institute)
Training Program : Mechanical Module for One week.

Duration: 6 days

Day	Date	Time	Equipment/ Trg aspect/ Dept	Topic
First	28 th Nov 2016	9:00	Introduction	Registration & Introduction to DTPS, Coal to Electricity Process overview
		11:15		Tea Break
		10:00	Safety	DTPS Safety Policy, Industrial Safety-Working at Height,Causes & factors of accidents
		14:15	Plant Visit	Plant Visit to Control Room, Boiler, Turbine, Off site area including CHP, AHP, DM Plant, Raw water treatment plant, CW Pump House.
		17:30		Dahanu Beach Visit
Second	29 th Nov2016	9:00	Mechanical	Boiler fundamentals, Internal Construction, Operation & Maintenance, Internal structure, Design parameters. Flow path,
		11:15		Tea Break
		11:30	Mechanical-Turbine	Turbo-generator fundamentals, Construction, Operation & Maintenance, Internal structure, Design parameters. Flow path,
		14:15	Visit - Mechanical	Visit to Plant - Along with Mechanical Department for above topics
Third	30 th Nov 2016	9:00	Mechanical-Boiler	Boiler auxiliaries - PA/FD/ID fans,APH, Coal Mills - Design details, Operations & Maintenance.
		11:15		Tea Break
		11:30	Mechanical-Turbine	Turbine auxiliaries- Seal Oil, Seal steam, Lub oil, HP/LP Bypass, Condensate & feedwater system Basic operations & maintenance.
		14:15	Visit-Mechanical	Turbine auxiliaries- Seal Oil, Seal steam, Lub oil, HP/LP Bypass etc
		16:00	Visit- Mechanical	Boiler auxiliaries - PA/FD.ID fans,APH, Coal Mills etc
Fourth	1 st DEC 2016	9:00	AHP	Ash Handling (Bottom ash, dry ash, Coarse ash, cilo system) O&M
		11:15		Tea Break
		11:30	CHP	Coal Handling Process & O&M
		14:15	Visit	CHP Site visit
		16:00	Visit	AHP Site visit
Fifth	2 nd DEC 2016	9:00	Plant Operations	Complete Unit start-up & shutdown process of Boiler & Turbine & associated Aux. balance of plant systems for Safe Cold, Warm, Hot conditions.
		11:15		Tea Break
		11:30	Offsite - Mechanical	CW system / Fuel oil system/ Mechanical Process & Maintenance, Fire fighting system / Compressors - Air/ Hydrogen Mechanical Process.
		14:15	Chemical Dept	DM/Raw water system, Chemical Cleaning, SWAS Parameters monitoring & dozing
		16:00	Visit	Offsite systems CWPH, DM,H2 Plant, Compressor house, Raw water pump house etc.
Sixth	3 rd DEC 2016	9:00	MTP	Condition monitoring for Turbine, Fans, Pumps, Mechanical Systems, Wear debris/ vibration/ oil Analysis & action plan, case studies
		11:15		Tea Break
		11:30	MTP	Maintenance planning for Preventive & Periodic Maintenance of Boiler, Turbine, Overhaul Maintenance
		14:15	MTP / O & E	Equipment Criticality Analysis, Best O & M Practices, Benefits of Modular Concept, Energy consumption based maintenance.
		17:00	Top Management	Validictory function