Training & Academic Calendar

2013-2014

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NPTi

प्रावीण्यं परोपवृत्तिश्च

NATIONAL POWER TRAINING INSTITUTE

An ISO 9001 & ISO 14001 Organisation

(Ministry of Power, Government of India)

NPTI Complex, Sector - 33, Faridabad - 121 003, India

Quality System — Quality Endorsed Company ISO 9001 QEC 24781 Standards Australia

Environmental System — Certified Environmental Management ISO 14001 CEM 29733 Standards Australia

JAS-ANZ

www.jas-anz.com.au/register

Our Source of Inspiration

Shri Jyotiraditya Scindia
Hon'ble Minister of State for Power (Independent Charge)

FOREWORD

National Power Training Institute (NPTI), an ISO 9001 & 14001 organization under Ministry of Power, Govt. of India is a National Apex body for Training and Human Resources Development in Power Sector with its corporate office at Faridabad. NPTI had been providing is dedicated service to the Power Sector for more than four decades.

The power sector is undergoing transformation through paradigm changes in Government policies, economics environment and consumer awareness. Unlike the past, electricity generation, transmission and distribution are now considered as commercial activities.

To sustain in this competitive market, organization will have to challenge the existing core beliefs, processes and methodologies and focus on hands-on learning to inculcate the necessary knowledge, skills and attitudes in the personnel.

It is necessary to develop a dynamic training infrastructure consonance with the changing business context to achieve higher productivity and customer satisfaction to cope up with the challenges of Power Sector. We all at NPTI believe in transforming challenges into opportunities and work hard to achieve the objectives.

The Power development programs in 12th five year plan would require enormous efforts in providing adequate trained man power to cope up with the new technologies being introduced from time to time. NPTI has trained over 1,99,502 Power Professionals in regular Programs over the last 4 decades. NPTI is the world's leading integrated power training institute and is the only institute of its kind in the world with such a wide geographical spread and covering such vide gamut of academic and training program in Power Sector.

To keep our trainees abreast with latest technologies, the training infrastructure is also being upgraded. All out efforts are being made to ensure that the courses offered by NPTI stand out and meet the Power Sector needs. We have been modifying our training calendar to incorporate the programs which are in great demand.

I wish the Training and Academic Calendar 2013-14 will be of immense use by all the customer organizations, students, trainees and provide one step on the path of Technical procedural excellence to which NPTI is incessantly and morally dedicated. Any suggestion for improvement and addition of new programs in the calendar are most welcome.

(Subodh Garg)
Director General

Faridabad

GOVERNING COUNCIL
NATIONAL POWER TRAINING INSTITUTE

Shri P. Uma Shankar
Secretary, Ministry of Power
Chairman Governing Council

Shri A.S. Bakshi
Chairperson, CEA
Vice-Chairman,Governing Council

Shri K.K. Agrawal
Member (GO&D), CEA
Permanent Member

Shri Rakesh Jain
Joint Secretary & FA
Ministry of Power
Permanent Member

Shri Manoranjan Kumar
Economic Advisor (T&R)
Ministry of Power
Permanent Member

Shri Subodh Garg
Director General, NPTI
Member Secretary,
Governing Council

NATIONAL POWER TRAINING INSTITUTE

INTEGRATED MANAGEMENT POLICY

NPTI is committed to enrich Human Resources in the Power Sector with frontier technologies, managerial skills and practical exposure; empowering them for sustainable and environment friendly growth of the Nation in compliance with legal provisions.

VISION

NPTI cherishes a vision of value orientation and value addition to the national and transnational power and energy sectors through Training and Human Resources Development, endeavoring to energize the people who energize the Nation.

MISSION

Emerge as global leaders in enhancing human and organizations excellence in Power and Energy Sectors by blending frontier Technologies with Management to facilitate HRD interventions that are instrumental in providing reliable, safe, economic and clean power.

VALUE

We value our drive and commitment to provide cutting edge technologies and top quality service to our clients, sharing our knowledge and caring for their needs.

ATTITUDE

We constantly strive to motivate every power professional to tap his unique human endowments, consciousness, imagination and willpower. Together we make a difference.

Four Decades of Service to the Power Sector

भारतीय अन्तरराष्ट्रीय व्यापार मेला 2012

For the Ministries & Departments Pavilion (adjudged)
Second for Excellence in Display in the

India International Trade Fair 2012

held at Pragati Maidan, New Delhi, November 14-27, 2012
given this award of SILVER MEDAL

विशेष राष्ट्रीय विद्युत प्रशिक्षण संस्थान

To

National Power Training Institute

Asia's Best Employer Brand Awards

Award for Excellence in Training

National Power Training Institute

Dr. R. L. Bhatia
CEO, Fun and Joy at work &
Project Director

Phil Knight
Global Chairman

Council of Power Utilities presents

4th
INDIA POWER
AWARDS 2011

This is to certify that

National Power Training Institute

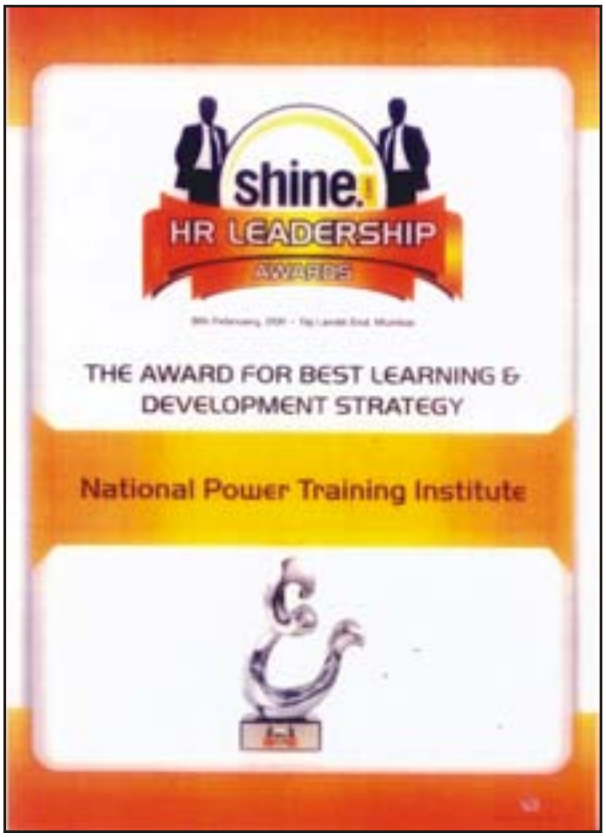
was adjudged the winner in recognition for

Institutions of Excellence in Water and Energy Sector

at India Power Awards, November 24, 2011, New Delhi

C V J Varma
President
Council of Power Utilities


5th EMPLOYER
AWARDS 2010-11
BEST
EMPLOYER
2010-11
AWARD FOR EXCELLENCE
IN TRAINING
National Power Training Institute


shine.
HR LEADERSHIP
AWARDS
THE AWARD FOR BEST LEARNING &
DEVELOPMENT STRATEGY
National Power Training Institute


3rd Asia's Best
Employer Brand Awards
AWARD FOR EXCELLENCE IN TRAINING
National Power Training Institute
UNIVERSUM

TRAINING & ACADEMIC CALENDER 2013–2014

(E) SIMULATOR TRAINING PROGRAM

FOLLOWING PROGRAM CAN BE CONDUCTED/OFFERED TO NATIONAL AS WELL AS INTERNATIONAL ORGANIZATION ON REQUEST/DEMAND BASIS ON APPLICABLE TERMS AND CONDITIONS AT DIFFERENT NPTI INSTITUTES.

(F) MEDIUM TERM COURSES FOR ENGINEERS

(G) SHORT TERM COURSES FOR ENGINEERS

Power System Operator Certificate Conferment Ceremony, New Delhi

Sh. Subodh Garg-Director General, NPTI felicitating
Sh. Debashish Majumdar-Chairman & Managing Director, IREDA

National Power Training Institute (NTPI), an ISO 9001 & ISO 14001 organization under Ministry of Power, Govt. of India is a National Apex body for Training and Human Resources Development in Power Sector with its Corporate Office at Faridabad. NPTI had been providing its dedicated service for more than four decades.

NPTI has trained over 1,99,502 Power Professionals in regular Programs over the last 4 decades. NPTI is the world's leading integrated power training institute. NPTI is the only institute of its kind in the world with such a wide geographical spread and covering a wide gamut of academic and training programs in Power Sector. NPTI's committed faculty is providing excellent training in the Power Sector, which is the most important sector among various infrastructure sectors. A number of programs for foreign as well as national customers have been conducted. These programs have benefitted the executive from different organizations. Training provided by NPTI on Generator Simulators has improved Plant Load Factor of generating Units, has increased the availability of Transmission & Distribution System and has decreased Aggregate Technical & Commercial Losses. This in turn is providing more power to the country. Thus the training being provided by NPTI is having a cascading effect in the growth of GDP and economy of the country.

NPTI operates on an all India basis with man power. Strength of 345 including 100 officers through its 9 Institutes indifferent zones of the country as per detail below:

A. Northern Region

1. NPTI Corporate Office Faridabad.
2. NPTI (Northern Region) Badarpur, New Delhi
3. NPTI (Hydro Power Training Centre) Nangal

B. Southern Region

4. NPTI (Power System Training Institute) Bengaluru
5. NPTI (Hot Line Training Centre) Bengaluru
6. NPTI (Southern Region) Neyveli

C. Eastern & North Eastern Region

7. NPTI (Eastern Region) Durgapur
8. NPTI (North Eastern Region) Guwahati

D. Western Region

9. NPTI (Western Region) Nagpur

Manpower Training and Academic Programmes

NPTI conducts the following industry interfaced academic programs with the objective to create a pool of committed and competent professionals equipped with appropriate technical skills to steer the Indian Power Sector

- Two Year MBA in Power Management approved by AICTE
- Four year B.Tech./B.E. Degree in Power Engineering approved by AICTE
- One Year Post Graduate Diploma Course in Thermal Power Plant Engineering
- One Year Post Diploma Course in Thermal Power Plant Engineering
- Nine Months Post Graduate Diploma Course in Hydro Power Plant Engineering.
- Six Months Post Graduate Diploma Course in O&M of Transmission and Distribution System for Engineers

In addition to the above, several long-term, medium term and short-term training programs in the area of Thermal, Hydro, Transmission & Distribution and Management, Regulatory affairs etc. are being conducted in the various Institutes of NPTI.

Customized training programs for various Power Utilities are also organized round the year. NPTI also conducts various training programmes to ensure availability of properly trained personnel to man the Indian Electricity Industry under Rule 3, Sub Rule 2A of CEA regulation 2010.

NPTI has also been catering to the Training Needs of Process Industries such as Steel, Cement, Aluminum, Fertilizers, Refineries viz., BBMB, BHEL, CEA, DPL, DVC, ECIL, FACT, GAIL, IFFCO, IOCL, IREDA, KRIBHCO, NALCO, NEEPCO, NFL, NHPC, NLC, NPC, NTPC, Power Grid, SAIL, THDC, APGENCO, CESC, HPGCL, KPCL, MPEB, OHPC, OPGCL, RRUVNL, UPRVUNL, ACC, AECO, BSES, HINDALCO etc.

Power Training Simulator

The Institutes of NPTI are well equipped with Hi-Tech infrastructural facilities for conducting different courses on technical as well as management subjects covering the needs of Thermal, Hydro, Transmission & Distribution Systems, and Energy related fields of the Indian Power and allied Energy sectors. It has 500MW Thermal Power Training Simulator at Faridabad Institute and 210MW Thermal power Training Simulator at Nagpur Institute for imparting specialized skills to operation personnel across the country. Also at 430 MW (2x143MW Gas Turbine Replica Simulator has been commissioned at NPTI Corporate Office, Faridabad. A High fidelity Load Dispatch Operator Simulator for the National Grid has been commissioned at PSTI, Bangaluru. A 250MW Hydro Simulator has been commissioned at HPTC, Nangal.

800MW Supercritical Simulator

NPTI is in the process of procuring a 800MW Supercritical Simulator which will be commissioned at NPTI, Faridabad.

GIS

A Geographical Information System (GIS) Resource Centre has been set up at NPTI Corporate Office, Faridabad. The Centre is conducting various courses in GIS and Remote Sensing to meet the requirements of the Power Sector.

Hot Line Training Centre

A facility has been created at NPTI's Hot Line Training Centre, Bengaluru for Live Line Maintenance of Transmission Lines upto 400 KV (first of its kind in Asia) which enables trained personnel to attend to maintenance requirements without power interruptions. Facilities for water washing of sub-station equipments is also available.

Consultancy Services

In order to serve the industry requirements and made best usage of infrastructure and expertise, NPTI has ventured into providing consultancy services in Preparation of DPRs under R-APDRP (11th Plan) and NPTI has also been appointed as REC Quality Monitor (RQM) for Tier-II Inspection of RGGVY Works under 11th Plan for Six States. NPTI has also been awarded the Third Party Inspecting Agency (TPIA) works by few DISCOMs for the RGGVY works under the 10th Plan & 11th Plan.

NPTI is providing consultancy services to WAPCOS for preparation of DPR for establishment of Power Training Institute in Bhutan. NPTI is also providing consultancy services to NHPC for preparation of DPR for establishment of Hydro Power Training Institute in Jammu & Kashmir.

NPTI also provides consultancy in the field of Human Resources Development including Training Need Analysis, Upgradation of training facilities, Customized Course Designs, Capacity Assessment/Evaluation for Promotion etc.

Regulatory Framework in Power Sector

(A) System Operator Certification Examination

NPTI's Power System Training Institute (PSTI) is conducting first of its kind Training & Certification of Power System Operators for System Operators of NLDC, RLDCs and SLDCs. This course equips the System Operators with necessary inputs to take up the System Operators Certification Examination.

The first on-line examination for System Operator Certification was conducted at 12 Centres across the country on 6.11.2011 and the second on-line examination was conducted on 16.12.2012.

(B) Specialist Level Training and Certification for Certified System Operators

The proposed level of examination is recognized as the next step towards in the continued capability enhancement of system operators and an area of specific specialization. The first online examination for this level of certification will be held on 17 March 2013 NPTI is conducting preparatory training program for this examination.

International Training

Professionals from various countries like Oman, Bangladesh, Cambodia, Bhutan, Ethiopia, Iraq, Kenya, Malaysia, Mexico, Myammar, Nepal, Nigeria, Afghanistan, Philippines, Sudan, Syria, Zambia, ZESA, Zimbabwe etc. have also undergone training at NPTI's various training Institutes.

Indo-German Energy Program

M/s Evonik Energy Services (India) Pvt. Ltd. [now known as M/s STEAG Encotech (India) Pvt. Ltd. (SEL)], has entered with a long-term association with NPTI to implement the Project "Power Plant Performance Reporting and Improvement under Energy Conservation Act" in the country by way of organizing training program/seminars/workshops etc. This program in conducted is cooperation with CEA and BEE.

NPTI's Publication and Multi media CBTs

NPTI has published around 79 Training Manuals for different courses. NPTI has also developed more than 55 Multimedia Computer Based Training Packages for power professionals and marketing them at reasonable prices to the utilities and educational Institutes.

Setting up New Training Institutes

Solapur Power & Industrial Training Institute (SPITI) has been set up by National Thermal Power Corporation Ltd. (NTPC) and is being managed by National Power Training Institute (NPTI). The aim of SPITI, Solapur is to develop trained manpower for power sector and focus on the skill development of power sector personnel and impart training in the area of Generation, Transmission and Distribution and thus meet the needs of trained manpower. The Institute is recognized by National council for Vocational Training (NCVT) for these trades of Electrician, Fitter and Welder. SPITI shall also offer various training courses including four more job oriented ITI trades and also advanced courses required for power sector.

Placement

Our students of MBA in Power management and B.E./B.Tech Power Engineering. Post Graduate Diploma Course and Post Diploma Course, students are finding placement in

reputed companies like CRISIL, CARE, BSES, KPMG, REL, Moser-Baer, Lanco, GMR, FEEDBACK INFRA, Suzlon, Tata Power, Torrent Power, Price Water-House Cooper, Deloitte etc.

Vision Ahead

NPTI is furthering the quality of industry-interfaced education and training being provided by our various Institutes focusing on improvement in the following areas:

- Renovation & Modernization of existing nine (9) Institutes by way of Improvement of infrastructure of the Institute office buildings, Labs, hostels etc.
- Augmentation of the existing infrastructure of all Institutes by way of creation of more training infrastructure like class-rooms, conference halls, auditoriums, hostels, residential quarters etc.
- Establishment of more Power Training Institutes in the country.
- Starting of new MBA program in Power Management through correspondence.
- Starting of new part-time MBA program in Power Management.
- Starting new Executive MBA program in Power Management for experienced professionals.

Awards and Recognitions

NPTI was granted **ISO 9001 & 14001 Quality Environmental management Integrated System Certifications.**

NPTI's conscious commitments were recognized by the National Foundation of Indian Engineers (NAFEN) and their '**Best Training and HRD Institute of the Millenium Year Award**' was conferred on **NPTI** by the Hon'ble Minister of Power in 2000.

NPTI was conferred with the '**ISTD National Award 2001-02 for Best HRD Practices: Second Best Organization**' in a National Competition.

"**Jawaharlal Nehru Memorial National Award 2002**" for Excellence in Energy Conservation was conferred on NPTI by the International Greenland Society, Hyderabad during 2000-01.

NPTI was conferred upon "**Mother Teresa Memorial National Gold Award 2003**" for the best Educational Institution in the country by the MSBR Educational Society, Hyderabad.

NPTI Corporate Office was awarded with **NTPC Rajbhasha Shield for Excellent work in Hindi** for the year 2005-06.

NPTI was conferred with award for "**Institutional Building**" for the year 2008-09 by the World HRD Congress, Mumbai.

NPTI has been conferred the 2nd Asia Best Employer Brand Award 2011 for "**Excellence in Training**" for the year 2010-11 by the World HRD Congress, under the category Employer Branding Award at Singapore.

NPTI has been conferred the award for "**Best Learning and Development Strategy**" for the year 2010-11 by the World HRD Congress, under the category shine.com HR Leadership Award.

NPTI has been conferred the 4th Indian Power Award 2011 instituted by Council of Power utilities for "**Excellent Work in Imparting Training to Power Engineers**".

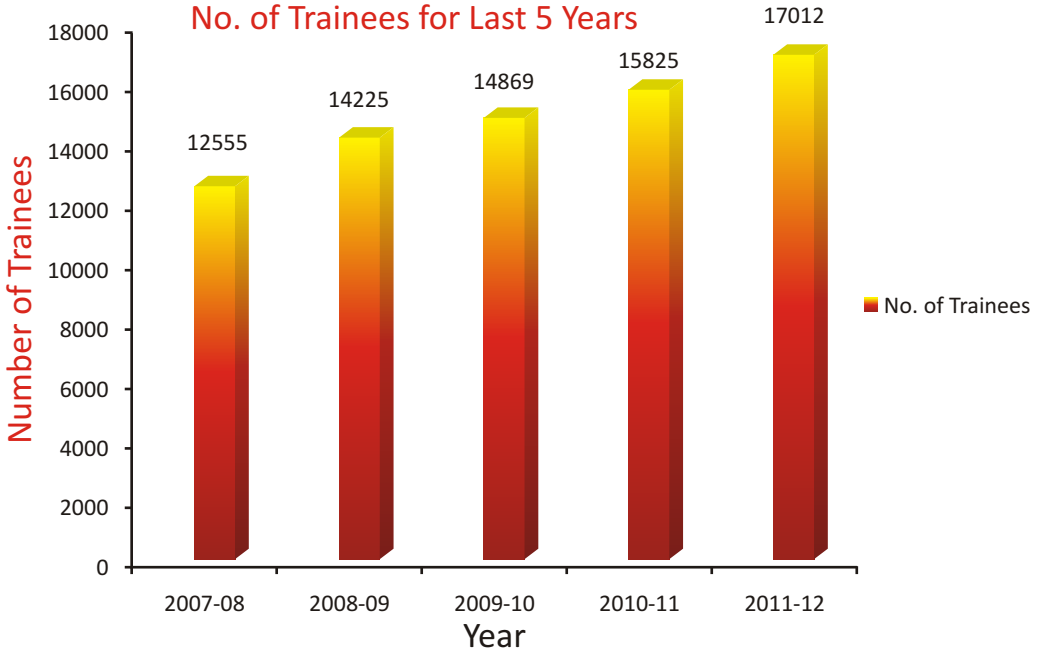
NPTI has been adjudged the winner in recognition for Institution of "**Excellence in Water and Energy Sector**" by council of power utility at forth India Power Award 2011

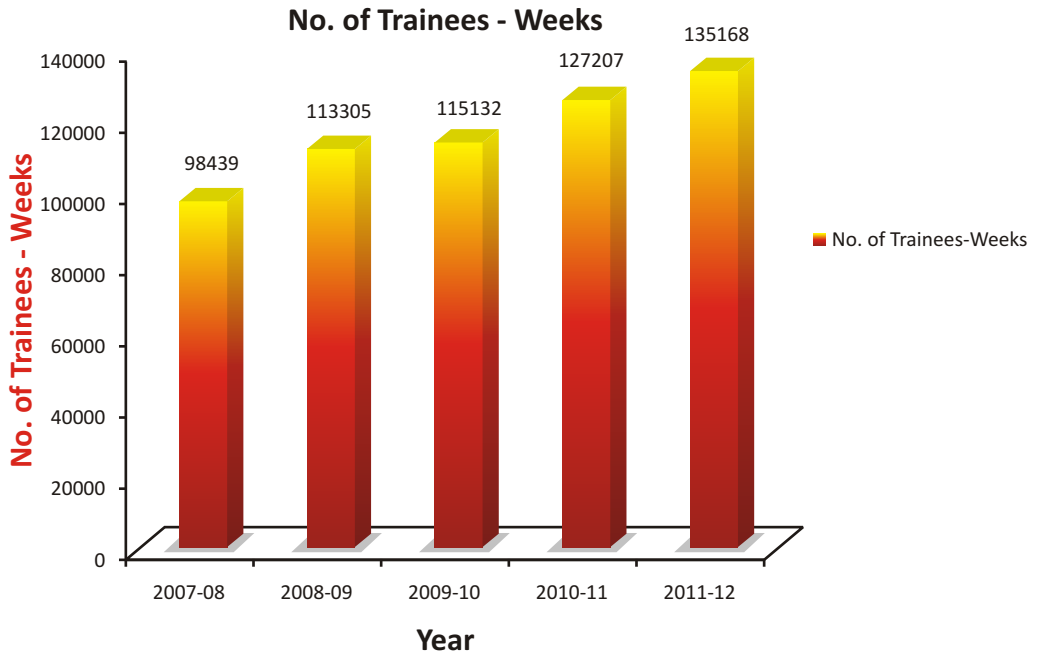
held at New Delhi, Nov. 2011.

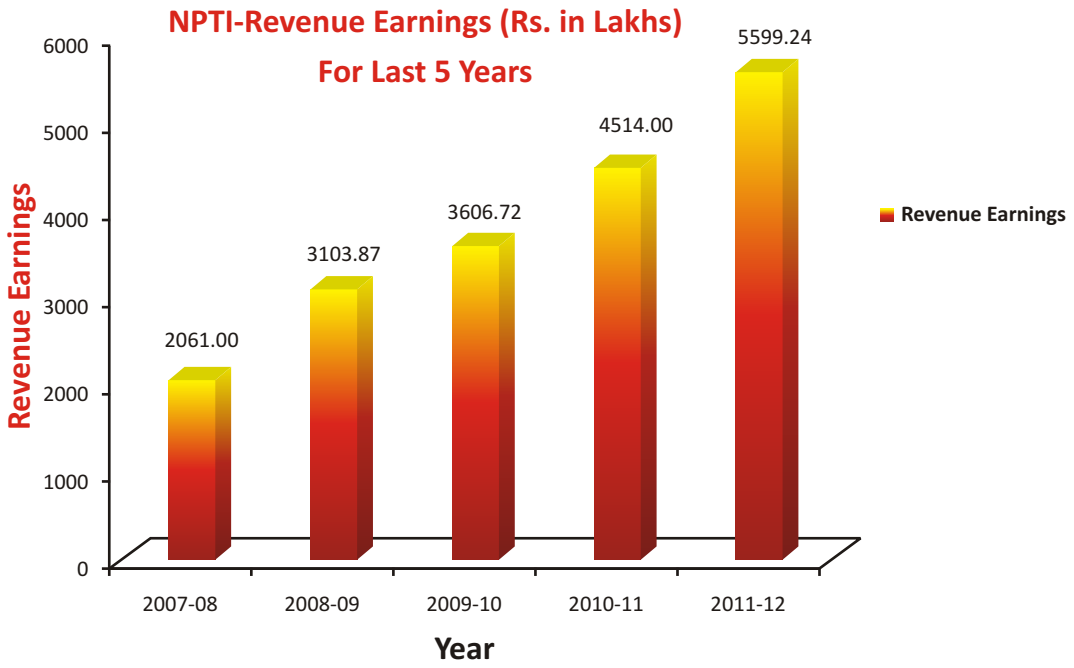
NPTI has conferred the 3rd Asia's Best Employer Brand Awards 2012 for "**Excellence in Training**" for the year 2011-12 by the World HRD Congress, under the category Employer Branding Awards at Singapore.

NPTI has been awarded 2nd award for "**Excellence in Display**" for the Ministries and Department Pavilion in the 32nd IITF - 2012 held at Pragti Maidan, New Delhi.

The graphics representations of key performance parameters of NPTI or a period of 5 years is so below







Achievements & Performance

Since the inception of its first Institute in 1965, NPTI has so far imparted training to more than 1,99,502 personnel from Central PSUs, SEB, Power Utilities and Private Sector organizations. About 9,100 operation engineers have been imparted effective integrated unit operation training on the Simulators available with NPTI.

MANPOWER IN NPTI

NPTI is having on its roll total 345 nos. employees out of which group '**A**' officers are 100.

ACADEMICS

(I) MBA (Power Management)

CAMPS launched its first ever MBA Program in Power Management, in the year 2002, which was a first for the sub-continent, to meet the huge requirement of Power Managers in Ministry of Power's massive efforts of attaining self-sufficiency in Power Sector and run the Indian Power Sector on Commercial lines. This MBA Program duly approved by AICTE is affiliated to Maharshi Dayanand University, Rohtak. This Program with a Difference has a special emphasis on reforming Power Sector issues and ethos to give extra strength to Indian Power Sector Engineers applying management theories and concepts to live problems of electricity industry in these challenging times. This Post-Graduate program also provides cutting edge qualities to develop Business leaders and decision makers with appropriate managerial and technical skills capable of thinking innovatively and duly sensitized to social and environmental interface searching for alternative solutions and run the Indian Power Sector more effectively and efficiently. The intake for the program is 120 seats, out of which 15 seats are reserved for candidates sponsored from Power Sector organizations.

(II) B.Tech./B.E. (Power Engineering)

The 4-year B.Tech./B.E., in Power Engineering (Mechanical/Electrical) course being offered by NPTI is the first of its kind in

India. The program is directed at the young aspirants who are looking for a bright career in the Power Industry, the backbone off all industrial activities.

The program coverage includes the regular inputs generally provided in B.Tech. programs and lays special emphasis on Indian Electricity Act 1956, preparing skilled Engineering Executives for the Power Sector.

This is an AICTE approved course being offered at New Delhi, Nagpur & Durgapur Institutes with an intake of 60 seats each and are respectively affiliated to GGSIP University, RTM Nagpur University & West Bengal University of Technology. The objective of the course is directed at creating a pool of committed and competent professionals equipped with appropriate Technical skills to steer the Indian Power Sector and run it on techno-commercial lines. The curriculum is also designed in such a way that by selecting Mechanical/Electrical electives the final award of Degree can be B.Tech./B.E., in Power Engineering (Mechanical/Electrical) which is offered at Badarpur Institute.

(III) Post Graduate Diploma in Thermal Power Plant Engineering (PGDC)

NPTI weaves formal education with industry oriented specialized skills to cater to the needs of Power Sector. In one of its most successful attempts to create a pool of Technically trained man power for ready availability for recruitment by PSUs/SEBs/ Power Utilities, NPTI launched a one year 'Post Graduate Diploma Course in Thermal Power Plant Engineering', in 1996 recognised by AICTE, at its institutes in New Delhi, Nagpur, Durgapur, Neyveli, Guwahati and Nangal. The PG Diploma Course is having an exceptionally encouraging response and many Power Companies recruited this trained man power through campus recruitments over the years.

This course is for fresh and practicing Graduate Engineers for a period of one (1) year.

(IV) Post Graduate Diploma in Hydro Power Plant Engineering

This 39 week duration course cover all aspects of Hydro Power Plant engineering viz creation O&M commissioning etc. The Course authorised the engineer to operate and maintain Hydro Power Plants

(V) Post Graduate Diploma Course in Transmission and Distribution System

This 26 week duration is having the objective to create technically trained man power readily available for recruitment to the power companies in the area of transmission and distribution system.

(VI) Post Diploma Course in Thermal Power Plant Engineering (PDC)

Sensing the need for trained man power in the Supervisory cadre a Post Diploma Course in Thermal Power Plant Engineering was also launched in December 2000 at the four Institutes New Delhi, Nagpur, Durgapur, Neyveli and recently in Guwahati also. This one year course is aimed at developing skills and the attitude for fresh and practicing Diploma engineers.

(VII) Certificate of competency in Power Distribution

Ministry of Power has taken an initiative for development of Human Resources at Group 'C' and 'D' level in Transmission & Distribution area is being conducted in collaboration with IGNOU and NPTI. The program has been designed for the Technicians/Tradesmen working in Power Sector (sponsored by Utilities) and Non-sponsored general candidates at least 8th Pass. This course is being conducted at our Nagpur & Durgapur Institute.

NPTI Corporate Centre

The corporate Centre of NPTI is situated in Sector-33, Faridabad. While coming from Delhi to Faridabad, NPTI Complex is around 5 Kms. from Badarpur Border and located adjoining to NHPC Corporate office. One has to take local bus up to Badarpur Border form Railway Station, Sarai Kale Khan (Near Nizamuddin Railway Station), ISBT, Lajpat Nagar or Ashram. From Border autorickshaws are available upto NPTI complex, Auto rickshaws are also available form Faridabad to reach NPTI Corporate Centre. The Centre for Advanced Management and Power Studies (CAMPS) is located in the same campus.

NPTI Corporate Centre

NPTI Northern Region Badarpur, New Delhi

The institute is located inside the Badarpur Thermal Power Station (BTPS) Complex, situated on the National Highway No. 2 (Mathura road). From Delhi & New Delhi railway Stations, Delhi Transport Corporation (DTC) and private buses ply to Badarpur Border and pass right by the side of Thermal Power Station Gate. DTC and Haryana Roadways buses going to Faridabad and Ballabgarh from Inter state Bus Terminal (ISBT) stop at BTPS Complex DTC and Private Buses of Route No. 405, 415, 460, 473 & 479 ply to Badarpur, Buses are also available form Faridabad to reach the institute.

NPTI Northern Region Badarpur, New Delhi

NPTI (HPTC), NANGAL

The Institute is located at Nangal, (district Ropar), Punjab, just besides Nangal Dam railway Station. It is close to the Bhakra Beas Management Board Township. It is about 390 Km from Delhi and 104 Km from Chandigarh. Nangal Dam can be reached by trains form Delhi Railway Station and by bus from I.S.B.T. Kashmiri Gate, New Delhi. Bus services are also available from Chandigarh.

NPTI (HPTC), Nangal

Power Systems Training Institute, Bengaluru.

The Institute is situated on the Subramanyapura Road opposite to 9th Main road, Yarabnagar, Banashankari Second Stage behind Banashankari temple, Bengaluru. The Institute is about 10 Kms. away from Bengaluru City railway Station/ Bengaluru City Bus Stand and 20 Kms. From Bengaluru Airport. Pre-paid Auto Rickshawa servies are available form Bengaluru City railway Station. City buses also ply via Yarabnagar bus stop (Bus Route Nos. 15 C, 15 E, 15 H, 210 A, 210 R and P 210 A from Bengaluru City Bus Station). Pre-paid taxi services are available from the Airport also.

Power Systems Training Institute, Bengaluru.

Hot Line Training Centre, Bengaluru

This institute is about 35 Km from Bengaluru city Railway Station and City Bus Stand. It is situated next to 220KV Sub-Station of Karnataka Power Transmission Corporation Ltd. (KPTCL) and 400KV Sub- Station of Powergrid on Kanakapura Road (National Highway 209) and opposite to Acharya Patasala College (APS) of Engineering Campus. Buses are available from Krishna Rajendra (K.R.) Market which is about 3 Km from City railway station/ City Bus Stand. The Institute can be reached by buses with the following route numbers 211, 211D, 211E, 211G, 211N, 211Q, 213, 213A, 213B, 213K, 213F/A etc. The Bengaluru city (International) Airport is about 60 kms North-West of the institute from where prepaid taxies are available.

Hot Line Training Centre, Bengaluru

NPTI Southern Region, Neyveli

The Institute Complex is located at Block 14 of Neyveli township and is about 6 kms from the Neyveli Central Bus Stand. Auto Rickshaws are available at the bus stand to reach the Institute Complex. Neyveli can be reached from Chennai by Tamil Nadu State Transport Corporation Buses. Neyveli can also be reached by train from Chennai Egmore Railway Station to Virudhachalam Railway Station and by bus from Virudhachalam to Neyveli. Neyveli is about 200 kms. by road and 250 kms. by train from Chennai.

NPTI Southern Region, Neyveli

NPTI Eastern Region, Durgapur

The institute complex is located at the City Centre area (Michel Faraday Avenue) and is about 9 Kms. From Durgapur Railway Station. Taxis, Auto rickshaws are available at Durgapur Railway Station. City buses also ply upto City Centre from where Rickshaws can be engaged for reaching the Institute.

NPTI Eastern Region, Durgapur

NPTI North Eastern Region, Guwahati

The Institute is located near SLDC Complex, ASEB, Kahilipara, Dakhingaon, Guwahati-19. In order to reach the Institute, city buses, (Route No.-2 at Kachhari), autorickshaws, taxis are available from the Guwahati Railway Station. The Institute is about 10 Km from Guwahati Railway Station and 30 Km from Gopinath Bardoloi International Airport, Guwahati.

NPTI North Eastern Region, Guwahati

NPTI Western Region, Nagpur

The Nagpur Institute is located at about 8 kms. From the Nagpur railway staion. Taxis, auto-ricksahaws and city buses are available to reach the Institute. The Institute is situated opposite to the main gate of Vishweshvarayya N.I.T. on South Ambazari Road and the nearby area is called Gopalnagar. The institute is about 10 kms from the Dr. Baba Saheb Ambedkar International Airport

NPTI Western Region, Nagpur

Main Objectives

The primary objectives of this organization are:

- To function as a National Organistion for training in the fields of (a) Operation and Maintenance of Power Stations, and (b) All other aspects of Electrical Energy Systems including transmission, sub-transmission and distribution.
- To act as an apex body for initiating and coordinating training programs in the Power Sector of the Country.
- To establish and run Training Institutes for Engineers, Operators, Technicians and other personnel of the Power Sector.

Subsidiary Objectives

- To design syllabi/courses for the Graduate Engineers, Operators and Technicians to be inducted in Power Stations.
- To co-ordinate the training activities of the various utilities with those of other technical institutions and industries.
- To establish standard norms regarding qualifications and training for personnel at various levels.
- To serve as a National Certification Authority (NCA) for the purpose of certification of competence and/or participation to ensure availability of properly trained personnel to man the electricity supply industry.
- To initiate and co-ordinate the research and development in the field of operation, maintenance and management of power generation and transmission distribution systems.
- To establish, maintain and manage laboratories, workshops, experimental transmission lines, sub-stations and other facilities required in the pursuance of its objectives.
- To collect information and maintain documentation in the field of electricity generation and distribution.
- To collect, prepare, edit, print and publish materials, papers, periodicals or reports in furtherance of objectives of the Society.
- To organize seminars and workshops.
- To enter into agreements with any enterprise(s) or institution(s) or person(s) and provide efforts for specific training programs, demonstrations, assignments, preparation of training material or technical guidance.

Training – A Necessity

- Power industry is a multi-disciplinary, highly capital intensive industry.
- Human element is the most vital input of the Power Sector.
- Power Generating Stations require technically trained manpower for project planning, implementation, erection, commissioning, testing, O&M including transmission and distribution of power.
- Formal studies available in educational institutions can not equip a person with knowledge of different inputs required for the job performance in Power Sector.
- Special training becomes necessary for personnel at every level in the industry to keep abreast with rapidly advancing state of the-art in the power industry.
- Power is basic to national development and industrialization, thus making it imperative to have optimum efficiency.

Training Methodology

To achieve the objectives of providing total concept of power plant training, different types of learning situations will have to be created/ organized. These are :-

- Class room lectures for imparting formal, theoretical and technical knowledge.
- Case studies/Group discussions.
- Self learning techniques, like computer based self learning training packages etc.
- Practical hands-on training in corrective maintenance methods and techniques.
- Through simulation techniques and on-job training in Power Stations/Power

Systems. The training methodology so adopted creates step by step environment for all round development of skills and knowledge of the participants.

On-job Training

On-job training is an essential supplement to formal training which provides the trainees an understanding of the functions through involvement with real work situations. Special stress is laid on acquisition of required skills for undertaking specific responsibilities in a particular area of work. On-job experience simplifies and consolidates knowledge in a particular sphere for which special type of work books have been designed according to the needs of area where on-job training is conducted.

Training Support Services

A Technical section is setup under NPTI to develop training aids like manuals, periodicals, slides etc., to meet the training needs of the Power Sector. Technical Section is playing crucial role in the following areas:-

- To design appropriate programs for Power Sector personnel.
- To design and develop manuals, lessons, notes, tests including the Audio-Visual training aids.
- To revalidate training programs through evaluation, feed back on training effectiveness and follow-up.
- To advise on training methodology.
- To establish and maintain data bank, and reprographic facilities.
- To collect, prepare, edit, print and publish training manuals, papers, periodicals, annual training programs calender and reports.
- To collect information and maintain documentation in areas related to Power Sector.
- To render assistance in equipping the Regional Training Centres with appropriate training equipments and materials.
- To organize Seminars/Workshops/ Conferences as per the need of the Power Sector.

Sh. R.K. Mishra- Director (T&P), receiving award for excellence in display for the Ministries & Departments Pavilion in the 22nd India International Trade Fair - 2012 from Dr. Purandeswari, Union Minister of State for Commerce & Industry.

Multimedia Computer Based Training (CBT)

Multimedia CBT has been identified as one of the cost effective means of delivering consistent high quality training. In view of this, a CBT cell has been established at NPTI, Corporate office at Faridabad and also at other Regional Centres for developing the multi media "Self-Learning" packages in various technical areas concerning Power Generation, T&D and Management. These packages are widely used by the trainees at the open Learning Centres (OLCs) of NPTI as well as by the other power utilities of the country like APGENCO ,BHEL, MSEB, RRVUNL, NTPC, NHPC, SJVNL, J&KPDC, PSEB, NPCL, TNEB, OHPC, NLC, DVB, KLTPS, DVC, WBPDCL, IPPGCL, BBMB, BSES, TATA POWER, Thermax, ACC, APSEB, NDPL, UPRVUN, BSEB, WSEB, JSW energy Ltd., Bellari Karnataka, Adani Power, THDC, Orissa Power Transmission Corpn. Ltd., MP Poorv Kshetra Vidyut Vitran Corpn. Ltd., Mahavitran Maharashtra, Karebo System (P) Ltd., (U.K), Meghalaya SEB etc.

Engineering Institutions: G.B. Pant University of Agriculture and Technology, NIT, Raipur,

NIT, Durgapur, Jawaharlal Nehru Technological University (AP), Kalyani University (WB), CMERI (Durgapur), VNIT (Nagpur), Delhi College of Engineering (Delhi), Bharati Vidyapeeth, Deemed University, Pune etc.

These CBT packages developed are available for sale, at cost–effective nominal prices.

This cell also provides assistance to the SEB's and Utilities in developing facilities for use of these packages.

Hostel Facilities

Well furnished Executive hostel and Trainee hostel with modern lodging and boarding facilities are available to accommodate about 550 trainees at NPTI Corporate Centre complex, Faridabad.

Well furnished hostels are also available at each of the regional institute of NPTI where modern and hygienic lodging and boarding facilities are available. Those desirous of availing the hostel facilities will have to intimate in advance to the Principal Director and obtain confirmation for the same. In case a participant does not stay in the hostel, he has to make his own arrangements to reach the Institute. Recreation and indoor sports facilities like Table Tennis, Badminton, Carom, Chess etc. are available for trainees in Hostel, creating a congenial atmosphere of a Home away from Home.

The hostel accommodation is provided to the trainees only for the period of training course. If the occupant of hostel, whose allotment has been cancelled due to termination of training course, continues to stay in hostel, exceeding 15 days from the date of completion of the course, charges at three times of license fee per month under unauthorized occupation are recoverable till the date of vacation/eviction.

Library

NPTI Corporate Centre library has a large collection of books and video packages on modern power station technology and practices, various branches of engineering, science, industrial relations, management etc. It subscribes to a number of Indian and foreign technical journals and periodicals.

All regional institutes have modern libraries having a large collection of books and multimedia films on Power Station Technology, Mechanical Engineering, Electrical Engineering, Power Plant, Chemistry, Control and Instrumentation, Electronics, Computers, Management etc. These libraries also subscribe to a variety of Indian and foreign periodicals and journals for keeping in tune with the latest developments in Engineering & Technology.

Delegates from STPG, Sudan during their visit at NPTI Corporate Office, Faridabad.

As many as 79 Technical manuals/books have been published by NPTI faculty with lucid presentations to enhance the conceptual understanding of various subsystems. These are available at nominal prices for procurement by Power Utilities and individual. Price List of NPTI Publications can be provided on request.

Auditorium, Conference Hall, Residential Quarters

The NPTI Corporate Centre Complex is situated on a picturesque landscape of about 15 acres. The campus houses the main institute building, guest house, hostels, sports complex and residential quarters for the employees. The main Institute building houses lecture halls, a Syndicate room, Sanctum Sanctorum, library, Administrative

Office, a 500MW Simulator, and a 430MW CCGT Simulator etc. A centrally air-conditioned 275 seat capacity Auditorium with the latest Audio/Video System with motorized screen has been established at NPTI Corporate Centre. A cozy conference hall with most modern amenities and seating capacity for 55 persons is also available. Both Conference Hall and Auditorium are being used for conducting Seminars, Conferences, Workshops and for Cultural Activities.

Each Regional Institute has auditorium for conducting Conferences, Seminars and workshops etc. These auditoriums are also provided for conducting of cultural programs by the trainees, staff and their family members.

SIMULATORS

A. 500 MW Simulator

NPTI has set up a high-quality, high-fidelity real-time full scope 500 MW Fossil Fuel Fired Power Plant Training Simulator, at its Corporate Centre. The Simulator realistically emulates the behavior of the entire process simulation in a real-time scenario for a meaningful and off-job Operator Training. This is a replica of the 500 MW Stage-III, Unit-5 of Chandrapur Thermal Power Station of MAHAGENCO and has a unique facility of imparting training on the 'Conventional Control Panels' as well as on the 'Video Process Control' (DDC/CRT-Key Board based Unit Operation) Panels in Virtual Panel and Control Schematic modes of Unit Operation, taking care of the needs of futuristic trends in Power Plant Operation. The Simulator training results in Operators making better judgment calls, reduced plant trips, trouble free start-ups and maneuvering of plant sub-systems, optimum usage of auxiliary resources, extended equipment life, less down time and lower costs. The Simulator has more than 250 emergency conditions, including DAS functions for applications ranging from Operator Training to engineering and plant performance analysis and improvements etc.

B. Combined Cycle Gas Turbine Simulator

NPTI has set up a high-quality, high-fidelity real-time 430 MW Combined Cycle Gas Turbine Power Plant Simulator, at its Corporate Centre. The Simulator realistically emulates the behavior of the entire process simulation in a real-time scenario for a meaningful and off-job Operator Training. This is a replica of NTPC Faridabad Gas Power Plant, Siemens Make V-94.2 Model comprising of 2x143 MW Gas Turbines and 1x144 MW steam Turbine. This CCGT replica Simulator is equipped with all the CRT controls with Latest State-of-the art Barco Screens. The training on this simulator will benefit operators and Shift Charge Engineers working or being posted on Combined Cycle Gas Plants.

Delegates from M/s Mitshubishi Power Systems, Japan during their visit at NPTI Corporate Office, Faridabad

C. 210 MW Thermal Power Plant Simulators

Regional institutes at Badarpur and Nagpur are equipped with 210 MW Fossil Fuel fired thermal power plant full scope real time Simulators. The Simulator at Badarpur is a replica of 210 MW Unit of Badarpur Thermal Power Station, New Delhi and the one at Nagpur replicates 210 MW unit of Khaperkheda T.P.S. of MAHAGENCO These Simulators provide a unique opportunity for

the trainees to experience a full range of operation and stress situations in an integrated mode of Unit Operation. These state-of-the-art Simulator facilities improve the reflex operational skills of Shift Charge Engineers, Unit Controllers, Operators and fresh engineers being inducted into Operation and fine-tune their skills in

Operational emergencies together with tremendous integrated Unit experience, exposure and understanding of normal operations viz., Cold, warm & Hot Start up processes as well. NPTI has trained more than 7691 engineers and operators on these simulators, since their installation.

D. Dispatcher Training simulator (DTS)

The DTS laboratory at PSTI Bengaluru is a digital computer based high fidelity Power System Simulator in which a representative system of National Grid is simulated. It has options for all types of generation like Hydro, Thermal, Nuclear, Gas, Pumped Storage System and for Transmission schemes covering 200KV & above and also for the various generation voltages. The transmission equipment like Transformers, Transmission lines, Capacitor banks, Bus Line Reactors, SVCs, CBs, isolators etc. are all suitably represented in the simulator. The real-timesimulation is carried out for normal and emergency conditions of the network with initial conditions. The behaviour of various Power System elements for different loading conditions can be studied in the Simulator. Time tagged or manual events can be introduced on-line into the Simulator during exercises. Protection schemes could be implemented with the help of voltage relays, frequency relays, rate of change of frequency relays, over current relays etc. Thus the actual system occurrences can be Simulated and saved as save cases. Hence, it is acomprehensive training tool for training of Power System and Load Dispatch Engineers and Operators.

E. Hydro Simulator, Nangal

NPTI has installed a state of the art real time full scope 250 MW hydro simulator replica of U#1 of Nathpa Jhakri Hydro Power Plant at HPTC Nangal. The Simulator has the facility to operate from the conventional Panel as well as from the VPC mode of operation.

Laboratories/Workshops

The laboratories and Workshops are the prerequisites for providing off-job, hands-on training in the maintenance aspects. The institutes under NPTI have built well equipped laboratories and workshops with wide ranging facilities for imparting training from Technicians to Operators to Engineers, in various aspects of Power Stations. Some of the areas where expertise have been built up are:

(i) Control and Instrumentation Laboratories with facilities for testing, calibration and repairs of different types of process control instruments.

(ii) Maintenance workshops for Valves, Bearings & Shaft alignment, Pumps, Motors etc.

(iii) Electrical laboratories with facilities for testing of relays, electrical equipments, insulating oils etc., along with repairs as per requirement.

(iv) A lab of 120 nos. computers along with instructor console has been established with the facilities of LAN and Internet connectivity at corporate office Faridabad.

OLCs. (Open Learning Centres)

OLC (Open learning Centre) is the infrastructural facility available to help the trainee/trainer to go through the multimedia CBT packages at their own choice and pace without any help of the subject expert. OLCs have been established at all the six Regional Institutes. The multimedia CBT packages developed at NPTI Corporate Centre and other Institutes are being used by the Institutes for training.

Additionally all the OLCs at the Corporte Centre and the Regional Institutes have complete Internet access through all days of the week.

Consultancy Services

In order to serve the industry requirements and make best usage of infrastructure and expertise, NPTI has ventured into providing consultancy services in the field of Human Resources Development including Training Need Analysis, Up-gradation of training facilities, Customized Course Designs, Capacity Assessment / Evaluation for Promotion / Recruitment etc. NPTI also provides consultancy in Preparation of DPRs under R-APDRP (11th Plan) and NPTI is also REC Quality Monitors (RQM) for Tier-II Inspection of RGGVY Works under 11th Plan for Six States. NPTI has also been awarded the Third Party Inspecting Agency (TPIA) works for a few DISCOMs for the RGGVY works under the 10th and 11th Plans. A few of the consultancy assignments are :

1. NPTI has been engaged as consultant by M/s Advanced Engineering Associates International, Inc., USA for the Project on "Human and Institutional Capacity Building for Afghanistan Energy and Natural resources Sector" awarded by USAID. M/s. AEAI & NPTI entered into MOU for undertaking the above work. A report for establishment of a Vocational Training Centre (VTC) at Kabul has also been submitted.
2. NPTI has undertaken consultancy assignments of preparation of DPRs for the Energy & Power Department, Govt. of Sikkim and Purvanchal Vidyut Vitaran Nigam Ltd., Varanasi under the R-APDRP Scheme of the Govt. of India of the 11th Plan. The work involves study for improvement of existing Power Distribution System and preparation of comprehensive DPRs for renovation & modernization of Sub-transmission & distribution system along with proposal for new 33/11 KV Sub-Stations, Installation of new 11/0.4 KV distribution sub-stations, drawing of new HT/LT lines etc. The DPRs for about 20 Towns in Sikkim and 29 towns in PUVVNL, Varanasi have also been submitted to the Utilities.
3. Rural Electrification Corpn. empanelled NPTI as a Third Party Inspecting Agency (TPIA) for inspection of Village Electrification works. NPTI has been assigned with the Third Party Inspecting agency works for DISCOMs of Karnataka viz. MESCOM, GESCOM for the RGGVY works under the 10th and 11th Plans.
4. National Power Training Institute (NPTI) gests consultancy Contract fro preparation of FR/DPR for the establishment of a new Power Training Institute (PTI) in Bhutan. Hydroelectric Projects of 10,000 MW have been planned at Bhutan with the support of Govt. of India to meet the manpower requirements fro the projects and generate employment, the local youths needs to be trained M/s WAPCOS Ltd., (A Govt. of India Undertaking has been given an order dated 24.2.2012 to NPTI for preparation of FR/DPR for the establishment a new Power Training Institute (PTI) within Bhutan sole dedicated to the hydropower sector to provide training Graduate Engineers, Diploma holders and ITI/VTI certificate holder in Operation and Maintenance aspect. The broad scope of work includes study of assessment the requirements in respect of infrastructure (plot area buildings, laboratories and workshops, other non-residential building, hostel and staff quarters, recreation areas, electrification, telecommunication, water supply and sewage, computer hardware and software, tools and equipment, vehicles, training simulators), consumables, training staff, training courses to be offered, course contents and schedules, entry qualifications, financing mode, fund requirement and time frames etc.

5. NPTI has been awarded a consultancy contract by NHPC on 15.10.2012 for preparation of Detailed Project Report (DPR) for setting up of a Hydro Power Training Institute at Kangan (near Srinagar), J&K. The State of J&K has a hydel potential about 20,000 MW out of which on 2456 MW has been harnessed so far. The State Govt. and Central Govt. have drawn up an ambitious plan for harnessing the vast hydel potential of the State and generation about 6565 MW of Power during the next five years. There a need of trained manpower to operate and maintenance these upcoming plants in the state. To cater such a massive requirement of training. State Government of Jammu & Kashmir requested NHPC for establishing, operating and maintenance a Hydro Power Training Institute.

Models

All the Institutes under NPTI have good number of working and non-working models relating to various main systems and equipments of Thermal Power Stations, Hydro Power Stations and Power Systems. Models for demonstration in the diversified areas of training in NPTI are also available.

Audio Visual Aids

All the institutes are well equipped with Audio Visual aids which are required for efficient running of training programs. Latest computer compatible projection systems have been added to the existing slide projectors, over head projectors, DVD Players televisions, recoding decks, personal computers, slide-synchronized packages for various lessons in operation and maintenance of Power Stations.

Sh. Devendra Chaudhary-Additional Secretary, MoP at NPTI Corporate Office, Faridabad

Medical Services

Services of well qualified doctors are available on part-time basis in each of the Institute Complex.

General Information

NPTI and its Institute work on five days a week and the working hours are from 09:30 to 18:00 hrs. The changes in program schedule, if any, shall be duly intimated. NPTI regularly organizes Training programs/ Seminars/ Workshops in collaboration with National/ International Power Sector Organizations, details of which are circulated separately. NPTI publications provided to the trainees of various courses are also available for sale on specific requests.

How to apply for participation

Nomination along with course fee for various courses may be sent to The Principal Director of the respective institute at least 15 days in advance from the date of commencement of the course.

Training Academic Programs

NPTI is conducting the following training programs at its institutes

- Two year MBA in power management at Faridabad.
- Four Year B.Tech/B.E
- One year Post Graduate Diploma in Thermal Power Plant Engineering (recognized by AICTE)

5 days Training Program on 'Procurement procedures and Contracting' held at NPTI Corporate Office, Faridabad

- 52 weeks induction level training course in Operation and Maintenance of TPS for Graduate Engineers, Diploma Engineers/ Operators
- 39 weeks Post Graduate Diploma Course in Hydro Power Plant Engineering
- 26 weeks Graduate Engineers (Thermal-Condensed)
- 26 weeks Post Graduate Diploma course in Operation & Maintenance of Transmission and Distribution System.
- 39 weeks course in Operation and Maintenance of Hydro Power Plant for Graduate Engineers and Supervisors/ Operators
- Short-term refresher courses for in-service Engineers/supervisors/Operators
- Short-term courses for maintenance Technicians
- Simulator training courses
- Power System Training Courses at PSTI
- Live Line Maintenance Courses at HLTC
- Short Term Training Course in Hydro-Power Training Centre at Nangal.

NPTI ORGANISATION

Besides its Corporate Office at Faridabad (Haryana), National Power Training Institute operates on all India basis through its Regional Institutes located in the different Power Zones of the country. These Institutes are headed by Principal Directors/Directors under the overall control of the Director General, NPTI. The addresses of NPTI Corporate Office and Regional Training Institutes are given below:

NPTI CORPORTATE OFFICE

Director General

National Power Training Institute
NPTI Complex, Sector-33, Faridabad – 121 003 (Haryana)
Telephone: 0-129-2275475, 2257131, EPABX : 0129-2274916, 2274917
Fax: 0-129-2277412 e-mail: nptifaridabad@npti.in Website: www.npti.in

TRAINING INSTITUTES

1. Principal Director, (CP&M/BDD/Purchase)
   NPTI Complex, Sector-33, Faridabad-121003 (Haryana)
   Ph.: (0129) 2275213
   e-mail: jssrao@npti.in

2. Principal Director, Management Studies/IT
   NPTI Complex, Sector-33, Faridabad-121003 (Haryana)
   Ph.: (0129) 2270949
   e-mail: skchoudhary@npti.in

3. Principal Director, National Power Training Institute (N.R.)
   Badarpur, New Delhi -110044
   Ph.: (011) 26940722, 26947043
   Fax: (011) 26940722
   e-mail: nptibadarpur@npti.in

4. Director/Head of Institute, National Power Training Institute
   Opp. Nangal Dam Rly. Station, Nangal, Distt. Ropar, Punjab - 140124
   Ph.: (01887) 220573, 221129
   e-mail: nptinangal@npti.in

5. Director, Power Systems Training Institute, National Power Training Institute
   P.O. Box: 8201 Subramanyapuran Road, Banashankari II Stage, Bengaluru-560070 (Karnataka)
   Ph.: (080) 26713758 Fax: (080) 26713758
   e-mail: nptipsti@npti.in

6. Director, Hotline Training Centre, National Power Training Institute
   26th Km, Kanakapura Road, Somanahalli Gate Udaypura Post, Bengaluru-560082 (Karnataka)
   Ph.: (080) 28432596, 28432053 Fax: 28432596
   e-mail: nptihltc@npti.in

7. Principal Director, National Power Training Institute (S.R.)
   Block 14, NLC Township,
   Neyveli – 607803 (Tamil Nadu)
   Ph.: (04142) 269427, 268185 Fax: (04142) 269427
   e-mail: nptineyveli@npti.in

8 Principal Director, National Power Training Institute (E.R.)
   City Centre, Durgapur-7132616 (WB)
   Ph.: (0343) 2545888, 2546237 Fax: (0343) 2545888
   e-mail: nptidurgapur@npti.in

9. Director, National Power Training Institute (N.E.R.)
   ASEB Complex, Narangi,
   Guwahati-781026 (Assam)
   Ph.: (0361) 2381346 Fax: (0361) 2381329
   e-mail: nptiguwahati@npti.in

10. Principal Director, National Power Training Institute (W.R.)
    South Ambazari Road, Gopal Nagar,
    Nagpur – 440 022, (Maharashtra)
    Ph.: (0712) 2236545, 2226176 Fax: (0712) 2220413
    e-mail: nptinagpur@npti.in

TRANSNATIONAL TRAINING

NPTI and its Regional Institutes are equipped with state-of-the-art infrastructural facilities to meet the specific requirements of training foreign nationals. NPTI offers all the courses detailed out in this calendar and also tailor-made/customized need base programs to suit the organization's objectives. Typical training capsules have been on Power Plant Management, Combined Cycle Gas Turbine Power Plants, Transmission & Distribution areas etc.

NPTI in its various courses has trained many foreign Nationals from Zimbabwe, Iraq, Oman, Bhutan, Bangladesh, Sudan, Ethiopia, Syria, Malaysia, Philippines, Cambodia, Myanmar, Zambia, Mexico, Nigeria, Kenya, Afghanistan, Papua New Guinea, Ecuador, South America etc. Programs conducted for these Nationals did receive exceptionally encouraging feedback with rave reviews.

Foreign Training Course Fee – 2013-14

S.No.	Course	SAARC Countries	All other countries
1.	Regular Course on Power Plant Engg.	US $600 per week per participant subject to maximum of US $ 13000 up to 52 weeks duration	US $700 per week per participant subject to maximum of US $15000 up to 52 weeks duration
2.	Simulator Training	US $1500 per week per participant	US $1800 per week per participant
3.	Boarding and Lodging in NPTI Hostel	US $700 per week per participant (AC Rooms on single sharing basis)	US $800 per week per participant (AC Rooms on single sharing basis)
4.	Specialized need based Tailor made course	As per estimate	As per estimate

FEE STRUCTURE FOR VARIOUS TRAINING PROGRAMS OF NPTI FOR THE YEAR 2013-2014

S.No.	Name of the Course	Duration	Training Fee ₹ (Common for al l viz. SEB,/PSUs/ Private organisations)
	LONG TERM COURSES (Period 17 to 52 weeks)		
1	Graduate Engineers (Thermal)*		
	i) Non-sponsored candidates	52 Weeks	2,00,000
	ii) Sponsored Candidates	52 Weeks	3,10,000
2.	Graduate Engineers (Thermal Condensed)*	26 Weeks	1,80,000
3.	Post Graduate Diploma course in Thermal Power Plant Engineering*		
	i) Non-sponsored candidates	01 Year	2,00,000
	ii) Sponsored Candidates	01 Year	3,10,000
4.	Post Graduate Diploma course in Hydro Power Plant Engg.*		
	i) Non-sponsored candidates	39 weeks	1,55,000
	ii) Sponsored Candidates	39 weeks	1,75,000
5.	Post Diploma in Thermal Power Plant Engg.*		
	i) Non-sponsored candidates	01 Year	1,30,000
	ii) Sponsored Candidates	01 Year	1,90,000
6.	Post Graduate Diploma course in O&M of T&D Systems*		
	i) Non-sponsored candidates	26 weeks	1,30,000
	ii) Sponsored candidates	26 weeks	1,65,000
	MEDIUM TERM COURSES : (Period 5 to 16 Weeks)		
7.	Specialised Course	16 Weeks	1,10,000
8.	Specialised Courses	15 Weeks	1,05,000
9.	Specialised courses	14 Weeks	1,00,000
10.	Specialised courses	13 Weeks	95,000
11.	Specialised courses	12 Weeks	90,000
12.	Specialised Course	11 Weeks	85,000
13.	Specialised Courses	10 Weeks	80,000
14.	Specialised courses	9 Weeks	75,000
15.	Specialised courses	8 Weeks	69,000
16.	Specialised courses	7 Weeks	63,000
17.	Specialised courses	6 Weeks	57,000
18.	Specialised courses	5 Weeks	50,000

	SHORT TERM COURSES : (Period 1 to 4 Weeks)**		
19.	Specialised Courses	04 Weeks	43,000
20.	Specialised courses	03 Weeks	34,000
21.	Specialised courses	02 Weeks	24,000
22.	Specialised courses	01 Weeks	13,000
23.	Specialised courses	04 Days	12,000
24.	Specialised courses	03 Days	10,000
25.	Specialised courses	02 Days	6,500
26.	Specialised courses	01 Day	3,500
27.	Training Fees for On-site/On-plant training programs	01 Week	22,000 (Minimum 10 Participants)

***** includes Thermal Simulator training fee of 2 weeks/ CCGT Simulator training fee of 2 weeks/Hydel Simulator training fee of 1 week/ Power System training simulator fees of 1 week as applicable.

****** In respect of short term courses, fee is inclusive of tea/snacks and working lunch. In respect of other courses, fee is exclusive of tea/snacks and lunch

Note: For specialized courses minimum no. of participants should be 10. If no. of participants is less than 10, then fee for 10 participants will be charged.

HLTC, Bengaluru
Regular Programs –Residential

S.No.	Name of Course	Duration	*Training fee ₹ Per Participant
1.	Live Line Maintenance Techniques(LLMT) using Hot Stick Method	12 weeks	1,40,000
2.	Live Line Maintenance Techniques(LLMT) using Bare Stick Method	05 weeks	1,00,000
3.	Switchgear Maintenance Techniques using LLMT for Linemen/Supervisors	04 weeks	77,000
4.	Special Course on Cold Line	04 weeks	66,000
5.	Capsule course for Executives on Hot Line Activities	01 weeks	16,500
6.	Training on Insulator washing Techniques	01 weeks	16,500

* Training Fee includes Boarding and Lodging Charges.

Simulator Training Program

	* Training Fee ₹/ Week / Participant
Thermal Simulator	25,000
Hydel Simulator	18,000
CCGT Simulator	25,000
Power System Simulator	18,000

* Training fee include tea/snacks and working lunch.

Note: Service tax will be levied extra as applicable on various components like Training Fee. Boarding & Lodging Charges. Transportation Charges and the present rates are as under:

S.No.	Items	Rate of Service Tax
1.	Training Fee	12.36%
2.	Boarding Charges	8.65%
3.	Lodging Charges (above ₹ 1000 / day / room)	7.42%
4.	Transportation Charges	4.94%

Hindi Week Celebration at NPTI Corporate Office, Faridabad

(A). Academic Courses

1. MBA (Power Management)

The program is targeted towards fresh and practicing engineers and is a unique golden opportunity for the Management of Power Utilities to groom bright executives with engineering background who are expected to move to key positions in the near future. In addition to the inputs provided in regular MBA programs, this 'Program with a Difference' lends special emphasis on specific Power Sector issues and ethos to give extra strength to the Indian Power Sector engineers to steer Power Sector of the country in the challenging times ahead. The curriculum design and the learning process emphasize the development of students' skills and abilities to apply management theories and concepts to live problems of electricity industry. The course is duly recognized by AICTE and affiliated to Maharshi Dayanand University, Rohtak.

Objective

i To create a pool of committed and competent professionals equipped with the appropriate managerial and technical skills to steer the Indian Power Sector and run it on commercial lines.

ii To develop future world class business leaders and decision makers who can think innovatively, duly sensitized to social and environmental interface and are capable of searching for alternative solutions

iii To imbibe basic values and ethos with in-depth understanding of Indian realities.

Pedagogy

Class room lectures, seminars, case studies, group discussions, role plays, group works, summer project at organizations related to electricity business will be resorted to impart knowledge and skills to the students. In addition visits to power stations, Transmission and Distribution facilities, manufacturers' works shall be organized to ensure that the students have the real 'feel' of the power sector.

Program Structure

This is a two-year program spread over four Semesters. In the first year, the students take courses in major functional / general management areas like Human Resources, Operations, Finance & Accounting, Marketing, Information Technology and core Power Sector areas. In the second year, the students take compulsory specialized courses in the area of Power and Management. In addition they have to opt from a list of electives covering various specific courses from the areas of Power and Management.

Summer Project

Students are required to undertake 8-week Summer Training Projects in a Company/ Organization related to Consultancies, Power and associated industries after completion of First Year. A Compulsory Project also needs to be carried out in the IV Semester concurrently with the subjects. Evaluation will again be based on submission of written Project Reports and a defense presentation.

Intake

The intake is 120 Seats.

Distribution of Seats					
Non-Sponsored Seats					Sponsored Seats
Gen	SC	ST	OBC	OBS Minority	
53	16	08	23	5	15

The reservation of seats is as per the Reservation Policy of the Central Government and is subject to any change/amendment by the Central Govt. from time to time

Eligibility for Admission

A) All candidates (excluding sponsored category) are required to appear for CAT Examination conducted by IIMs.

B) The candidates (including sponsored category) who have obtained B.E./B.Tech/ B.Sc. (Engineering) in any branch of Engineering recognised by the M.D. University/AIU securing a minimum of 60 % marks in aggregate of all semesters or equivalent in terms of CGPA grade are eligible to apply for admission to the course. For SC/ST candidates minimum pass marks are required.
(or equivalent in CGPA grade).

C) Candidates having a CAT Score of 50 percentile and above are only eligible to apply. Any other information you can visit on NPTI website (www.npti.in)

Course Fees : (includes development fund to the University)

Non –sponsored	Rs.1,25,000/- per semester
Sponsored	Rs. 5,00,000/- per annum

Date Of Commencement: July 2012

2 B.Tech. / B.E. in Power Engineering :

Bardarpur : B.Tech. Power Engineering (Electrical/Mechanical) program addresses the technical and human resource needs of the power sector, in context of remarkable changes in this particular sector since last decade. India, which is on growth trajectory, is witnessing high growth in all spheres of economy, and so does the power sector, the backbone of all industrial activity.

Power industry is multi disciplinary, highly capital intensive and as any other sector, human resource plays pivotal role in this sector. Power industry requires trained manpower for project planning, implementation, erection, commissioning, operation & maintenance protection and transmission & distribution. No conventional engineering stream available in educational institutions can equip a person with such vast knowledge of different inputs required for the job performance in the power sector. Therefore, a specialized degree course is necessary for the manpower needs of power sector which is growing at spectacular rate.

This four-year degree course, B.Tech. in Power Engineering (Electrical/Mechanical) being offered by NPTI (NR) is first of its kind in the country.

This degree course is duly recognized by AICTE and NPTI (NR) is running it with affiliation to Guru Gobind Singh Indraprastha University, New Delhi.

Admission

Admissions to this course are made through Common Entrace Test (CET) conducted by Guru Gobind Singh Indraprastha University (GGSIPU) in May/June every year with an intake of 60 students. Six seats are reserved for diploma holders who are admitted through an entrance test, conducted by GGSIPU, in the third semester directly.

Course Overview

B.Tech. Power Engineering (Electrical/ Mechanical) program is divided into eight semesters. The first two semesters being the introduction to the technical world, inculcates the basics required by an engineer. The foundation for power engineering is laid in the next two semesters by providing the insight in subjects like electrical machines, thermodynamics, fluid mechanics, control engineering and energy conversion. The course content laid down in the following semesters is designed in such a manner that it provides edge over conventional electrical and mechanical engineers and lead to the emergence of power engineers. The semester wise subject break-up is as follows :

SEMESTER	SUBJECTS					
I	Applied Mathematics-1	Applied Physics-1	Applied Chemistry-1	Manufacturing Process	Introduction to Computers	Communication Skills-1
II	Applied Mathematics	Applied Physics-2	Applied Chemistry-2	Introduction to Programming	Engineering Mechanics	Electrical Science
III	Material Science & Metallurgy	Thermo Dynamics	SOM TOM	Circuit Theory	Analog Electronics	Electrical Machines
IV	Engineering Economics	Energy Conversion	Heat & Mass Transfer	Fluid Mechanics	Digital Electronics	Control Engineering
V	Power Generation Engineering	Steam Generator and Its Auxiliaries	Steam Turbine And its Auxiliaries	PPEMS	Power System	RAC* OR EEM#
VI	Power System Protection and Switchgear	TPPER-I	Power Plant Operation	Power Plant Control and Instrumentation	I.C.Engines & Gas Dynamics* OR Power Electronics & Electric Drives	Machine Design* OR Engineering Electro-Magnetics
VII	Power Distribution And Utilization	TPPER-II	Power Plant Maintenance	Theory of Machine* OR Power System Analysis & Stability#	Manufacturing & Industrial Engineering* OR Communication Engineering#	Civil Works in Power Engineering
VIII	Load dispatch and regulatory issues	Environmental management, energy conversion	Management concepts and techniques	Mechanical vibration* OR Design of electrical machines#	Energy management* OR HVDC Technology	

* Power Engineering (Mechanical)
* Power Engineering(Electrical)

ISTS-Impact of Science & Technology on Society
SOM TOM-Strength of Material & Theory of Machines
PPEMS-Power Plant Electrical Machines & Systems
RAC-Refrigeration & Air Conditioning EEM-Electrical & Electronics Measurements
TPPER-Thermal Power Plant Engineering Related Topics

Course fee of B.E. is ₹ 38,000/- per annum
Intake Capacity - 60

Durgapur

Course Overview and Admission

This course started at Durgapur Institute from financial year 2002-2003 along with other institutes and approved by AICTE and affiliated to West Bengal University of Technology (WBUT). Admission to this course is open through WBJEE / AIEEE. The medium of instruction & examination is English. The duration of the course is four academic years. Each academic year (1st July to 30th June) is divided into two semesters of about sixteen effective weeks each. The courses include study at the college, visits to work sites and practical in the college workshop & labs, different engineering works, Power Plants etc.

ELIGIBILITY

A Candidate is eligible for admission to B-Tech (Power Engineering) at NPTI (ER), Durgapur subject to the following conditions:

a] He / She should pass the Higher Secondary Examination (10+2) of West Bengal Council of Higher Secondary Education with English, Chemistry, Mathematics and Physics or an equivalent examination. In case of Lateral entry, he/she should pass the diploma in Mech-/Elect. Engg. from Govt. approved polytechnic college.

b] He / She should maintain good mental and physical health. No abnormality in heart, Lungs and vision.

c] He / She should have to qualify in the Joint Entrance Examination, of the year of admission, conducted by the West Bengal Board of Examination for Admission to Engineering and Technological Degree Colleges.

d] He / She will have to submit school leaving / Migration Certificate / Continuity Certificate as the case may be, within a specified date, otherwise the provisional admission of the candidate will stand automatically concealed.

INTAKE

Discipline Sanctioned Intake:

Power Engineering Sixty (60) WB-JEE/AIEEE through CSC

Management Quota - 06, WB-JEE - 48, AIEEE- 06

Six (06) seats are filled up through lateral entry (WB-JELET) for diploma students (Elect./Mech.) directly in second year.

Course fee of B.E. is First year ₹ 72,000/-, Second Year ₹ 74,000/-, Third Year ₹ 76,000/-and Fourth Year ₹ 78,000/-

Intake Capacity - 60

SEMESTER	SUBJECTS					
I	Mathematics	Engineering Physics	Mechanical Sciences	Basic Electrical Engineering	Environment & Ecology	English Language & Communication
II	Engineering Physics	Mathematics	Mechanical Sciences	Introduction to Computing	Basic Electronics Engineering	Engineering Chemistry
III	Fluid Mechanics	Thermo Dynamics	Mathematics	Mechanics of Deformable Bodies	Circuit Theory & Network	Electrical Electronic Measurement
IV	Fluid Machinary	Engineering Thermodynamics	Materials Science and Technology	Theory of Machines	Electrical Machines	Digital Electronics & Integrated circuits
V	Renewable Energy Systems	Hydro Power Generation	Nuclear Power Generation	Electrical Machines - II	Heat Transfer	Microprocessor and Microcontrollers
VI	Steam Generators and its Auxiliaries	Steam Turbines and its Auxiliaries	Electrical Equipment in Power Station	Power Transmission and Distribution	Control Systems	Refrigeration and Air Conditioning OR High Voltage Engg
VII	Advance Technology	Protection, Control& Instrumentation	IC Engine	Control Systems	Elective Paper : II Design of Mech. Equipments OR Design of Elect. Equipments	Elective Paper : III Power Electronics OR Tribology & CBM
VIII	Thermal Power Plant Operation & Maintenance	Operation Research & Industrial Engineering	Elective : IV Manufacturing Science OR Electric Drives	Elective : V Technology of Machining and metal cutting OR HVDC Transmission		

Nagpur :

NPTI Nagpur has started 4 years degree course in the year 2001.The course is approved by AICTE and affiliated to RTM Nagpur University, Nagpur. The Tuition fees is approved by Shikshan Shulk Samiti Mumbai which is an approved body of Directorate of Technical education. Maharashtra Govt. and Tuition fees is revised every year based on the expenditure and infrastructure of the Institute.

Technical education contributes substantially to the Socio Economic development of the country as a whole. The development sustenance of the industrial sector is entirely dependent upon the availability of trained manpower to perform the multidimensional activities needed to keep the wheel of industry running. Thus this program aims towards making available these trained technically qualified hands to serve the power industry & society. Equality of educational opportunities and preparing highly skilled work force for enterprises widely with excellence is also objective of Technical Education. Technical Education system is thus has to be flexible enough to adopt to rapid change. Thus precise aim of the system is to develop and transfer of technology to the power sector.

Admission

The admissions of 1st year are made through Common Admission Process (CAP) of Maharashtra Govt ie DTE. First year curicullam is based on yearly pattern and rest of the years are on semester pattern. The degree is awarded by RTM Nagpur University. Essar Power ltd has sponsored Gold medal for this program for the student who secure first merit position in this branch.

The Tuition fees of B.E is Rs. 78,000/- per year and additional Rs. 20,000/- for simulator training in final year.

Intake capacity - 60

SEMESTER	SUBJECTS					
I & II (Ist Year) Yearly	Applied Mathematics-I, Applied Physics, Applied Chemistry, English Social Science, Applied Mathematics-II, Engineering Drawing, Workshop Engineering Mechanics, Electrical Engineering					
III	Applied Mathematics III	Fluid Power-I	Manufacturing Process	Network Analysis	Electronic Devices & Circuits	Computer Programming
IV	Theory of Machines	Engg. Thermodyn amics	Digital Circuits	Basic elect m/c	Fluid Power II	Material Science & Metallurgy
V	Heat Transfer	Auto Control	Thermal Power Station Layout, Common Aux. & Safety	Machine Design I	Environmental Management	Power plant visits
VI	Energy Conversion I	Indl. Economics & Management	Thermal Power Plant Control & Instrumentation	Power generation technology	Steam Generators & its Aux.	Power plant Training/visits
VII	Steam turbine & its Aux	Machine Design II	Turbo Generator and its Aux.	Thermal Power Plant Commissio ning	Energy Conversion II	Project Seminar
VIII	Switchgear & Protections	Thermal Power Plant Operation & Performance	Power Plant Maint. Practices	Power plant operation practices	Elective-1	Project work

Elective I- Subjects 1. IT and its applications in Power Engg. 2. Materials Handling System 3. Non-conventional Energy Sources

Date Of Commencement: July 2013

3. POST GRADUATE DIPLOMA COURSE IN THERMAL POWER PLANT ENGINEERING

Objective

To prepare the fresh Graduate Engineers to become Power Station Managers in Operation and Maintenance of Thermal Power Stations. The admission to this course is done through a common entrance test held on all India Basis.

Program Profile

Module No.	Description	Duration
GF-1	Introduction	
GF-2	Power Plant Description	5 weeks
GF-3	Power Plant Scheme Tracing & System Discussion	2 weeks
GF-4	Power Plant Operation	3 weeks
GOJ-1	Power Plant Operation (Manual)	4 weeks
GOJ-2	Power Plant Operation (Supervisory)	4 weeks
GF-5	Performance (Formal)	1 week
GF-6	Safety	1 week
GF-7	Plant training (Practical)	5 weeks
GF-8	Planning & Cost Control	1 week
GOJ-3	Maintenance (Supervisory)	8 weeks
GOJ-4	Performance (On-job)	1 week
GF-9	Chemistry	1 week
GF-10	Basic Welding	1/2 week
GF-11	Non-Destructive Testing	1/2 week
GF-12	Protection	1 week
GF-13	Introduction to Management	2 weeks
GF-14	Simulator Training	2 weeks
GF-15	Metallurgy	1 week
GF-16	Computer Applications	1 week
GF-17	Load Dispatch	1 week
GF-18	Control & Instrumentation	2 weeks
GF-19	Maintenance & Inspection	4 weeks
	Appraisal & Valedictory	1 week

Venue	Duration	Date of Commencement
Badarpur	52 weeks	19-08-2013
Nangal	52 weeks	19-08-2013
Neyveli	52 weeks	19-08-2013
Guwahati	52 weeks	19-08-2013
Durgapur	52 weeks	19-08-2013
Nagpur	52 weeks	19-08-2013

Who may attend

B. Tech./B.E. in Mechanical/Electrical/Power Engineering or its Equivalent

4. POST GRADUATE DIPLOMA IN HYDRO POWER PLANT ENGINEERING

Objective

To prepare engineers to become Power Station Managers in Operation and Maintenance of Hydro Power Stations.

Program Profile

Sl. No.	Modules	Duration
1	General Introduction of Hydro Power Plant Engineering	2 Weeks
2	Power plant familiarization of Hydro Power Plant Engineering	3 Weeks
3	Planning & cost control	1 Week
4	Safety & First aid	1 Week
5	Construction activity of a Hydro Power Plants	2 Weeks
6	Electro mechanical equipment using in HYDRO Power Plants	3 Weeks
7	Hydro mechanical equipment Testing Erection & Commissioning	1 Week
8	Welding and NDT	1 Week
9	Control & Instrumentation	2 Weeks
10	Computer application in Hydro Power plant	1 Week
11	Power Plant Protections	2 Weeks
12	Switchyard Equipments	1 Week
13	Power Plant Operation	2 Weeks
14	Load dispatch	1 Week
15	Maintenance of Hydro Power Plant Equipments	1 Week
16	Inspection of Hydro Power Plant Equipments	1 Week
17	Hydro Power Plant Simulator	1 Week
18	Introduction to Management	1 Week
19	Plant Operational Training at Hydro Power Plant (On-JOB)	6 Weeks
20	Plant maintenance Training at Hydro Power Plant (ON-JOB)	5 Week
21	Final assessment & Evaluation	1 Week
	Total	**39 Weeks**

Venue	Date of Commencement	Duration
Nangal	12-08-2013	39 weeks

Who may attend:

B. Tech./B.E. in Mechanical/Electrical/Power Engineering or its Equivalent

5. POST GRADUATE DIPLOMA COURSE IN TRANSMISSION & DISTRIBUTION SYSTEM

Objective

The main objective of the course is to create technically trained manpower readily available for recruitment to the power companies in the area of Transmission & Distribution of electrical power.

Program Profile	Description	Duration
• General Introduction Power Senerio & General Introduction		1 week
• Power Generation Thermal Power Plant Familiarization		1 week
• Power Transmission Lines Engineering and O&M		2 weeks

• Live Line Maintenance Technique	1 week
• Substation Planning & engineering	1 week
• Substation Operation & Maintenance	1 week
• Load Despatch & Grid Management	2 weeks
• Communications in Power Systems	1 week
• Power Distribution /Distribution Lines/Cables	1week
• Systems Engineering O&M	2 weeks
• Distribution Sub-Stations	1 week
• Distribution Metering	1 week
• Energy Audit and Conservation in Distribution Systems	1 week
• Information Technology Office applications	1 week
• In T & D Power System Planning Studies	1 week
• Safety , Statutory Safety & Statutory regulations	1 week
• Commercial aspects Commercial aspects in T&D systems	1 week
• Management of Electrical Contract	1 week
• New Technologies Power System Protection	2 weeks
• High Voltage Testing Power System Equipment	1 week
• HVDC Transmission System	1 week
• Simulator Training/Lab Simulator Training, Relay Testing	1 week
• Appraisal	1 week

Venue	Duration	Date of Commencement
Badarpur	26 weeks	16-09-2013
PSTI Bengaluru	26 weeks	12-07-2013
PSTI Bengaluru	26 weeks	05-08-2013
PSTI Bengaluru	26 weeks	31-01-2014
Guwahati	26 Weeks	04-11-2013
Nagpur	26 Weeks	02-09-2013

Who may attend

Fresh Electrical Graduate Engineers who have to take up responsibilities for electrical system/sub-systems.

6. POST DIPLOMA COURSE IN THERMAL POWER PLANT ENGG.

Objective

To give the Operators/Supervisors the knowledge and skill of overall operation and maintenance of thermal Power Plants along with specific background in Distribution Engineering.

Program Profile

Module No.	Description	Duration5
1.	General Introduction and Orientation	01 week
2.	Environment & Personal Safety	08 week
3.	Power Plant Description	06 weeks
4.	Power Plant Scheme Description and Tracing	02 weeks

5.	Power Plant Operation (Supervisory)	02 weeks
6.	Power Plant Chemistry	01 week
7.	Power Plant Instrumentation	01 week
8.	Power Plant Efficiency Performance	01 week
9.	Basic Welding Practice & NDT	01 week
10.	Maintenance Planning Inspection and Cost Control	06 weeks
11.	Power Plant O&M (On-Job)	10 weeks
12.	Introduction to Management	01 week
13.	Computer Application	01 week
14.	Power System Operation and Electrical Protection	01 week
15.	Power Distribution Engineering and Systems	03 weeks
16.	Distribution Metering and Techniques of loss minimization	03 week
17.	Simulator	02 week
18.	Protection	01 week
19.	Final Appraisal	01 week

Venue	Duration	Date of Commencement
Badarpur	52 Weeks	16-09-2013
Neyveli	52 Weeks	02-12-2013
Durgapur	52 Weeks	01-03-2014
Guwahati	52 weeks	16-09-2013
Nagpur	52 Weeks	16-09-2013

Who may attend:

Diploma Engineers in Electrical / Mechanical Engineering Branch.

7. CCPD Course. (Certificate of competency in Power Distribution)

NPTI Nagpur has started 26 weeks Distance Education Program in collaboration with Indira Gandhi National Open University (IGNOU) for the course on Certificate of Competency in Power Distribution (CCPD). The 1st program has been launched at this Institute on 15/02/2009. The objective of this program is to enhance the skill, quality and productivity of electrical technicians in distribution sector through competency based training. It is also to assess the skills and competency of 8th standard students. The methodology of the program is to develop the competency in the students by arranging lectures on Saturdays and practical on Sundays on the various topics of power distribution. This Institute has trained 320 students under this program and trying hard for placement in the distribution companies. In this line M/s. SPANCO Ltd. has visited this Institute on 2nd Dec. 2010 and short-listed about 40 students to work in their Company.

NPTI Durgapur has also announced this course in this year which will go a long way in helping the electrical Technician of eastern region in honing and fine tuning their skills through competency based training.

Syllabus : Paper OEE-I, Paper OEE-II comprising of Basics of Electricity, Earthing and Protection, Electrical Safety measures, Transformer and substation equipment, and Introduction to Distribution Loss and metering

Fee : Rs. 2500/-+ Rs.100/-(Registration)

Venue	Duration	Date of Commencement
Durgapur	26 Weeks	July 2013 /January 2014

(B). Long Term Courses for Engineers/Operators/Supervisors

8. GRADUATE ENGINEERS COURSE (THERMAL)

Objective

To prepare the fresh Graduate Engineers to become Power Station Managers in Operation and Maintenance of Thermal Power Stations.

Program Profile

Module No.	Description	Duration
GF-1	Introduction	
GF-2	Power Plant Description	5 weeks
GF-3	Power Plant Scheme Tracing & System Discussion	2 weeks
GF-4	Power Plant Operation	3 weeks
GOJ-1	Power Plant Operation (Manual)	4 weeks
GOJ-2	Power Plant Operation (Supervisory)	4 weeks
GF-5	Performance (Formal)	1 weeks
GF-6	Safety	1 week
GF-7	Plant training (Practicals)	5 weeks
GF-8	Planning & Cost Control	1 week
GOJ-3	Maintenance (Supervisory)	8 weeks
GOJ-4	Performance (On-job)	1 week
GF-9	Chemistry	1 week
GF-10	Basic Welding	1/2 week
GF-11	Non-Destructive Testing	1/2 week
GF-12	Protection	1 week
GF-13	Introduction to Management	2 weeks
GF-14	Simulator Training	2 weeks
GF-15	Metallurgy	1 week
GF-16	Computer Applications	1 week
GF-17	Load Dispatch	1 week
GF-18	Control & Instrumentation	2 weeks
GF-19	Maintenance & Inspection	4 weeks
	Appraisal & Valedictory	1 week

Venue	Duration	Date of Commencement
Neyveli	52 weeks	24-02-2014

Who may attend

Fresh Graduate Engineers in the discipline. Elect/Mech/Electr./C&I/power engg. or equivalent

9. SUPERVISORS/OPERATORS COURSE (HYDRO)

Objective

To give the Operators/Supervisors the knowledge and skill of overall operation and maintenance of the hydro power plant.

Program Profile

Sl. No.	Description	Duration
1	General Introduction and Power Plant Description	5 weeks
2	Power Plant schemes & System Discussion	1 week
3	Power Plant Operation	2 weeks
4	Power Plant Protection	1 week
5	Power Plant Operation - On-Job (Manual)	3 weeks
6	Power plant Operation - On-Job (Supervisory)	2 weeks
7	Safety	1 week
8	Plant Training (Practical's)	4 weeks
9	Welding & non-destructive Testing	2 weeks
10	Maintenance (On-job)	5 weeks
11	Planning & Cost Control	1 week
12	Load Despatch	1 week
13	Control & Instrumentation	1 week
14	Introduction to Management	2 weeks
15	Computer Application	2 weeks
16	Maintenance & Inspection	4 weeks
17	Hydro Simulator Training	1 week
	Final Assessment & evaluation	1 week
	Total	**39 weeks**

Venue	Duration	Date of Commencement
Nangal	39 weeks	16-09-2013

Who may attend:

Fresh Diploma Engineers or B.Sc.

(C). Medium-Term Courses (5 Weeks to 16 weeks) for Engineers/ Operators/Supervisors

1. LIVE LINE MAINTENANCE TECHNIQUES (LLMT), USING HOT STICK METHOD (HSM)

Learning the Hot Stick Method of training is a basic necessity to execute works Live on Transmission Lines & Switchyard. The course covers the overall features of Hot Line Techniques including awareness about Hot Line Washing, Insulator testing, Switchyard Maintenance, etc. It is intended to enhance the competence level of the participants to handle the maintenance both on transmission lines and Switchyard using Hot Stick Methods. The training programme offers direct benefit to the organizations involved in maintenance of transmission lines/Switchyards by reducing the number and duration of shutdowns as well.

Objective

- To Provide in-depth approach and technical know-how in live line maintenance
- To highlight the importance of maintenance of HV and EHV Power Transmission lines using Hot Stick Method.
- To give an introduction to Bare Hand Method of Live Line Maintenance

Program Profile

- General Principles of LLMT.
- Introduction to maintenance of Power lines using Hot Stick Method.
- Practical oriented Operation covering various tower configurations.
- Sefety aspects and Regulatory requirements.
- Study Tours to Certain Important substations and transmission line locations.
- Hands on training on commercial lines of various configurations up to 220 kv.
- Field testing of insulators - use of analogue and digital methods, demo on the use of Punctured Insulators - use of analogue and digital methods, demo on the use of Punctured Insulator Detector (PID) test kit.
- Introduction to maintenance using Bare Hand Method of Live Line Maintenance and switchyard maintenance using LLMT.

Venue	Duration	Date of Course
HLTC, Bengaluru	12 Weeks	24-06-2013 21-10-2013 03-03-2014

Who may attend: Foreman, Lineman, Asst. Linemen, Supervisors, Junior Engineers, Asst. Engineers, etc. actively involved in Line Maintenance activities having physical fitness. It is preferred that one of the nominee be in the rank of Executive cadre.

Course Fee : The course is fully residential. Course fee for 12 weeks with Boarding & Lodging Charges : Rs. 1,40,000/- plus Rs. 15,543/- (Service Tax) per participant.

2. LIVE LINE MAINTENANCE TECHNIQUES (LLMT) USING BARE HAND METHOD (BHM) ON 400KV LINES

The fast growing HT/EHT/UHT Transmission lines and the rapid addition of 400 KV lines in the country, has made it imperative to upgrade the Live Line Maintenance Technology. The training program offers direct benefit to the organizations involved in maintenance of transmission lines by reducing the number and duration of shutdown. learning the Bare Hand Techniques in essential in order to exploit the fill potential of LLMT and it can increase the scope of Maintenance activities.

Objective

- To provide in-depth approach and technical know-how in Live Line Maintenance Techniques.
- To highlight the importance of Operation and Maintenance of HV and EHV Power Transmission Lines using Bare Hand Techniques

Program Profile

- Brief revision on LLMT using HSM
- Introduction to maintenance of Power Lines using Bare Hand Techniques
- Additional Safety Aspects and requirements
- Practical Oriented Operation Covering various tower configurations
- Hands-on training on 400 kv commercial lines of various configurations.
- Field training on testing of Insulators
- Introduction to switchyard maintenance using LLMT
- Study Tours to certain important substations and transmission line locations, if time permits. Major time will be devoted to impart training in the field on 400kv transmission lines as well as on commercial lines of POWERGRID Corporation of India dealing with practical aspects.

Venue	Duration	Date
HLTC Bengaluru	5 weeks	20-01-2014

Who may attend:

Foreman, Linemen, Asst. Linemen, Supervisors Junior Engineers, Asst Engineers etc. actively involved in Line Maintenance activities having physical fitness. It is prefered that one of the nominee be in the rank of Executive cadre. The candidates should have already been trained in Live Line Maintenance Techniques using Hot Stick Method.

Course Fee :

The course is fully residential. Course fee for 5 weeks with Boarding & Lodging Charges : Rs. 1,00,000/- plus Rs. 11,664/- (Service Tax) per participants

(D). Short-Term Courses for Engineers/Operators/ Supervisors

1. CONTROL & INSTRUMENTATION

Objective

To impart knowledge of theory and working principles of Instruments and improve the skill of instrumentation technicians in the trade of instrument maintenance.

Program Profile

- Concept of instrumentation in T.P.S.
- Instrumentation layout.
- Basic science, basic electricity & basic electronics.
- Pressure, level, flow and temperature measurement.
- Air supplies & pneumatic instruments, transmitters.
- Introduction to automatic control system.
- Turbovisory instruments and analytical instruments.
- Practical/demonstrations.

Venue	Duration	Date
Nagpur	1 weeks	20-01-2014

Who may attend: Instrument technicians preferably ITI certificate holders with 2-3 years experience in Thermal Power Station Instrumentation.

2. RLA & LIFE EXTENSION OF SUB-STATION EQUIPMENT

Objective:

To familiarize power engineers with the Remaining Life Assessment (RLA) of substation equipment.

Outline:

- RLA – Objective and Methods
- Testing procedures and Methodologies
- RLA of Oil filled transformers
- RLA of Instrument Transformers
- RLA of circuit breakers
- RLA of Other sub station switchgear
- RLA of power cables
- Testing and calibration of substation meters

Venue	Duration	Date
PSTI Bengaluru	1 week	02-12-2013

Who may attend: Engineers/ Supervisors from Power Utilities, Power Stations, Transmission and Distribution Companies, R & D organizations & Academic institutions.

3. POWER SYSTEM SCADA & EMS

Objectives:

To familiarise power engineers with the architecture, functions and advantages of SCADA

Outline

- Data Acquisition & Control
- Supervisory Control
- Communication- VSAT, Microwave, Optical Fibre
- Communication networks & protocols
- SCADA in Distribution
- EMS Hardware: SCADA
- EMS Hardware: Control Centre

8 Weeks Training Program on 'Thermal Power Plant' for the Management Trainees of Bokaro Power Cupply Co. Ltd., conducted by NPTI (ER), Durgapur.

- EMS Software: SCADA & Database
- EMS Software: Generation applications
- EMS Software: Networking applications
- Field Visits

Venue	Duration	Date
PSTI Bengaluru	1 week	15-04-2013 25-11-2013

Who may attend: Engineers from State Electricity Boards, Power Utilities/ Corporations, R & D organizations and Academic institutions

4. SUBSTATION PLANNING & ENGINEERING

Objective:

To familiarize participants with the planning layout, design & engineering of Substation and selection of Substation equipment.

Outline:

- Planning of substation & Preparation of Project Report
- Layout of Substation, Choice of Switching Schemes and Bus Bar/Bay Design
- Selection of Substation Main Equipment
- Design of Substation Earthing
- Electrical Clearances
- Over Voltages & Selection of Surge Arrestors
- Engineering of Protection System for Substation
- Measurement of Soil Resistivity
- RPC System
- Electrical Measurements in Substation Sub Station automation
- Field visits

Venue	Duration	Date
PSTI Bengaluru	1 week	01-04-2013 04-11-2013

Who may attend: Engineers from State Electricity Boards, Power Utilities/ Corporations, R & D organizations, Academic institutions

5. DISTRIBUTION FRANCHISING

Objective

To Help the participants understand the conceptual framework for various models of franchise agreement

Outline

- Indian Electricity Distribution sector
- Distribution reforms being implemented under IE Act2003
- Overview of urban Distribution franchising in India
- Various business models being offered by the utilities for franchise agreement
- Management of Information system
- Change Management

Venue	Duration	Date
PSTI Bengaluru	3 Days	08-04-2013

Who may attend: Engineers from State Electricity Boards, Distribution companies

6. CAPSULE COURSE FOR EXECUTIVE IN HOT LINE ACTIVITIES

Objective

The course is meant for spreading awareness about the live Line Maintenance Techniques (LLMT) amongst executives involved in EHV Line Maintenance in general and intended to highlight the scope of LLMT and Its potential extension to EHV switchyards in particular.

Program Profile

- Introduction to Hot Line Tools, Activities & Maintenance
- Live participation in maintenance operation on 66KV, 220 KV Commercial lines.
- Live insulator Testing methods
- Video and Film shows on Hot Stick Method and Bare Hand Technique
- Introduction to Hot Line Washing (Wet & Dry)

- Extension of LLMT activities to switchyard

Venue	Duration	Date
HLTCBengaluru	1 week	29-04-2013 02-09-2013 30-12-2013

Who may attend:

Executives in the rank of Junior Engineer and above who are not trained in Hot line Activities.

Course fee

The course is fully Residential & Rs. 16,500/- plus Rs. 1,947/- (Service Tax) Training Fee for one week including Boarding & Lodging charges.

7. VALVE AND PUMP MAINTENANCE

Objective

To acquaint the trainees with correct and modern methos of operation and maintenance ov valves and pumps so that at the end of the course the trainees will be able to undertake maintenance of valves and pumps in dependently with confidence

Program Profile

- Description of different types of valves, their construction, operation and applications
- Correct use to tools, Dismantling
- Identifying the types of valves
- Replacement of worn out or damaged parts
- Description of different types of pumps, their construction, operation and applications.
- Single stage and multi stage centrifugal pump
- Maintenance of BFP & CEP
- Trouble Shooting

Venue	Duration	Date
Badarpur	1 week	17-10-2013
Durgapur	1 week	22-04-2013

Who may attend: Engineers from SEBs/Power Utilities/corporations with 2-3 years of experience in relevant field of power station

8. GAS TURBINE & CCPP REFRESHER COURSE

Objective

To familiarise the Engineers with Gas Turbine and Combined Cycle Power Plants and their role in the Indian Power Scenario, fuel options, efficient operation.

Program Profile

- Philosophy of Gas Turbine and Combined Cycle power Plant
- Fuel Options
- Waste Heat Recovery Boiler
- Steam Turbine and associated auxilaries
- Operational aspects and efficiency
- Visit to modern Combined Cycle Power Plant.
- Case Studies

Venue	Duration	Date
Badarpur	1 week	29-04-2013
Neyveli	1 week	03-02-2014

Hot Line Maintenance Techniques at HLTC, Bengaluru

Who may attend: Engineers working in Gas Turbine & Combined Cycle Power Plants in the field of design, erection, commissioning and operation & maintenance.

9. PUMPS OPERATION, MAINTENANCE AND PERFORMANCE MONITORING

Objective

To acquaint the participants with the various aspects of pumps and the associated problems in their operation and maintenance

Program Profile

- Different types of pumps, their application & selection criteria for Power Station.
- Theory & working principles of different type of Pumps.
- Design & selection aspects and construction of boiler feed pump.
- CW Pumps (Centrifugal & Propeller)
- Special aspects of positive displacement Pumps.
- Components material selection for pumps installation & commissioning.
- Operation & trouble shooting.
- Maintenance Aspects
- Pump Characteristics on series/parallel operation.
- Performance assessments techniques & Monitoring Case Studies

Venue	Duration	Date
Badarpur	1 week	09-12-2013
Neyveli	1 week	08-04-2013
Nagpur	1 week	18-11-2013

Who may attend: Engineers of Power Plant & Industry.

10. VALVE ACTUATORS MAINTENANCE

Objective

To train the participants on Actuators and associated gears and maintenance aspects.

Program Profile

- Different types of actuators and their selection.
- Description and working of: Electric, Pneumatic and Hydraulic Actuators.
- Maintenance of seals.
- Gears and Levers
- Setting and checking of actuators.
- Limit switches and torque switches.
- Actuator control equipment including position control.
- Feed back circuits and thyristors.

Venue	Duration	Date
Neyveli	3 days	01-05-2013

Who may attend: Power station technicians working in electrical and C&I maintenance sections.

11. THERMAL POWER STATION OPERATION

Objective

To provide the participants the in-depth knowledge of various operational aspects of thermal power station so that correct, efficient and safe operation is ensured.

Program Profile

- Power Station Schemes
- Boiler and Turbine controls.
- Excitation systems and AVR
- Cold, Warm and hot start-ups.
- Steam Turbine governing and protection systems, trouble shooting.
- Boiler, Turbine, Generator and Integrated unit operation under normal and emergency conditions.
- Unit shut down procedures and safety.
- Performance monitoring.
- Duties and responsibilities of operation engineers.

Venue	Duration	Date
Badarpur	1 week	20-01-2014
Neyveli	1 week	06-05-2013
Durgapur	1 week	05-08-2013
Nagpur	1 week	26-09-2013

Who may attend: Engineers having 1-2 years experience in Thermal Power Stations.

12. POWER PLANT AUTO CONTROL

Objective

To enable participants to line up, test, commission and maintain all control loops along with their hardware components.

Program Profile

- Auto Control Action Theory (PID) and their relevance to process reaction rate and dead time.
- Auto loops in Power Station with their built up action Hardware and Software.
- Selection and application of final control elements such as control valves, dampers, etc.
- Feed forward and feed back signal selections.
- Actuators: electric, Pneumatic and Hydraulic; their relative merits and applications.
- Thyristor drives and thyristor controlled drives.
- Limit switches and Torque switches
- Coordinated control concept and applications.
- Microprocessor based programmable logic controllers (PLC's) Distributed Digital Control System concepts.
- Periodical tuning Techniques and tuning requirements.
- Commissioning of Automatic control loops with individual action, tuning techniques on Automatic Control Simulators.

Venue	Duration	Date
Neyveli	1 week	06-05-2013 08-07-2013

Who may attend: Engineers with 2-3 years experience in the relevant field.

13. VALVE MAINTENANCE

Objective

To acquaint the trainees with correct and modern methods of operation & maintenance of valves so that at the end of the course the trainees will be able to undertake maintenance of valves independently with confidence.

Program Profile

- Description of different types of valves, their construction, operation and applications.
- Correct use of tools, Dismantling.
- Identifying the types of valves.
- Replacement of worn-out or damaged parts.
- Use of correct lapping discs.
- Overhaul and maintenance of cover joints and bonnet joints.
- Correct method of cutting & jointing.
- Overhauling of valves.
- Hydraulic testing of valves.

Venue	Duration	Date
Neyveli	1 week	13-05-2013
Nagpur	1 week	29-07-2013

Who may attend: The course is for technicians with 2-3 years experience in relevant field of Power Station.

14. FANS & AIR HEATERS

Objective

To acquaint the participants with the various types of fans and airheaters used in thermal power stations and their selection and design engineering aspects.

Program Profile

- Fans: Different types of fans and their applications, engineering, design and selection criteria.
- Construction details and components description for different types of fans.
- Fan operation techniques in series/ parallel conditions.
- Fan characteristics and performance monitoring.
- Condition Monitoring: Vibration measurement, rubbing sound measurement and other diagnostic studies.
- Fan maintenance procedures and practices.
- Air Heater: Different types, their design construction and selection aspects etc.
- Alignment & Adjustment Techniques of seals
- Lubrication
- Problems-Case studies and analysis.

Venue	Duration	Date
Badarpur	1 week	20-05-2013
Neyveli	3 days	05-06-2013

Who may attend: Engineers with 1-2 years of experience in O&M of Boilers/ auxil liaries in a Thermal Power Station/ Industry.

15. SWITCHGEAR & TRANSFORMER MAINTENANCE

Objective

To enable the participants to carry out maintenance of different types of circuit breakers and transformers by using correct procedures and tools. After completion of the course the participants will be able to take up the repairs and routine maintenance of switchgears and transformers independently.

Program Profile

- Introduction to circuit breakers, Arc formation, Arc quenching etc. Constructional details of different types and makes of circuit breakers like air circuit breakers, minimum oil circuit breakers, air blast circuit breakers, vacuum circuit breakers, SF6 breakers etc.
- Insulating oil, identification, sampling and testing procedures.
- Oil Testing details for Crackle Testing, Break down testing, Oil filtration.
- Reading of schemes, control and wiring diagrams.
- Transformer construction détails.
- Transformer maintenance procédures.

Venue	Duration	Date
Durgapur	1 weeks	27-05-2013

Who may attend: This course is meant for maintenance technicians with 2-3 years experience in Switchgear and Transformer maintenance.

16. SWITCHYARD MAINTENANCE TECHNIQUES USING LLMT FOR LINEMEN/SUPERVISOR

The fast growing EHT/UHT Transmission lines and the rapid addition of 400 KV lines in the country, has made it imperative to upgrade the Live Line Maintenance Technology. The training program offers direct benefit to the organizations involved in maintenance of sub-stations by reducing the number and duration of shutdown. Learning these Techniques is essential in order to exploit the full potential of LLMT and it can increase the scope of Maintenance activities.

Objective

- Appreciation on maintenance of switchyard equipments.
- To highlight the importance of Live Line maintenance Technology in EHV switchyard.
- Give an introduction to Live Line washing techniques of EHV Substation Insulators.

Program Profile

- Electrical Safety & Safe Clearances.

- General practice of switchyard maintenance
- Practice on climbing towers and switchyard structure, precaution at different working positions
- Use of different hardware used in the maintenance works (Ropes, earthing equipment, load handing equipments, etc.)
- Hands on demo/training on live switchyard location using Hot Stick Method (HSM) and using Bare Hand Methods (BHM).
- Use of thermo vision Camera for detection of Hot Spots in Maintenance Works.
- Introduction to live line washing of insulators, video films on LLMT

Venue	Duration	Date
HLTC Bengaluru	4 weeks	20-05-2013

Who may attend: Foremen, Linemen, Asstt Linemen, Supervisors, Junior Engineers, asst Engineers etc. actively involved in EHV Substation Maintenance activities having physical fitness. It is preferred that one of the nominee be in the rank of Executive cadre.

Course Fee: The course is fully residential. Course fee for 4 weeks with Board & Lodging Chareges: Rs. 77,000/- plus Rs. 9,053/- (Service tax) Per participants

17. INSPECTION OF ELECTRICAL INSTALLATIONS UNDER IE RULES-1956

Objective:

To familiarize about the mandatory procedures before energizing any electrical equipment form LV to EHV level by consumers/suppliers and the role of electrical inspectors in enforcing IE Rules 1956.

Outline:

- Overview & Safety Requirements of IE Rules
- Design of Electrical installations
- Earthing System Design
- Circuit Breakers and Protective Relays
- Basic Protection Schemes of Power Equipments
- Inspection procedures for statutory inspection by Electrical inspectors
- Check Point of Electrical inspection
- Pre-commissioning tests of Transformers, Switchgears and Power Cables
- First aid and Fire Fighting Practices in Industrial Installations/Substations
- Field Visit

Venue	Duration	Date
PSTI Bengaluru	1 week	20-05-2013 03-03-2014

Who may attend: Industrial/other consumers of electricity, electrical inspectors/assisting officers, utility representatives, manufacturers/dealers of electrical equipment/power cables/LT/HT switchgear

18. REACTIVE POWER MANAGEMENT

Objectives:

To familiarize the engineers with the design and performance aspects of power system elements so as to have an understanding of reactive power management and control

Outline:

- Reactive Power Control Equipment
- Performance of Reactive Power Equipment under different Operating Conditions
- Comparative Study of AVRs, OLTCs, Power Capacitors, Shunt Reactors, SVCs, TCRs,
- Automatic Power Factor Controllers
- Harmonics – cause, measurement and mitigation

Venue	Duration	Date
PSTI Bengaluru	3 days	01-05-2013 28-10-2013

Who may attend:

Transmission and Distribution Operating Personnel, Engineers involved in Planning, Design and Testing of Power Control Equipment and Engineers in charge of electrical maintenance.

19. DISTRIBUTION METERING

Objective:

To Provide comprehensive view of Distribution metering, rules & regulations and rationalization required.

Outline:

- Energy meters: Types & Construction
- Testing, setting and calibration
- Failure analysis
- IE Rules
- Theft/Tampering and Inspection of consumer premises
- Distribution meter reading
- Rationalization and computerization
- Field visits

Venue	Duration	Date
PSTI Bengaluru	1 week	13-05-2013

Who may attend: Engineers from state Electricity Boards/Power utilities/ Distribution System, R & D organizations, Academic institutions, manufacturers, contractors, consultants etc.

20. O & M OF TRANSFORMERS AND CIRCUIT BREAKERS

Objective:

To give insight into various aspects on operation, maintenance, testing and condition monitoring of Transformers and Circuit breakers

Outline:

- Insulation Systems
- Transformer engineering
- Transformer loading, testing, maintenance and condition monitoring
- Circuit Breaker maintenance, testing and condition monitoring
- Field visits

Venue	Duration	Date
Badarpur	1 week	14-10-2013
PSTI Bengaluru	1 week	27-05-2013 03-02-2014

Who may attend: Engineers from state Electricity Boards, Power Utilities/ Corporations, R & D organizations, Academic institutions.

21. POWER QUALITY AND HARMONICS MITIGATION

Objective

To familiarise the power engineer regarding the power quality and causes, consequences and cures to harmonics in electrical systems/ industry.

Program Profile

- Introduction to power quality
- Power Quality – impacts, manifestations.
- Consequences of power quality.
- Power quality measurement.
- Harmonics – Sources, measurements and mitigation.
- Filters – Active and Passive filters.
- Statcoms, custom power devices, Statics Var Compensators.
- Case studies.
- Technical Visits.

Venue	Duration	Date
PSTI Bengaluru	4Days	05-08-2013

Who may attend: Practicing Engineers/ supervisors of industry, Utilities and faculty of educational institutions involved in maintenance of power quality and mitigation of harmonics.

22. BOILER OPERATION/ BOILER & ITS AUXILIARIES OPERATION

Objective

To acquaint the participants with the safe and efficient operation of boiler and its auxiliaries.

Program Profile

- Working principle, function and classification of Boilers
- Description of Boiler components
- Function and working principle of Boilers Auxiliaries-Mills & Feeders, fan, Air pre heaters, soot blowers, etc.

Venue	Duration	Date
Badarpur	1 week	13-05-2013
Neyveli	1 week	01-07-2013
Durgapur	1 week	13-01-2014
Nagpur	1 week	06-05-2013

Who may attend: Chemists with minimum five years experience in TPS Laboratory.

23. HT/LT SWITCHGEAR (O&M)

Objective

The main objective of the course is to update the Knowledge of plant engineers in the field of switch gear and its erection testing/ commissioning, operation and maintenance.

Program Profile

- Types of Switchgears.
- Selection Criteria for Switchgears.
- Design & Construction Data.
- Erection/Commissioning.
- Check-list and precautions.
- Fault finding.
- Testing procedures & Equipments.
- Case Studies.

Venue	Duration	Date
Guwahati	1 week	13-05-2013
PSTI Bengaluru	1 week	17-02-2014

Who may attend: Engineers with 2-3 years experience in switchgear electrical installation of industry.

24. CONTROL & INSTRUMENTATION IN POWER STATION (FOR OPERATION ENGINEERS)

Objective

To acquaint the engineers working in Non- C&I areas with working principles of various instruments, the process parameters and with the relative process/plant behavior.

Program Profile

- General description of Power Station Instrumentation and control and their layout details.
- Basic Principles and working principles of instruments.
- Temperature Measurement.
- Flow Measurement
- Introduction to On-Line Analytical Instrument
- Introduction to Turbovisory Instruments & Vibration Analysis
- Discussion on Protection & Interlocks.
- Introduction to Automatic Control Loops.

Venue	Duration	Date
Badarpur	1 week	30-09-2013
Nagpur	1 week	17-06-2013

Who may attend: Engineers with 2-3 years experience in the relevant field.

25. POWER SYSTEM STUDIES

Objective:

To familiarize the power system engineers with modeling of power system components and the power system studies software for power flow studies, short circuit studies, stability studies and relay coordination

Outline:

- Load flow: Modeling and case studies
- Short circuit studies; Z bus matrix and symmetrical components
- Balanced and unbalanced faults and case studies
- Over current relay coordination-case studies
- Stability studies-modeling case studies
- Laboratory: use of MiPower software
- Field visits

Venue	Duration	Date
PSTI Bengaluru	1 week	03-06-2013

Who may attend: Transmission and distribution engineers involved in system design, planning, protection and control, engineers from R & D organizations and Academic institution

26. GRID MANAGEMENT

Objectives:

To learn the methods of operating the electrical grid with resource optimization

Outline

- Grid operation: scheduling, contingency planning, shutdown, restoration, congestion management, merit order
- Voltage and Frequency control
- Grid Code
- SCADA & EMS Application
- Open access Regulation
- Protection Schemes of Power Equipment and Power System
- Field Visits
- Video Sessions
- Group Discussion

Venue	Duration	Date
PSTI Bengaluru	1 week	10-06-2013

Who may attend: Persons involved in operation and control of transmission and distribution systems.

27. POWER SYSTEM OPERATION & CONTROL

Objective:

To provide insight into various aspects of power system, operation and control with specific thrust on generation, transmission and load dispatch.

Outline:

- Load Flow: Modeling and case studies
- Circuit Breaker Studies: Z bus matrix and symmetrical components
- Balance and unbalance faults and case studies
- Stability studies- modeling case studies
- Laboratory: use of MiPower/Neplan Software
- Power Stations & Substation Layout
- Load Dispatch Centers
- System Operation & Control
- load Management
- Grid Code
- Availability Based Tariff
- Power system Stability
- System Protection
- HVDC Systems
- EMS/SCADA
- Study Tour

Who may attend: Induction and middle level Engineers from State Electricity Boards, Power Utilities/ Corporations, R&D organizations, Academic institutions etc.

Venue	Duration	Date
PSTI Bengaluru	2 weeks	03-06-2013

28. POWER SYSTEM PROTECTION

Objective:

To familiarize the power engineers with protection in power systems

Outline:

- Fault analysis
- Relay input sources
- Protection of Generators & motors
- Protection of bus bars
- Protection of Transformers
- Protection of EHV lines
- Protection of Distribution systems
- Protection against over voltages
- Insulation Co-ordination
- Testing of Surge Arrestors
- Testing & commissioning of relays
- Present trends in protection
- Case studies
- Laboratory Sessios
- Tutorials
- Field visits

Venue	Duration	Date
PSTI Bengaluru	2 week	18-06-2013 10-03-2014

Who may attend: Engineers from state Electricity Boards, Power Utilities/ Corporations, R & D organizations, Academic institutions

29. ADVANCED POWER SYSTEM PROTECTION

Objective:

To familiarize the power engineers on the advanced aspects of protection in power systems

Outline:

- Overview of System Protection
- Numerical Relays
- Protection of Transformers, Transmission lines, Bus bars, Feeders
- Integrated Protection, Control & Monitoring
- Intelligent electronic Devices in system protection
- Software architecture and performance characteristics of numerical relays
- Wide Area Protection
- Video Sessions
- Field Visits

Venue	Duration	Date
PSTI Bengaluru	1 week	24-06-2013 17-03-2014

Who may attend: Engineers from State Electricity Boards, Power Utilities/ Corporations, R & D organizations, Academic institutions

30. STEAM TURBINE & AUX. OPERATION

Objective

To familiarize the participants with operational procedure of turbine and its associated auxiliaries under various conditions of operation.

Program Profile

- Constructional features of turbine, turbine auxiliaries like condenser, pumps, feed heaters etc.
- Operational procedure of associated systems such as condensate, feed, lube oil, CW etc. On line cleaning system , Operation of boiler feed pump and condensate extraction pump.
- Interlock protection of turbine and its auxiliaries.
- Starting and shutting down of turbine.
- Operation of turbine under normal and emergency conditions.

- Emergencies & case studies.

Venue	Duration	Date
Badarpur	1week	18-11-2013
Neyveli	1 week	10-06-2013
Durgapur	1 week	17-02-2014
Nagpur	1 week	03-03-2014

Who may attend: Engineers with 3-4 years experience in Thermal Power Station.

31. ELECTROSTATIC PRECIPITATOR

Objective

To impart knowledge on installation, maintenance and operation of ESPs and their control circuits.

Program Profile

- General discussion on pollution.
- Types of ESP & selection aspects.
- Principles of construction & functioning of ESP.
- Corona and Ionization.
- Description of Dust precipitator.
- Installation, Operation and Maintenance of ESP.
- Mechanical Parts Maintenance.
- Electrical control circuit maintenance and checking. Efficiency and performance of ESPs and Factors affecting the performance.

Venue	Duration	Date
Neyveli	3 days	26-06-2013

Who may attend: Engineers engaged in operation and maintenance of power station & process industry with 2-3 years experience.

32. BOILER FIRING SYSTEM & EQUIPMENTS

Objective

To acquaint the participants with the various types of Boiler firing systems, problems faced, rectification and trouble shooting.

Program Profile

- Combustion of Fuels.
- Different firing systems – tangential firing, wall firing and down shot firing- their requirements and applications Igniters
- Oil atomizers
- Coal Burners
- Burner Management system
- Direct Ignition of Pulverized Coal
- Operation Procedure, Maintenance &
- Trouble Shooting in firing system components.

Venue	Duration	Date
Neyveli	1 week	15-07-2013

Who may attend: Operation & Maintenance engineers of Thermal Power Station with 4-5 years experience.

33. ELECTRICAL PROTECTION SYSTEM

Objective

To enhance the knowledge of in-service engineers involved in commissioning & maintenance of protective relays both in Generation and Transmission wings.

Program Profile

- Requirement of protective system (criteria for selection & choice of protection scheme).
- Instrument transformers, system grounding, fault parameters, fault analysis, sequential recorder & disturbance recorders.
- Generator protection (This topic will be covered in derail with special reference to 210 MW & 500 MW generators).
- Transformers and Bus-bar protection schemes, Transmission line protection (principles of relaying and commissioning).

Venue	Duration	Date
Badarpur	1 week	10-06-2013
Neyveli	1 week	22-07-2013
Durgapur	1 week	29-07-2013
Nagpur	1 week	03-02-2014

Who may attend: In-service Power Station Engineers having 2-3 years experience in the relevant field.

34. MAINTENANCE OF PUMPS AND VALVES

Objective

To acquaint the trainees with modern methods of Operation and Maintainance of Pumps and Valves so that at the end the course the trainees will be able to undertake maintenance of Pumps and Valves Independently with confidence.

Program Profile

- Description of different types of Pumps their construction, Operation and Application Industries
- Description of different types of Valves their construction, Operation and Application in Industries
- Identifying parts and tools
- Pump Maintenance Procedure like Gland packing, bearing removal and inspection, coupling, clearance and renovation of wear-rings of impellers
- Valve maintenance Procedure like lapping discs, cover joints and bonnet joints
- Overhauling of Pumps and Valves
- Use of Measuring Instruments
- Case Studies

Who may attend: Supervisors/ Technicians with minimum 2-3 years expenence in power Plants of Proccess Industries

Venue	Duration	Date of Commencement
NPTI-NER, Guwahati	1 week	09-09-2013

35. RELIABILITY CENTERED MAINTENANCE OF ROTARY EQUIPMENTS

Objective

The objective of the course is to give a thorough knowledge to the Engineers working in the Maintenance Section, regarding the recent maintenance techniques and systems of the rotary equipments. This special and modern development of maintenance system will also enhance the conventional maintenance skill of the engineers.

Program Profile

- Introduction to Reliability Centered Maintenance (RCM); steps and benefits of RCM.
- First approach to RCM-Functions, failure and significant of Rotary equipments, consequences of failure as per RCM.
- Reliability centered maintenance tasks for Rotary equipments.
- Condition monitoring of rotary equipments- as an important role for RCM.
- Description of condition monitoring equipments.
- Description of vibration and signature analysis.
- RCM recording systems and documentation system.
- Preventive maintenance techniques of pumps, fans, turbine and other rotary equipments.
- Overhauling job schedule for the above mentioned equipments.
- Trouble shooting and failure diagnosis of rotary equipments.

- Bearings, Lubrication and tribology.
- Balancing and Alignment of rotary equipments.

Venue	Duration	Date
Badarpur	1 week	05-08-2013

Who may attend: Experienced Engineers working in Power Plants, Utility Industries and other Industries.

36. COAL MILLS & MILLING SYSTEM & CASE STUDIES/O&M OF COAL MILLS & FEEDERS

Objective

To acquaint the participants with the latest Milling system, their operation and maintenance techniques so as to reduce the outage in the Thermal Power Stations.

Program Profile

- Description of different types of Mills & Milling system components such as Raw Coal Feeders, Classifiers and variators etc. their design, construction and selection aspects.
- Description of Coal grinding Principles and grinding elements.
- Frequently eroding parts and eroding characteristics analysis.
- Proper maintenance techniques and replacement procedures of eroding parts.
- Driving Mechanisms and their maintenance procedures.
- Lubrication and sealing system.
- Maintenance planning for Milling system.
- Routine Maintenance and Breakdown Maintenance of Milling Plant.
- Overhauling of Milling Plant.
- Preventive measures for stopping erosion of Pulverized Coal lines bends and their proper alignment.

Venue	Duration	Date
Badarpur	1 week	08-07-2013
Neyveli	3 days	20-11-2013

Who may attend: Engineers with 2-3 years experience in Operation and Maintenance in a Power Station.

37. REDUCTION IN POWER DISTRIBUTION LOSSES

Objective

To assist participants to modify their approach and to treat their feeders as profit centers.

Program Profile

- IE rules
- Source of technical Losses and methods of reducing them
- Application of new Technologies (HVDS&ABC) in distribution System
- Source of commercial Losses
- Setting and checking of actuators and methods of reducing them.
- Legal empowerment to control the menace of power theft
- AT&C Losses
- Role of consumer associationand franchises to control commercial losses.

Venue	Duration	Date
Durgapur	3 days	22-07-2013

Who may attend: Engineers from SEBs/ Power Utilities/corporations with 2-3 years of experience

38. FLEXIBLE AC TRANSMISSION SYSTEM (FACTS)

Objective:

To familiarize power engineers about the Flexible AC Transmission devices and their applications in power systems with respect to active/reactive power control.

Outline:

- Introduction
- Unified Power Flow Controller
- Thyristor Controlled Series Capacitor
- Static Var Compensator
- Thyristor Controlled Reactor
- HVDC
- Applications of FACTS
- Tutorial
- Technical Visits

Venue	Duration	Date
Badadpur	1 week	02-12-2013
PSTI Bengaluru	1 week	08-07-2013

Who may attend: Practicing engineers involved in planning, design and implementation of FACTS devices.

39. POWER EXCHANGE AND POWER TRADING

Objective

To familiarize the participants to learn and enrich their experience so as to get prepared for trading in a competitive electricity market.

Outline

- Electricity Market in India
- Trading electricity Derivatives
- Clearing and settlement of electricity Contracts
- Risk and portfolio management
- Legislation, Governance, Market Surveillance and Ownership of power Exchange
- Transmission Tariffs and system Operation
- Environmental challenges and trade of energy Challenges and Trade energy Certificates

Venue	Duration	Date
PSTI Bengaluru	2 Days	25-04-2013

Who may attend: Engineers from State Electricity Boards, Power Utilities/ Corporations, R & D organizations, Academic institutions

40. POWER BUSINESS, TARIFF & REGULATIONS

Objective

To facilitate the participants on the regulatory framework of Power Sector as envisaged in the Electricity Act 2003, the transmission tariff policy, transmission pricing framework, tariff plan of central and state electricity regulatory commissions, the generation tariff and conditions.

Outline

- Power Business in India
- Regulatory Structure and issues
- Indian Electricity Grid Code
- Transmission Tariff
- Generation Tariff
- Open Access in T&D

Venue	Duration	Date
PSTI Bengaluru	1 week	01-07-2013
PSTI Bengaluru	4 Days	14-01-2014

Who may attend: Engineers from State Electricity Boards, Power Utilities/ Corporations, Academic institutions

41. LOW VOLTAGE POWER DISTRIBUTION SYSTEM DESIGN

Objective

To familiarise the participants from the low voltage power distribution system design including selection and sizing of cables, switchgear, control panels and safety requirements

Outline

- General Rules of Electrical Installation and Design,
- L V Distribution and Earthing schemes,
- Cables, Bus ways & Switchboards,
- L V Swithgear: functions & selection, Understanding the wiring system and Cable sizing,

- Understanding MV/LV installation design by ID Spec Large software & Understanding the LV installation calculation by My Ecodial L Software,
- Distribution System protection & Technical Visits.

Venue	Duration	Date
PSTI Bengaluru	1 week	22-07-2013

Who may attend: The medium voltage and low voltage distribution engineers working in utilities and industries and responsible for design installation and maintenance of distribution system.

42. GENERATOR & AUXILLIARIES INCLUDING EXCITATION SYSTEM

Objective

To develop proper understanding of the generator and auxiliaries along with the various excitation systems and their characteristics.

Program Profile

- Generator construction and design aspects.
- Generator characteristics, synchronization & parallel operation
- Generator protection.
- Excitation & AVR-various types and their selection aspects
- Problems faced.
- Case studies

Venue	Duration	Date
Badarpur	1 week	16-12-2013
Neyveli	1 week	09-12-2013
Durgapur	1 week	04-11-2013
Nagpur	1 week	08-07-2013

Who may attend: Engineers with 2-3 years experience in erection, commissioning operation and maintenance of generator system

43. POWER CABLES AND JOINTING TECHNIQUES (WORKSHOP)

Objective:

The application of cables in power industry has been a subject matter of intense discussion among power engineers in the recent times. This is because of the increased use of cables in the modern power system especially with the advent of new technologies like HVDC transmission etc. and also to the new conception in the field of power system protection & control. Cables are available in varying sizes configuration. Proper application of these to suit the utilities requirement needs great acumen & skill on the part of power engineers. This workshop is being organized to familiarize power engineers on the mechanical considerations in the design of cables, application of different types of cables in the power industry with regard to physical configuration of cores, current carrying capacity, insulation strength etc. and also different electrical properties, study of cables is incomplete without a discussion on testing and hence testing will also be a part of the program.

Outline:

- Design & construction of Power Cables
- Testing of cables
- Testing of cable accessories
- Failure of cables and case studies
- Condition monitoring of power cables

Venue	Duration	Date
PSTI Bengaluru	3 days	29-07-2013
PSTI Bengaluru	4 days	28-01-2014

Who may attend: Engineers from State Electricity Boards Power Utilities/ Corporations, R & D organizations, Academic institutions, Power consumers, consultants/ contractors etc.

44. HIGH VOLTAGE TESTING OF POWER SYSTEM EQUIPMENT

Objective:

To give insight into all the facets of High Voltage Testing of Power system equipment

Outline:

- High voltage technology
- Solid insulating media, liquid insulation media
- Gas & Vacuum Insulation
- Generation of high voltage for testing
- High voltage measurements
- High voltage testing of transformers
- Circuit Breakers
- Surge arrestors
- Insulators, Cables, Capacitors
- High Power Testing of switchgear
- Partial Discharges
- Field visits

Venue	Duration	Date
PSTI Bengaluru	1 week	19-08-2013
		10-02-2014

Who may attend: Engineers involved in procurement, installation and testing of power system equipments.

45. TRANSFORMER OIL

Objectives:

Insulating liquids obtained by processing of petroleum crude (mineral oils) are in use as coolant and insulating medium in Transformer for over a century. The quality & performance have been improved significantly, owing to the advancement of refining techniques, knowledge of chemistry and design of Transformer introduced to suit Oil characteristics. Since indigenization of Transformer oil manufacture, Indian industry has gained substantial expertise. Various research institutions in India have contributed greatly to the development, standardization, analysis, reclamation etc. of Transformer oil to make it a mature technology. It is felt that interaction of researchers, manufacturers of Transformer and Transformer oil, engineers of power utilities can help to disseminate knowledge and update with the state of art and also exchange experience on various aspects of Transformer oil.

Outline:

- Latest trends in Manufacturing Transformer Oil
- Evaluation of Transformer Oil
- Quality of Transformer Oil
- Impurity effect on Oil Characteristics
- Maintenance of Transformer Oil
- Condition Monitoring of Transformer Oil
- Dissolved Gas Analysis (Case Histories)
- Mixing of Oils & the effects therein
- Reclamation of Transformer Oil
- RLA of Solid insulation through Furan Analysis
- Field visits

Venue	Duration	Date
PSTI Bengaluru	3 Days	12-08-2013

Who may attend: Engineers form State Electricity Boards, Power Utilities/ Corporations, R & D organizations, Academic institutions, Transformer Manufacturers, Transformer Oil Manufacturers and processors.

46. INDIAN ELECTRICITY ACT AND RULES AND DEREGULATION

Objective

To familiarize all sections of people involved in Transmission, Distribution of electricity and

also all categories of consumers form domestic, industrial, commercial sections about the current Indian Electricity Act-2003 and amended Indian Electricity rules 1956.

Outline

- Overview of Indian Electricity Rule 1956 (as amended up to date)
- Indian Electricity Act-2003
- Indian Electricity Grid Code
- Status of Deregulation in India
- Case studies of deregulation
- Field Visits

Venue	Duration	Date
PSTI Bengaluru	1 week	02-09-2013

Who may attend: Practicing Engineers from Generators Transformers, Distributors, Industrial and Other consumers of electricity, Electrical Inspectors and Electrical Consultants.

47. DISTRIBUTED GENERATION & INTEGRATION

Objective

To investigate the impacts of DG integration on the operation of a distribution system.

Outline

- Renewable energy in Power Sector
- Power Sector Restructuring and Renewable Energy
- Benefits and impacts of DG
- Integration of DG with power system
- Impact of DG on power systems
- Power Quality Issues

Venue	Duration	Date
PSTI Bengaluru	1 week	26-08-2013

Who may attend: Engineers from State Electricity Boards, Power Utilities / Corporations, R & D organizations, other organizations, Academic institutions

48. NON DESTRUCTIVE TESTING & WELDING DEFECTS

Objective

Objective of the course is to create technically trained manpower and to make working Engineers aware of the various NDT procedures being adopted for inspection of welding joints & other materials.

Program Profile

- Introduction to Non Destructive Testing Procedures
- Welding defects and associated Non Destructive Testing Methods.
- Types of material defects
- Various NDT Techniques and their Applications
- Dye Penetrant Test
- Magnetic Participle Test
- Ultrasonic NDT Methods
- Ultrasonic Flaw Detectors
- Eddy Currents Non Destructive Testing
- Radiography & Test Applications
- Applicable ASTM Standards
- Various Types of weldings Defects & Preparation of Welding Procedures in various positions as per AWS

Who may attend: Engineers/Supervisors with one or two years relevant experience may attend

Venue	Duration	Date
Badarpur	1 Week	26-08-2013

49. THERMAL PP EFFICIENCY & PERFORMANCE MONITORING

Objective

To acquaint the trainees with the latest techniques of monitoring and testing of unit performance, analysing data and suggesting

ways and means for performance improvement.

Program Profile

- Steam cycle theory and optimization.
- To identify and record the factors and data needed for monitoring efficiency and performance.
- Analysis of the performance of different systems and equipments like station heatbalance, mill performance, condenser performance, feed heaters performance, boiler efficiency, turbine efficiency etc.
- Corelation among different systems and their effect on performance.
- Application of computer for performance calculation and analysis.
- Improvement of plant availability through efficiency and performance monitoring.
- Plant on-job/practicals.

Venue	Duration	Date
Neyveli	1 week	19-08-2013
Durgapur	1 week	23-09-2013
Nagpur	1 week	10-02-2014

Who may attend: Power Station Engineers having 2-3 years experience in operation and maintenance.

50. O&M OF TRANSMISSION LINES & SUB-STATION

Objective

To update knowledge of the participants in various operational & Maintenance aspects of Transmission line & Sub-Station.

Program Profile

- Transmission and Distribution—a business mission.
- Operation Procedures and practices of Transmission line and Sub-Station.
- Equipment inspection and Selection aspects.
- Equipment Failure analysis and its maintenance.
- Maintenance of Sub-Station equipments.
- Hot line Maintenance and ERS of Transmission line.
- Routine, Preventive and breakdown Maintenance.
- Protection System and its equipment.
- Safety aspects and fire protection devices.

Venue	Duration	Date
Durgapur	1 week	19-08-2013

Who may attend: Engineers with minimum 2-3 years experience in O&M of Transmission and Distribution or Power Station.

51. RELAY MAINTENANCE

Objective

To make the technicians understand and identify various types of relays, their applications, maintenance and calibration requirements.

Program Profile

- Basic protection requirements.
- Basic relay terminology.
- Different types of relays.
- Fault discrimination methods.
- Relay characteristics and setting, testing etc.

Venue	Duration	Date
Neyveli	3 days	21-08-2013

Who may attend: Technicians having 2-3 years experience in the relevant field.

52. BOILER OPERATION REFRESHER COURSE

Objective

To acquaint the participants with the safe and efficient operation of boiler and its auxiliaries.

Program Profile

- Working principle, function and classification of Boilers.
- Description of Boiler components.
- Function and working principle of Boiler Auxiliaries-Mills & feeders, fans, Air Pre-heaters, Soot Blowers etc.
- Boiler Mountings; safety valves, drains and vents.
- Operation of Boiler Auxiliaries.
- Alkali boil out and Acid cleaning.
- Hydraulic Test.
- Boiler start-up and shut down.
- Interlocks and Protections including B.M.S./F.S.S.S.
- Efficiency and Performance monitoring of Boiler and its auxiliaries.
- Important do's and don'ts under emergency conditions.

Venue	Duration	Date
Neyveli	1 week	09-09-2013

Who may attend: operators working in Thermal Power Stations/industries with 3-4 years experience.

53. POWER PLANT CHEMISTRY FOR OPERATION ENGINEERS

Objective

To provide understanding and knowledge to the Operation Engineers on various techniques of chemical controls and their effect on-plant performance and failure. The program will help the Operation Engineers in day-to-day for decision making and also in emergencies.

Program Profile

- Corrosion/depositions in Boiler, S.H. Turbine condensers and their prevention techniques.
- Acid cleaning of boiler/condensers etc.
- Unit preservation during idle time.
- Characterization of coal for the power plant.
- Optimization of combustion.

Venue	Duration	Date
Badarpur	1 week	09-09-2013
Durgapur	1 week	16-09-2013
Nagpur	1 week	25-11-2013

Who may attend: Operation Engineers with experience as Shift In-charge Engineers/ Operation Engineer.

54. BOILER TUBE FAILURE AND CASE STUDIES

Objective

To appraise the participants regarding the causes of boiler tube failure and to impart the knowledge of tube failure analysis, locating tube failure, job involvement after tube failure etc. to the Power Plant Engineers.

Program Profile

- Types of Boiler Tube Failure and their classification.
- Causes of different types of tube fails and their analysis.
- Understanding and locating tube failure by operational parameters at running condition.
- Job involvement for physically locating the tube failure at shut down condition.
- Tube failure rectification.
- Control of boiler tube failures.
- Different case studies.

Venue	Duration	Date
Durgapur	1 week	09-09-2013

Who may attend: Engineers working in Thermal Power Plant & other industries who

deal with boiler (either operation or maintenance or both).

55. TRAINING PROGRAM FOR POWER GRID PERSONNEL ON COLD LINES

Objective

the course is meant exclusively for the personnel from M/S Power Grid Corporation of India Limited; spreading awareness about general line maintenance techniques on uncharged lines amongst supervisors and technician involved in Line Maintenance. The training program has been organized with the objective of giving appreciation about EHV Lines, highlight importance of maintenance and give a brief introduction to live line maintenance techniques

Program Profile

- Electrical Safety, First Aid and Fire fighting
- Safety precaution at different working positions
- Training of personnel on climbing towers
- Use of different hardware used in maintenance works (Ropes, earthing equipment, load handling equipment etc)
- General Practice of Maintenance work on Transmission Line.
- Introduction to Live Line Maintenance Techniques

Venue	Duration	Date
HLTC Bengaluru	4 weeks	16-09-2013

Who may attend:

Supervisors in the rank of Diploma/Junior Engineer and ITI qualified Technicians who had undergone their basic/Induction level course after recruitment.

Course fee

The course is fully residential. Course for & weeks Rs. 60,000/- Lodging charges per participants.

56. MANAGEMENT OF ELECTRICAL CONTRACTS AND NEGOTIATIONS

Objective

To familiarize the young engineers with the nuances of the electrical industry and the contact involved.

Program Profile

- Types of Contracts.
- General & Special Conditions of Contracts
- Erection Conditions of Contracts.
- Project Managements & Erection.
- Measurement of works completion, Invoicing & Billing
- Market survey of electrical equipments.
- Estimation & bidding for electrical works
- Electricity: Generation, transmission & distribution.
- Principle of operation of electrical equipment.
- Codes & practices in electrical equipments.

Sh. R.S. Mina-Director (Personnel), NHPC Ltd. addressing participants during the inauguration of 5 weeks Induction-cum-orientation Training Programs of Trainee Engineers / Officers of NHPC at NPTI Corporate Office, Faridabad

- Indian Electricity Act, IEEE codes & ISO standards.
- Design of electrical lay outs.
- Installation of electrical equipments.
- Procedure for availing electrical supply form Electric Supply Company.
- Statuary requirements from Electrical Inspectorate to carryout Business.
- Labour act, workmen compensation acts, Insurance & Provident Fund.
- Fire Fighting & Requirement of Fire Extingusishers.
- First aid & Artificial Respiration.

Venue	Duration	Date
PSTI Bengaluru	1 week	16-09-2013

Who may attend: Electrical graduates fresh as well as practicing who require exposure regarding electrical industry and contracts, in particular in distribution system.

57. DISTRIBUTION AUTOMATION

Objectives:

To familiarize participants with the Customer and system level functions that are associated with distribution automation and to describe the equipment and softwar used to implement these functions.

Outline

- Customer Site automation functions: Load control
- Remote meter reading, Time-of-use rates,
- Remote connect/disconnect
- System level functions: Fault location, isolation, and service restoration
- Design of LT Distribution system
- Feeder reconfiguration & Transformer balancing
- Voltage/Var Control using: Capacitors, Regulators, and LTC; Distribution system monitoring
- Digital protection of substations and feeders
- Equipment for Feeder Automation & Customer Automation
- Implementing a DA Project
- Labs & Field Visits

Venue	Duration	Date
PSTI Bengaluru	1 week	23-09-2013

Who may attend: Engineers and Managers responsible for planning, cost-justifying, designing, implementing and working with Distribution automation systems.

58. POWER SYSTEM ENERGY LOSSES

Objective

To acquaint the participants with the sources of power system losses in transmission and distribution network and possible remedies.

Program Profile

- Growth of power system in India.
- Transmission Losses.
- Distribution losses/transformer losses.
- HT metering.
- Remedial measures to minimize various system losses.
- Energy management system, Flattening of load demand, Energy auditing and reporting techniques.
- Power System Planning, economic operation, maintenance to minimize losses.
- Computer application in power system.

Venue	Duration	Date
Neyveli	1 week	09-09-2013
Nagpur	1 week	07-10-2013

Who may attend: Assistant Engineers/ Executive Engineers/Superintending Engineers working in transmission & distribution.

59. ENERGY EFFICIENCY IN ELECTRICAL UTILITIES

Objective:

To familiarize the engineers with the energy efficiency opportunities available in the various electrical equipments and to help them to prepare better for the BEE certified Energy.

Outline:

- General Introduction- Electrical Systems
- Electric motor
- Compresses Air System
- HVAC & Refrigeration System
- Fans & Blowers
- Pumps & Pumping System
- cooling tower, Lighting system, Diesel Generating System
- Energy efficient technologies in Electrical Systems
- Tutorials and Technical Visits- This complies with the syllabus of BEE's Energy manager- Paper III

Venue	Duration	Date
PSTI Bengaluru	1 week	07-10-2013

Who may attend:

Engineers form State Electricity Boards, Power Utilities/ Corporations, PSUs, R & D organizations, Academic institutions, entrepreneurs and consultants/ contractors involved in energy audit and energy conservation projects.

60. O&M OF EHV TRANSMISSION LINES

Objective

To familiarizes the engineers on the O&M of EHV transmission lines

Program Profile

- EHV Transmission in India
- O&M of Transmission lines-line patrolling checks
- Thermo vision scanning, fault failure analysis
- HVDC
- Live line maintenance techniques
- Live insulators testing methods
- Use and maintenance of HLTC equipment
- Safety methods and first aid in live line maintenance
- Live line maintenance on 66kv to 220 kv commercial operations
- Introduction to hot line washing

Venue	Duration	Date
PSTI Bangaluru	1 week	10-09-2013

Who may attend:

Engineers responsible for O&M of EHV Transmission Lines

61. ISSUES RELATED TO SUPERCRITICAL TECHNOLOGY

Objective

To familiarize the participants with super critical boilers and related issues

Program Profile

- Introduction to supercritical technology, advantages-World scenario in super critical technology.
- Arrangement of super critical boilers.
- Comparison between spiral water wall circulating and vertical tubing.
- Special alloys for super critical boilers and welding techniques.

Venue	Duration	Date
Neyveli	2 days	20-02-2014

Who may attend:

Engineers working in Power Stations.

62. BURNER MANAGEMENT SYSTEM/FSSS

Objective

To build up skills and knowledge required to maintain the Burner Management System of modern boilers with solid state relay logic control components.

Program Profile

- Flame sensors; their types, selection, application and installation techniques.
- Flame scanning intelligence.
- logics and logic circuit built around solid stat relay devices for working out permissive.
- Fuel sequencing, fuel cut off and boiler trip protections.
- Logics and logic circuits for sequential start up and shut off procedures.

Venue	Duration	Date
Neyveli	3days	23-10-2013

Who may attend:

Fresh Engineers engaged in Control and Instrumentation.

63. POWER SYSTEM STUDIES & LOAD DESPATCH

Objective

To acquaint the participants with the various aspect of Pumps and the associated problems in their O&M.

Program Profile

- Growth of power system in India.
- Representation of power system components.
- Characteristics & performance of power transmission lines.
- Load flow studies and problems.
- Different types of faults and their analysis by computer methods.
- Power system protection devices.
- Power system stability
- Load Despatch and its computerization

Venue	Duration	Date/Dates
Neyveli	1 week	07-10-2013
Durgapur	1 week	09-12-2013

Who may attend:

Engineers of Power Sector engaged in power system and load dispatch centres.

64. BATTERY MAINTENANCE

Objective

To make the participants understand different types o storage batteries, their applications, maintenance procedures and requirements. They will also acquire the knowledge of battery testing and test equipment etc.

Program Profile

- Introduction and constructional details of batteries,
- D.C. supply system.
- Charging and discharging of batteries.
- Preparation of electrolytes.
- Battery plate assembly and dismantling practices.
- Care & maintenance of batteries.

Venue	Duration	Date
Neyveli	3 days	09-10-2013

Who may attend:

Technicians working in Power Stations with 2-3 years experience

65. LARGE CAPACITY CFBC BOILERS

Objective

To familiarize the advantages of large capacity CFBC boilers

Program Profile

- Introduction to CFBC Technology Advantages, Scope, Fuel flexibity, etc.
- Description of various components of CFBC Boiler
- Environmental benefits
- Limitations, major concerns in the O&M of CFBC Boilers.
- Visit to CFBC Boilers.

Venue	Duration	Date
Neyveli	3 days	06-11-2013

Who may attend:

Engineers working in Power Stations.

66. MOTOR MAINTENANCE

Objective

To acquaint the trainees with the correct and modern methods of maintenance of electrical motors. At the end of the course the trainees will be able to undertake maintenance of motors with confidence.

Program Profile

- Theory of different types of motors.
- Constructional details o different types of motors.
- Terminal connections and terminal box.
- Mounting/Enclosures, insulation material used in motors.
- Stripping down 7 inspections of motors.
- Cleaning and inspection.
- Bearings used in motors.
- Assembling, testing and commissioning.
- Problems of motor-case studies.

Venue	Duration	Date
Neyveli	1 week	18-11-2013

Who may attend:

Maintenance technicians with 2-3 years experience with basic knowledge of electricity upto ITI Standard.

67. ENERGY CONSERVATION AND ENERGY AUDIT (FOR GENERATION SECTOR)

Objective

To infuse the energy saving consciousness of the participants highlighting the energy losses in the power industry that are usually unnoticed in the various areas of operations and acquainting them with the energy saving methods and the benefits achieved.

Program Profile

- Potential areas in the Power Industries for energy saving.
- Energy Saving methods with typical examples and exercises for power stations.
- Ways to minimise losses in power transmission & distribution system.
- Better use of electrical energy.
- Proper storage and use of fuel.
- Waste Heat areas and their utilization.
- Co-generation techniques for energy boosting.
- Energy Management System, energy Auditing and their implementation techniques for power industries.

Venue	Duration	Date
Neyveli	1 week	03-03-2014
NPTI-NER Guwahati	3 Days	25-11-2013
Nagpur	1 week	28-10-2013

Who may attend:

Engineers with 3-4 years experience in Thermal Power Stations.

68. O&M OF TRANSFORMER (SUPERVISORS/TECHNICIAN)

Objective

To update the knowledge of Plant technicians in the field of Transformers and its erection,

testing/Commissioning, operation and maintenance.

Program Profile

- Standaristaion and Specification of Transformers used in the Power station
- Commissioning of Transformers
- Types and Causes of Transformer failure
- Testing of Solid dielectric
- Transformer Oil-Its analysis, sampling and testing procedure
- Transformer Maintenance Practices
- Dissolved gas Analysis Techniques
- Case Studies

Venue	Duration	Date/Dates
NPTI-NER Guwahati	1week	18-11-2013

Who may attend:

This course is meant for operation and Maintenance Technicians with 2-3 years experience in relevant field.

69. HVDC TRANSMISSION SYSTEMS

Objective

To familiarize the engineers with the HVDC technology and its importance in system operation

Program Profile

- Introduction to HVDC.
- Principles of HVDC Conversion.
- HVDC Lines.
- HVDC Sub Stations.
- Reactive Power Management in HVDC Stations.
- AC & DC harmonics and filtering.
- HVDC System operation, Insulation Coordination, Emergencies and case studies.
- Visit to Kolar HVDC station

Venue	Duration	Date/Dates
PSTI Bengaluru	1 week	18-11-2013

Who may attend:

Practicing engineers from generation, transmission, distributed systems, industrial and other consumers of electricity, electrical inspectors and electrical consultants.

70. WELDING PRACTICES

Objective

To improve the skill of the personnel engaged in the field of welding both in construction and maintenance areas.

Program Profile

- Different types of welding and their processes.
- Gas welding – techniques, equipments used, choice of flames, flux & filler metals, gas welding joints.
- Oxy-fuel Gas Cutting-Process, techniques and equipments used.
- Shielded (Coated) Metal Arc Welding (SMAW) techniques machines & equipments used, joints design, classification and proper selection of electrodes.
- High Pressure Welding-TIG welding and its techniques, power sources & equipments used.
- MIG/MAG Welding—Techniques, equipments, accessories, shielding gases, filler rods.
- Welding Techniques for ferrous and nonferrous metals.
- Welding Defects, NDT, Heat Treatments

Venue	Duration	Date
Durgapur	1 week	18-11-2013

Who may attend:

Operator working in Thermal Power Station with 3-4 years experience.

71. TROUBLE SHOOTING OF STEAM TURBINE

Objective

To impart latest information about the techniques of trouble shooting of turbine and its remedial action

Program Profile

- Details of Steam Turbine, bearing and its Lubrication
- Turbine dynamics and vibration theory
- Causes of Vibration in Turbine and Case Studies
- Measurement and interpretation of vibration signatures
- Condition Monitoring and Performance Monitoring.
- Types of turbine Failure and its remedy

Venue	Duration	Date
Durgapur	3 days	11-11-2013

Who may attend:

Engineers from SEBs/Power Utilities/ corporations with 2-3 years of experience

72. SMALL, MINI AND MICRO HYDRO POWER GENERATION

Objective

To provide in-depth approach and technical know-how for different Hydro Power Generations

Program Profile

- General Principles & Theory
- Introduction of small, mini and hydro power generations
- Hydrology and estimation of water potential
- Basic features of hydro Turbines
- Plant visit

Venue	Duration	Date/Dates
HPTC Nangal	3 Days	02-12-2013

Who may attend:

Engineers working in Hydro Power Plants

Course Fee:

The course @ Rs. 3500/- per day, per participant

73. GOVERNING SYSTEMS OF HYDRO POWER GENERATION

Objective

To provide in-depth approach and technical know-how for Governing Systems

Program Profile

- General Principles and description of different type of Governing systems
- Speed control devices and wicket gate operation
- Description of system Components, Actuator, Valves, Servo motor, Oil circuit etc.
- Description of Turbine Interlock and Protection

Venue	Duration	Date/Dates
HPTC Nangal	2 Days	09-12-2013

Who may attend:

Engineers working in Hydro Power Plants

Course Fee:

The course @ Rs. 3500/- per day, per participant

74. FAN & AIR HEATERS MAINTENANCE

Objective

To expose the technicians to various maintenance requirements and procedures, develop necessary skill to carry out the

maintenance and the safe use of special tools and tackles.

Program Profile

- Classification of Fans and Air heaters and their applications in thermal power stations.
- Constructional details, operation and maintenance techniques of different Fans & Air Heaters.
- Causes of erosion, corrosion, vibration and their remedies. Load regulating system of Fans.
- Problems of Fan & Air heaters – Case Studies.

Venue	Duration	Date
Badarpur	1 week	25-11-2013

Who may attend:

Technicians working in power station with 2-3 years experience.

75. PROJECT MANAGEMENT FOR POWER SYSTEM ENGINEERS

Objective:

To familiarize Power Engineers with the Remaining Life Assessment (RLA) of Sub Station equipment.

Venue	Duration	Date
PSTI Bengluru	1 week	09-12-2013

Who may attend:

Engineers/Supervisors from Power Utilities, Power Station, Transmission and Distribution Companies, R&D Organizations & Academic Institution.

76. FIRE PREVENTION, PROTECTION & SAFETY

Objective

To make the trainees aware of the causes of fire hazards in Power Station industry and the prevention/protection system necessary to be installed.

Program Profile

- Different types of fire hazards in Power Plant and Industry.
- Plant design & layout with respect to fire hazards and prevention.
- Classification of fire and various methods to combat fire.
- Fire fighting arrangement in different areas of Power Plant and Industry.
- Safety connected with fire hazards in Electrical Installations.
- Application of different safety rules in Industry.
- Management of fire fighting & First Aids.

Venue	Duration	Date
Nagpur	1 week	09-12-2013

Who may attend:

Engineers and Senior Supervisor of Thermal Power Station and process industries.

77. BEARING MAINTENANCE AND SHAFT ALIGNMENT

Objective

To enable the participants to carry out maintenance of bearings and shaft alignment with modern techniques using tools and procedures correctly. After completion of course, trainees will be in a position to carry out their maintenance jobs independently.

Program Profile

- Classification of Bearings.
- Inspection of Bearings.
- Bearing materials.
- Friction and its effect on bearing performance.
- Top side gaps adjustments of sleeve/ bearings/ journal grooving on plain

bearings, scrapping of journal bearings selection of bearing lubrications and their purification.

- Handling and Storage of bearings.
- Care and maintenance of plain bearings, Anti friction bearings.
- Types of coupling and their uses.

Venue	Duration	Date
Badarpur	1 week	07-03-2014
Neyveli	1 week	10-03-2014
Nagpur	1 week	16-12-2013

Who may attend: Maintenance technicians with 2-3 years experience in the relevant field

78. SWITCHGEAR MAINTENANCE

Objective

To update knowledge of plant technicians in the field of switchgear and its erection, testing/commissioning, operation and maintenance.

Program profile

- Introduction to circuit breakers, Arc formation, Arc quenching etc. Constructional details of different types and makes of circuit breakers like air circuit breakers, minimum oil circuit breakers, air blast circuit breakers, vacuum circuit breakers, SF6 breakers etc.
- Selection Criteria for switchgear.
- Design & Construction Data.
- Erection/Commissioning
- Check-list and precautions.
- Maintenance & Testing procedures & Equipments.
- Case studies.

Venue	Duration	Date
Neyveli	2 days	05-12-2013

Who may attend: This course is meant for maintenance technicians with 2-3 years experience in Switchgear maintenance

79. TRANSFORMER MAINTENANCE

Objective

To update knowledge of plant technicians in the field of Transformers and its erection, testing/commissioning, operation and maintenance

Program Profile

- Standardization & specifications of transformers used in Power Station
- Selection of transformer, erection/ commissioning
- Testing & causes Transformers failures
- Testing of solid dielectric
- Insulating oil, indentification, sampling and testing procedures.
- Transformers maintenance procedures.
- Dissolved gas analysis techniques
- Case studies.
- Drying of Transformer

Venue	Duration	Date
Neyveli	3 days	11-12-2013

Who may attend:

This course is meant for maintenance technicians with 2-3 years experience in Transformer maintenance.

80. TRANSFORMERS

Objective

To acquaint the participants with various problems faced in transformer failures, prediction failure analysis with case studies.

Program Profile

- Standardization & Specifications of transformers used in Power station.
- Selection of transformer, protection & schemes of protection and testing.
- Types & causes of Transformer failures
- Testing of solid dielectric
- Testing of liquid dielectric, standards
- Predictive maintenance of failures
- Dissolved gas analysis techniques.
- Case studies on transformer breakdown
- Drying of Transformers.

Venue	Duration	Date
Neyveli	1 week	20-01-2014

Who may attend:

Engineers with 3-4 years experience in the relevant field.

81. PUMP MAINTENANCE

Objective

To acquaint the trainees with correct and modern methods of operations & maintenance of pumps so that at the end of course the trainees will be able to undertake maintenance of pumps independently.

Program Profile

- Description of different types of pumps, their construction, operation and applications.
- Single stage horizontal.
- Double stage vertical, Multi stage horizontal.
- Gear pump: Description of associated parts (fixed and movable)
- To acquaint the trainees with essential maintenance procedures like: Gland packing.
- Bearing removal and inspection, coupling design.
- Clearance and renovation of wear-rings impellers.
- Correct use of tools.
- Inspection of parts for wear and tear.
- Inspection of parts for wear and tear.
- Use of measuring instruments.
- Producing a joint for replacement.

Venue	Duration	Date
Neyveli	1 week	06-01-2014
Nagpur	1 week	27-10-2014

Who may attend:

Maintenance Technicians with 2-3 years experience in the relevant field.

82. O&M OF POWER & DISTRIBUTION TRANSFORMERS

Objectives:

To discuss maintenance aspects of power and distribution transformers

Outline:

- State of the art of Transformers
- Tests to check the adequacy of Transformers
- Insulation co-ordination of Transformers
- Earthing, Loading, Maintenance & protection of Transformers
- Failure, Failure analysis & condition monitoring of Transformers
- Condition Monitoring of Transformer Oil
- Diagnostic Monitoring by DGA with case histories
- RLA of Paper Insulation by Furan analysis
- Field visits

Venue	Duration	Date/Dates
PSTI Bengaluru	1 week	16-12-2013

Who may attend:

Engineers involved in the Operation, Maintenance and Testing of Transformer from state Electricity Boards, Power Utilities, R & D organizations, Academic Institutions,

Transformer manufactures transformer Oil processors and servicing organizations etc.

83. DATA ACQUISITION & DISTRIBUTED DIGITAL CONTROL SYSTEM IN THERMAL POWER STATION

Objective

To familiarize the power station personnel on the new technology of plant control, monitoring and management which will soon replace the old conventional system and will apply in new units.

Program Profile

- Introduction to Data Acquisition system Hardware & Software configuration.
- Introduction to Distributed Digital Control.
- Hardware & Software Configuration.
- Advantages of Distributed Control System.
- Configuration of single loop and multi loop Controller.

Venue	Duration	Date
Nagpur	3 Days	06-01-2014

Who may attend:

Engineers working in Power station with 3-7 years experience.

84. PROTECTION OF INDUSTRIAL POWER SYSTEM

Objectives:

To give an insight of typical installation with transformers, captive power plant and HT motors

Outline:

- Protection schemes of Captive Generators, Transformers, Motors, Power capacitor banks and Power Cables.
- Protection Coordination of Industrial Grids.
- LV Switchgear – selection, testing and performance analysis.

Venue	Duration	Date/Dates
PSTI Bengaluru	3 Days	01-01-2014

Who may attend:

Engineers involved in operation, maintenance, protection and testing of industrial power systems.

85. CONDITION BASED MAINTENANCE

Objective

To appraise of the participants about the predictive means of maintenance for optimum and reliable equipment performance.

Program Profile

- Requirement of CBM
- Statistical techniques of trouble shooting
- Concepts of predictive and reliability based equipment monitoring.
- Condition monitoring equipments and application

Venue	Duration	Date
Durgapur	1 week	13-01-2014

86. COAL MILL/MILLING SYSTEM MAINTENANCE CASE STUDIES

Objective

To expose the technicians to various maintenance requirements and procedures to develop necessary skill to carry out the maintenance and the safe use of special tools and tackles.

Program Profile

- Description of different types of Mills.

- Raw coal feeders, classifiers and cyclone separators.
- Description of coal grinding principles, grinding elements and their setting.
- Driving mechanisms and their maintenance procedures.
- Frequently eroding parts, their maintenance procedures.
- Lubrication and sealing systems.
- Preventive measures for stopping erosion of pulverized coal lines, bends and their proper alignment.
- Major modifications in mills.
- Problems of mills-Trouble shooting.

Venue	Duration	Date
Badarpur	1 week	13-01-2014

Who may attend:

Technicians working in Power Stations with 2-3 years experience.

87. MAINTENANCE OF BOILER ROTARY MACHINES

Objective

To expose the technicians to various maintenance requirements and procedure, develop necessary skill to carry out the maintenance and the safe use of special tools and tackles.

Program Profile

- Salient features and working principles of Boiler side rotating Machines—Mills & feeders, fans & Air heaters and their classifications.
- Routine and Breakdown maintenance.
- Overhauling.
- R&M of boiler rotating Machines, its necessity, impact on plant availability and plant performance.
- Condition Monitoring Predictive and preventive maintenance techniques.
- Problems of Boiler rotating machines— case studies.

Venue	Duration	Date
Badarpur	1 week	03-02-2014

Who may attend:

Technicians working in power station with 2-3 years experience.

88. ENERGY AUDIT & DEMAND SIDE MANAGEMENT IN POWER UTILITIES

Objective

To acquaint the participants with techniques and methodologies of energy audit & Demand Side Management in Power Utilities.

Program Profile

- Energy Scenario in the country and scope of energy conservation.
- Energy Losses—An Integrated optimal strategy for reduction of T&D Losses.
- Demand forecasting techniques
- EMS & LMS and Role of Energy Managers
- DSM Techniques
- DSM Methodologies
- DSM through Loss Reduction in Primary and Secondary Distribution System.
- Need for Energy Audit and Audit Procedures.
- Energy Audit – Macro Level & Micro Level
- HT - Metering & Metering Technique.

Venue	Duration	Date
Neyveli	1 week	03-02-2014

Who may attend:

Engineers with 3-4 years experience in Thermal Power Station.

89. ENVIRONMENTAL POLLUTION & POLLUTION CONTROL RELATED WITH THERMAL POWER PLANTS

Objective

To give concise ideas about various Pollutants in power stations and measurement & control of pollution.

Program Profile

- General description of different types of Industrial Pollution.
- Introduction to air, Water and Noise Pollution.
- Nature of Air Pollutants.
- Water quality and health.
- Role of air and Noise Pollution control in modern society.
- Pollution control theory.
- Noise & Air Pollution Measurement & Equipment, the role of waste water treatment and the removal of Toxic Pollutants.
- Sewage and sludge treatment.
- Effects of pollutants in the Acquatic environment.
- Evaluation Pollution Effects on Plant Productivity.
- Legislation and the control of Air, Noise and Water Pollution.

Venue	Duration	Date
Nagpur	1 week	17-02-2014

Who may attend:

Engineers/Chemists working in process Industry/Power Stations.

90. POWER PLANT INSTRUMENTATION

Objective

To acquaint the Power Plant Professionals with theory and working principles of different types of instruments used in the power plant and their applications.

Program Profile

- General Description of Power Plant Instrumentation and control and their layout details
- Working principles of Instruments
- Temperature/Flow/Level and Pressure measurement
- Control valves and actuators.
- Programmable Logic Controllers(PLC), their applications
- Introduction to Distributed digital control system Hardware and Software configuration

Venue	Duration	Date
Durgapur	1 week	20-01-2014

Who may attend:

Engineers from SEBs/Power Utilities/ corporations with 2-3 years of experience

91. MANAGEMENT DEVELOPMENT PROGRAM

Objective

To provide basic know-how of management

Program profile

- Introduction of Management Skills
- Effective Communication
- Motivation
- Quality Leadership
- Team Building
- Case Studies

Venue	Duration	Date/Dates
Nangal	1week	17-06-2013
NPTI- NER Guwahati	1 week	06-02-2014

Who may attend:

Officers/Engineers working in Power Sectors and allied industries with 2- 3 years of experience

Course Fee:

The course @ Rs. 3000/- per day, per participant.

92. POWER AND TELECOMMUNICATION COORDINATION (PTCC)

Objectives

To illustrate the concept of Power and Telecommunication coordination, code of practice for crossing of power and telecommunication lines and also to discuss regarding the protection and safety of communication lines.

Outline:

- Background of PTCC & its importance
- Code of Practice, Application for making PTCC
- Soil Resistivity and its measurement
- Telecom system of BSNL
- Trends in telecom technology
- L-14 diagram, protection systems & devices
- Code of practice for crossing between power & telecom lines
- Railway block circuits
- Code of practice
- Protection of railways telecom circuits
- Calculation of fault currents & mutual coupling
- safe separation
- PTCC Proposal from BSNL
- Route approval and energisation
- Re-engineering
- Case studies
- Technical Visits etc.

Venue	Duration	Date/Dates
PSTI Bengaluru	1 week	24-02-2014

Who may attend:

Engineers from power utilities, BSNL, private telecom companies, railways and distribution companies involved in planning and laying of power and telecom lines.

93. RENEWABLE ENERGY SOURCES & GRID INTEGRATION

Objective

To investigate the impact of Renewable Sourse & their integration with the grid.

Outline

- Overview of power scenario and important of renewable energy
- Solar energy
- Wind energy
- Bio-Mass Energy
- CDM
- Renewable energy and its grid integration
- Field Visits

Venue	Duration	Date/Dates
PSTI Bengaluru	1 week	24-03-2014

Who may attend:

Engineers from State Electricity Boards/ Power Utilities/ Distribution Systems, R&D organizations, involved in implementation of renewable source and their integration.

94. ADVANCES C&I IN THERMAL POWER STATION

Objectives

To acquaint the engineers working in C&I areas with advanced Technologies in C&I with relative process/plant behaviors

Program Profile

- General description of Power Station Instrumentation
- Advanced Technologies in C&I
- Temperature Measurement
- Flow Measurement
- On-Line Analytical Instrument
- Turbovisory Instruments & Vibration Analysis
- Various Protection and Interlocks
- Automatic Control Loops

Venue	Duration	Date/Dates
Durgapur	3 Days	03-03-2014

Who may attend:

Engineers with 2-3 years experience in the relevant field.

95. RENEWABLE ENERGY TECHNOLOGIES

Objectives

Renewable energy Technologies are now fundamental to the growing global effort to combat damaging climate change. The objective of course is to understand the domain of Renewable energy in a relevant manner.

Program Profile

- Introduction to JNNSM
- Solar PV
- Solar Thermal
- Wind Power
- Bio-Mass Power
- Waste to Energy
- Small Hydro

Venue	Duration	Date/Dates
Durgapur	3 Days	05-02-2014

Who may attend: Engineers with 2-3 years experience

96. CHANGE MANAGEMENT

Objectives

To familiarize the participants with change management concept which is an approach to shifting/transitioning individuals, teams and organization from a current state to a desired future state.

Program Profile

- Change management process
- Readiness assessments
- Communication and communication planning
- Training and employee training development
- Resistance management
- Data collection, feedback analysis and corrective action
- Celebrating and recognizing success
- Changing the attitudes and behaviors of personnel

Venue	Duration	Date/Dates
Durgapur	3 Days	08-01-2014

Who may attend:

Executives with 2-3 years experience

97. ADVANCED POWER GENERATION PROTECTIONS AND CONTROL

Objectives

To provide comprehensive view of distribution metering, rules & regulations and rationalization required.

Venue	Duration	Date/Dates
PSTI Bengaluru	1 week	06-05-2013

Who may attend:

Engineers from State Electricity Boards/ Power Utilities/ Distribution Systems, R&D organizations, Academic institutions, Manufactures, Contractors, Consultants etc.

98. POWER MARKET REGULATIONS

Objectives

To familiarize the engineers with the energy efficiency opportunities available in the various electrical equipments and to help them to prepare better for the BEE Certified Energy Manager Exam.

Venue	Duration	Date/Dates
PSTI Bengaluru	1 week	21-10-2013

Who may attend:

Engineers from SEBs, power utilities/ corporations, PSUs, R&D Organizations, Academic Institutions, entrepreneurs and consultants involved in energy audit and energy conservation projects.

(E) SIMULATOR TRAINING PROGRAM

1. 210 MW FOSSIL FUEL POWER PLANT SIMULATOR TRAINING

Objective

To train fresh engineers on a full scope replica simulator in all aspects of operation as well as for developing suitable response to malfunctions and emergency situations by Hands-on-Practice in all the phase of operation from start-up to shut-down.

Program Profile

- Cold start, up to 100% load.
- Partial load to full load and back to partial load.
- Manoeuvering of different auxiliaries.
- Hot start/warm start to full load.
- Planned shut down.
- Over-rides and alarms during different exercises.
- A few malfunctions.

Inauguration of 18 weeks Induction Training Program for ET-17 batch of POWERGRID at NPTI Corporate Office, Faridabad

Venue **Duration**

Nagpur 2 weeks

Date of Commencement

08-04-2013	22-04-2013	13-05-2013
27-05-2013	17-06-2013	01-07-2013
22-07-2013	05-08-2013	26-08-2013
16-09-2013	30-09-2013	14-10-2013
11-11-2013	25-11-2013	09-12-2013
06-01-2014	20-01-2014	03-02-2014
17-02-2014	03-03-2014	17-03-2014

Who may attend: Shift Charge Engineers/ Operation Engineers/Desk Controllers engaged in operation of Thermal Power Station and also fresh graduate engineers who had undergone training in O&M of power station/ posted in Thermal Power Stations.

2. 500 MW FOSSIL FUEL POWER PLANT SIMULATOR TRAINING

Objective

To train engineers on full scope replica simulator of 500 MW thermal power station, in all aspects of operation and helping them to make better judgement calls/responses to malfunctions and emergent situations by imparting them hands on practice in:

a) **Full Scope/Conventional Panel Operation Mode**

b) **CRT –Keyboard Based Operation Mode**

Program profile

- Cold start and up to 100% load
- Partial to full load and back
- Hot start / Warm start to full load
- Planned Shutdown
- Maneuvering of different auxiliaries
- Operation under emergency conditions

Venue **Duration**

Faridabad 2 weeks

Date of Commencement

08-04-2013	22-04-2013	06-05-2013
20-05-2013	03-06-2013	17-06-2013
01-07-2013	15-07-2013	29-07-2013
12-08-2013	26-08-2013	09-09-2013
23-09-2013	07-10-2013	21-10-2013
04-11-2013	25-11-2013	09-12-2013
06-01-2014	20-01-2014	03-02-2014
17-02-2014	03-03-2014	17-03-2014

Who may attend: Shift charge Engineers/ Operation Engineers/Desk controllers working in Thermal Power Station and also fresh Engineers posted in Thermal power stations.

3. COMBINED CYCLE GAS TURBINE POWER PLANT SIMULATOR TRAINING

Objective

To train engineers on full scope replica simulator of 2x143+1x44 MW CCGT power station, in all aspects of operation and helping them to make better judgement calls/ responses to malfunctions and emergent situations by imparting them hands on practice.

Program Profile

- Cold start and up to 100% load
- Partial to full load and back
- Hot start / Warm start to full load
- Planned Shutdown
- Manoeuvring of different auxiliaries
- Stand aline Operation of Gas Turbine
- Operation under emergency conditions
- Operation of Gas turbine in open Cycle mode

Venue **Duration**

Faridabad 2 weeks

Date of Commencement

08-04-2013	22-04-2013	06-05-2013
20-05-2013	03-06-2013	17-06-2013
01-07-2013	15-07-2013	29-07-2013
12-08-2013	26-08-2013	09-09-2013
23-09-2013	07-10-2013	21-10-2013
04-11-2013	25-11-2013	09-12-2013
06-01-2014	20-01-2014	03-02-2014
17-02-2014	03-03-2014	17-03-2014

Who may attend: Shift charge Engineers/ Operation Engineers/Desk controllers working in Combined Cycle Gas Turbine Power Station and also fresh Engineers posted in Combined Cycle Gas Turbine Power Station.

4. 250 MW HYDRO SIMULATOR TRAINING

Objective

To train the engineers on a full scope replica simulator in all aspects of operation as well as for developing suitable response to malfunctions and emergency situations by Hands-on –Practice in all the phase of operation from start-up to shut-down.

Program Profile

- Start-up of M/c &load up to 100% .
- Partial load to full load and back to partial load.
- Maneuvering of different auxiliaries.
- Planned shutdown.
- Operation under emergency
- Over-rides and alarms during different exercises.
- Few malfunctions & its trends.

Venue	Duration
HPTC,NANGAL	1 week

Date of Commencement

08-04-2013	22-07-2013	16-12-2013
22-04-2013	05-08-2013	06-01-2014
06-05-2013	02-09-2013	10-02-2014
20-05-2013	07-10-2013	24-02-2014
03-06-2013	21-10-2013	24-03-2014
08-07-2013	04-11-2013	

Sh. Subodh Garg-Director General, NPTI Presenting Scholarship to MBA (Power) Student.

Who may attend:

Shift charge Engineers/Operation Engineers/Desk controllers engaged in operation of Hydro power station & also fresh graduates engineers who had undergone training in O&M of Hydro power station / posted in Hydro power stations

5. DISPATCHER TRAINING SIMULATOR

Objective

To practice the Normal and emergency Operation of Power System, Active and Reactive Power Control and Advanced Applications using Dispatcher Training Simulator (DTS)

Program Profile

- Dispatcher training Simulator Overview
- Active and Reactive Power Control
- Indian National Network including HVDC Lines
- Prime mover Dynamics (Hydro, Thermal, Gas and Pumped Storage units)
- Load Shedding schemes
- Islanding schemes
- SCADA Operation
- Automatic Generation Control
- Islanding and Integrated Operation
- System Occurrence and Restoration
- System Stability
- Voltage Control and Voltage Collapse simulation
- Prevention of Grid Disturbance

Venue	Duration
PSTI Bengaluru	2 Weeks

Dates of Commencement

20-05-2013	18-11-2013
15-07-2013	20-01-2014

Who May Attend : Persons involved in System Operation and Control i.e. Generating Station, Transmission, Load Dispatch Centre, Sub-Station and Distribution Personnel

Methodology : Lectures, Video session, Hands on and Demo Session on Simulator and Case Studies

Live Line Insulator Washing Techniques, HLTC, Bengaluru

Following program can be conducted/offered to National as well as International organization on request /demand basis on applicable terms and conditions at different NPTI Institutes

(F) Medium Term Courses for Engineers

1. DISTRIBUTION ENGINEERING

Objective

To familiarize the participants with various aspects of electricity distribution engineering.

Program Profile

- **Distribution engineering—**Growth, Developments, Equipment, Standards specification, construction Practice and guidelines, design aspects—testing and installation of Distribution equipment— Lay out of Sub-Station.
- **Safety, Protection, DSM and energy Audit/Metering—** Safety Aspects, I.E. Rules and Regulation, Compliance, First Aid, Fire Safety.
- **Energy Audit and DSM application in Distribution /Engineering—Energy Audit—** need, Objective and Methodology, types, application & techniques, DSM—Methodology and Techniques, Loss reduction—Voltage control, Var control, Reactive Power Compensation.
- **Metering—** Metering techniques, various types—LT meters and its application, Installation Testing and Commissioning of LT meters, defects and remedies—HT metering techniques.
- **Billing, Power System Study, Distribution Planning Trends and Development—** Billing system, Computer application in billing system, Distribution planning, Optimization of capacity and location of Distribution Transformers—Power System study flow, fault analysis, relay co-ordination, Reactive Power compensation—Load Forecast techniques, recent trends & developments in Distribution Automation, Automatic Meter Reading.

Who may attend: Engineers engaged in distribution of electricity with 2-3 years experience. The course can be conducted at New Delhi, Nagpur, Durgapur , Neyveli or Bengaluru Institute

Duration 6 weeks

2. CONTROL & INSTRUMENTATION FOR SUPERVISORS/ TECHNICIANS

Objective

To impart knowledge of theory and working principles of instruments and improve the skill of Instrumentation Supervisors Technicians in the field of Instrument Maintenance.

Program Profile

- Concept of instrumentation in Thermal Power Station
- Instrumentation layout
- Basic Science, Basic electricity and Basic Electronics
- Pressure, Level, Low and Temperature measurement
- Air supplies, pneumatic Instruments and drives

- Telemetry
- Introduction to Automatic Control System
- DAS/DDC
- Turbovisory instruments and Analytical Instruments
- Practicals/Demonstrations.

Duration: 6 weeks

Who may attend: Instrumentation Supervisors/Technicians working in Thermal Power Station/process Industry.

3. TRAINING PROGRAME FOR SUPERVISOR/MANAGERIAL PERSON DEPLOYED IN POWER INDUSTRY

Objective

To impart Supervisory/Managerial skills to Middle level persons who are working in Power supply Industry

Program Profile

- Personality Development – Skills, Attitudinal Development, Leadership, Team Building, Value & Ethics.
- Business Communication skills, Negotiation
- Man Power Planning (MPP)
- Quality of work Life (QWL)
- Career Planning & Quality Circles
- Financial Management & Overview
- Performance Appraisal
- Man Power Audit
- Human Resource Development
- Case Studies

Venue	Duration
Faridabad	6 weeks

Who may attend the program: Staff deployed in power station/Industry with experience of 5 to 10 years.

4. NEW AND RENEWABLE SOURCES AND GRID INTEGRATION IN INDIA

Objective

To renewable energy program gives the participant a solid foundation in the theory, sign, installation and grid interfacing

Inauguration of 3 day Residential Training Program on 'Protection of Consumer Interest' at NPTI Corporate Office, Faridabad

techniques required to work with new and renewable energy systems and technologies.

Program Profile

- Energy Sector Reforms, Regulations Environment and RE.
- Wind Energy Systems
- Solar thermal power systems
- Direct energy Conversation – Solar Photovoltaic, Fuel Cells.
- Waste to Energy.
- Solar passive Architecture.
- Biomass Energy Systems.
- Bio-Fuels
- RE and Grids Integration
- Economic Viabilty
- Case studies

Duration 6 week

Who may attend: Graduate engineers having 3-4 years experience in Thermal Power Stations.

5. EXECUTIVE DEVELOPMENT PROGRAM FOR THE SUPERVISORY STAFF WORKING IN FINANCE & ACCOUNTS DEPARTMENT

Objective

To impart knowledge of Supervisory Finance personnel working in Power Supply Industry.

Program Profile

- Status & Responsibilities of Financial Executives: Development of Managerial Skills
- Personality Development, Business Communication Skills, Negotiation Skills, Leadership, Team Building, Values & Ethics etc.
- Financial Management & Planning
- Computer Awareness for finance personnel
- Capital Budgeting, Costing & decisions
- Operating & Financial Leverage Analysis
- Dividend issues, policy & Decisions
- Budgeting & Accounting
- Foreign Exchange, Taxation Rules & Regulations
- Financial Performance Evaluation & Risk Management
- Cash Flow Management

Venue **Duration**

Faridabad 6 weeks

Who may attend the program: Supervisory staff working in Power Stations/Industry with to 10 year of experience.

(G) SHORT-TERM COURSE FOR ENGINEERS

6. GIS IN DISTRIBUTION PLANNING

Objective

To acquaint the participants with basic fundamentals of GIS, GIS software basics and applications with Cyme Distribution Software.

Program Profile

- Basic of GIS
- Features of GIS
- Digitization, Data base Creation, Editing Arc GIS software
- Elementary electric utility features Arc FM
- Image Processing using Eardas Imaging Software
- Cyme Dist. Application Software
- Network Models, Data Synthesis, Capacitor Placement, Load Balancing
- Distribution Planning
- Consumer Indexing

Venue Faridabad | **Duration** 4 weeks

Who may attend: Sr. Engineers /Engineers with 2-3 year experience

7. GIS APPLICATION IN NETWORK PLANNING & ASSEST MANAGEMENT

Objective

To acquaint the participants with basic fundamentals of GIS with different software input.

Program Profile

- Introduction to GIS
- Introduction to Arc GIS with software Application
- GIS elementary land based features
- Elementary Electric utility features editing
- Introduction to Arc Fm
- Network Model
- GPS Instrument
- CME Dist. Software

Venue Faridabad | **Duration** 1 week

Who may attend: Sr. Engineers with 2-3 year experience.

8. MAINTENANCE PLANNING & COST CONTROL

Objective

To enable the participants to understand and apply the modern planning and cost control techniques in maintenance programs.

Program Profile

- Aims and objective of maintenance efficient, service, high plant availability, maintenance and planning engineer's duties.
- Integration of maintenance with operational requirements, plant reliability,plant outages and daily work programs.
- Preventive maintenance of running units.
- Planning of major plant overhauls during shut downs.
- Planning techniques-critical path analysis, charting systems etc.
- Purchasing and stores control-standards, cost codes, control of stores and store records.
- Cost control, Direct costs, indirect costs, outage costs, budgeting and costing works, budgetory control.
- Contract procedures, Conditions of contract, project evaluation, interest and depreciation charges.
- use of computers in maintenance planning.

Duration 1 week

Who may attend:

Engineers/Officers working in Power Stations/Industries with 5-10 years experience.

9. TRAINING OF TRAINERS

Objective

To enable the trainers in Power Sector to increase their knowledge and skill to impart training in operation and maintenance of power station.

Program Profile

- Fundamentals of learning process.
- Group communication.
- Motivation and transactional analysis.
- Identification of training program.
- Design of Training Program.
- Training Resource Development.
- Training Programs co-ordination technique
- Instructional techniques.

- New techniques.
- On-job, On-site methodologies.
- Evaluation, validation and record keeping.
- Feed-back techniques.

Duration 1 week

Who may attend: Engineers as well as nontechnical managers involved in human resource development

10. OPERATION & MAINTENANCE OF EHV SUB-STATION

Objective

To impart knowledge to the trainees about the installation, commissioning, operation and maintenance of Sub-Station.

Program Profile

- Introduction to sub-station
- Types of layout etc.
- Soil testing and site selection.
- Equipment inspection & selection aspects.
- Civil foundation for main equipments, tower, ground work.
- Structure and tower erection and fabrication alignment.
- Earthing, cable trench, cable tray.
- Protection system & its equipment.
- Design and erection.
- Switchyard HV equipments erection.
- Switchyard, compressor, lightening arrestors.
- Different safety aspects, fire protection devices, erection and commissioning

Duration 2 weeks

Who may attend: Engineers with 2-3 years experience in electrical operation and maintenance of Power Station and transmission & Distribution.

11. MICRO PROCESSORS

Objective

To acquaint the participants with microprocessors and their applications in Thermal Power Station.

Program Profile

- Microprocessor structure and organization
- Information Representation
- Microprocessor Instruction set
- Assembly Language Programming
- Peripherals input/output units
- Microprocessor interfacing with other devices
- Application programs and case studies.

Duration 1 week/2 weeks

Who may attend: Graduate Engineers having sufficient knowledge in Control system of Thermal Power Stations.

12. VIBRATION ANALYSIS

Objective

To impart expertise and to give latest information regarding different methods of vibration measurement, their analysis, diagnosis and recommended remedial actions.

Program Profile

- Definition and description of vibration.
- Terms and Units in vibration measurement.
- Characteristics of vibration.
- Basic vibration modes of measurement.
- Vibration transducers-different types and selection criteria.
- Selection criteria of vibration mode for measurement.
- Vibration diagnostics and fault analysis.
- Dynamic Balancing using portable Vibration Analysers.

- Scheduling of condition monitoring and condition based maintenance.

Venue	Duration
Durgapur	3 days

Who may attend: Engineers with at least 5 years experience in operation and maintenance of Power Station Industry.

13. RENOVATION & MODERNIZATION OF THERMAL POWER PLANT/STATION

Objective

To familiarize and spread awareness amongst the Working Managers Engineers of Thermal Power Stations to enable them to take timely action for renovation & Modernization of their Thermal Power Station for further life extension.

Program Profile:

- Norms for renovation & Thermal Power Station & Funds allocation.
- Scope of renovation & area of renovation.
- Renewal life Assessment Techniques for Turbine, Boilers and generator.
- Life extension studies and techniques for Thermal Power Station auxilliary.
- Stress Analysis and data interpretation
- Case Studies

Duration 1 week

Who may attend: Middle Level Managers/ Working Engineers with 2 to 3 years experience.

14. REGENERATIVE FEED HEATING SYSTEM

Objective

To familiarize and impart knowledge regarding operational procedure system with confidence and safety.

Program Profile

- Different types of heater – H.P. & L.P.
- Theory of heating, construction of HP & LP heaters
- System of steam extraction.
- layout of system – various considerations.
- Operation of the individual components.
- Cutting in and cutting out procedures of heaters.
- Performance monitoring of heaters and identification in the system.
- Various interlocks and protections and Automatic systems.

Duration 1 week

Who may attend: Operators working in Thermal Power Station with 3-4 years experience.

15. TRANSMISSION DISTRIBUTION EQUIPMENT MAINTENANCE

Objective

To improve the skill of personnel engaged in the field of Transmission & Distribution equipment maintenance.

Program Profile

- Transmission and distribution system familiarisation.
- Maintenance involved during erection and commissioning of T&D equipment
- Transmission and distribution system and equipment maintenance procedure.
- Preventive and predictive maintenance program & schedule.

Venue	Duration
Badarpur	1 week

Who may attend: Maintenance technicians with 2-3 years experience in the field.

16. BALANCING AND ALIGNMENT TECHNIQUES:

Objective

Trainees will learn about practical procedure of balancing and alignment techniques of heavy duty rotary machines, relevant toThermal Power Plants.

Program Profile

- Causes of vibrations and types of balancing requirements.
- Static and dynamic balancing techniques.
- Identification technique of misalignment
- Hot alignment and tolerance in alignment for various applications.

Duration 3 days

17.ELECTRICITY ACT AND REGULATION

Objective

To appraise of the participants about the conceptual reorientation in IEA-2003 related to generation, transmission, distribution along commercial implication.

Program Profile

- Over view of IEA-2003
- Electricity Grid code
- Status of deregulation and power tariff
- Open access and ABT

Duration 3 days

18.BASIC ELECTRONICS

Objective

To impart knowledge of basic concept of semiconductors, their properties and application in various fields.

Program Profile

- Basic theoretical knowledge of semi conductor materials diodes, transistors, rectifiers, transformers, amplifiers, oscillators, introduction to IC's.
- Digital Electronics - logic gates, Flip Flops & their applications.
- Practical session:
- Making circuits and their testing, Fault finding techniques of electronics circuits.

Duration 1week

Who may attend: Power station technicians working in electricals and C&I maintenance sections.

19.TRAINING FOR ASSISTANT LEVEL PERSONS/ PERSONNEL STAFF

Objective

To impart skills to personnel staff working in Power Supply Industry

Program Profile

- General Administration Rules & Regulations
- Office Procedure, Etiquettes, Management of official records, Noting & Drafting
- Practice of stenography and test at qualifying speed of 80 WPM
- Basic of computers, typing on computers with a qualifying speed of 40 WPM
- Hands-on practice on computers with Word, Excel and other basics
- Communication and Communication skills
- Time Management and Stress Management

Venue	Duration
Faridabad	1 weeks

Who may attend the program:

Personnel staff working in Power

Stations/Industry with 2 to 6 years of experience.

20. HUMAN RESOURCE DEVELOPMENT PROGRAM FOR FINANCE OFFICER/ MANAGER

Objective

To develop Human resources deployed in finance wing who are working in Power supply Industry

Program Profile

- Personality Development – Skills,
- Attitudinal Development, Leadership, Team Building, Value & Ethics
- Business Communication skills, Negotiation
- Man Power Planning (MPP)
- Beyond the Present Role: Potential Systems
- Quality of work Life (QWL)

Venue	Duration
Faridabad	1 week

Who may attend the program: Finance persons working in Power Stations/Industry with 5 to 10 years of experience.

21.DEVELOPMENT OF FINANCE MANAGERS

Objective

To impart in-depth knowledge to Finance Officers in Budgeting & Financial Statement Analysis Industry working in Power Supply Industry

Program Profile

- Status & Responsibilities of Finance Executives – Development of Managerial Skills.
- Capital Investment decisions; strategic Considerations.
- Budgeting & Accounting (Accounting Statements and records).
- Financial Statement Analysis.
- Taxation – Rules & Regulations.

Venue	Duration
Faridabad	1 week

Who may attend the program: Finance Officer working in Power Stations/Industry with 5 to 10 years of experience.

22. Training Mind for Excellency

23. Executive/Management Development Programs for Executives & Supervisors

24. Executive Development Program for Law stream

25. Supervisory Development programs

26. HR for Non-HR Executives

27. Executive Development for Supervisory Staff working in Finance and Accounts

28. Environmental Management

29. Business communications & presentations skills

30. General Introduction to Hydro power Plant

31. Hydro Power Plant Schemes & Systems Discussions

32. Hydro Power Plant Operation & Pump Storage Options to Governing

33. Hydropower Plant Protections
34. Maintenance (On-Job) in Hydel Plant
35. Planning and Cost Control of Hydro Electric Power Station
36. Control & Instrumentation of Hydro Electric Power Station
37. Site Selections of Hydro Electric Plants, Geology, Hydrology
38. Tunnels & Channels, Penstocks, Surge shaft, Spillways
39. Valves in Hydro Power Plants
40. Construction equipment of Hydro Electric Plants
41. Environmental Impact Assessments
42. Material Handling and Transportation
43. Safety in Hydro Power Plants
44. Pumps in Hydro Power Plants
45. Transformers & Electrical Equipment in Hydropower Plants
46. Constructional details of Hydro Turbines &Generators
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NPTI-CORPORATE CENTRE, FARIDABAD

Name/Designation

Shri Subodh Garg
Director General

Shri Subodh Garg Director General, NPTI has more than three decades of experience in the Power Sector. He has done his Electrical Engineering from Delhi College of Engineering. Prior to joining NPTI, he has worked for more than three years in Rural Electrification Corpn. Ltd. and in Power Grid for about 17 years and in NTPC for about 10 years.

While working in REC, he was Chief Executive Officer of REC Transmission Projects Company Limited, which is a fully owned subsidiary of REC Ltd. In his capacity as CEO of REC Transmission Projects Limited, he was responsible for selection of developers for implementation of two transmission projects on tariff based bidding based on the guidelines issued by the Ministry of Power. He was also responsible for appraisal, sanction and financing of Renewable Energy Projects and large generation projects. He was nominee Director on the Board of Teesta Urja Ltd. In addition to the above, he was also in-charge of HR Deptt of REC.

He has visited Bhutan, Singapore, Germany and Spain.

Name/Designation	Educational Qualification	Experience & Specialization	Member/ Association/ Training
 **Sh. J. S. S. Rao** *Principal Director (CP&M/BDD/Purchase)*	B. Tech. (Electrical) JNTU, Kakinada M.E. (Power System) Andhra University Visakhapatnam, 1982	More than 28 years of work experience in Various positions in NPTI Program Director For MBA in Power Management 210 MW & 500 MW Thermal Power Plant Operational Training Preparation of sepecifications, tendering, contract management, commissioning of Simulators, Testing and Imparting Training Transmission & Distribution Management	1) Simulator instructors course in CEGB-UK in 1985 2) Simulator Modelling GSE Systems INC., USA 3) Simulator Instructor GSE Systems INC., USA
 **Sh. S. K. Choudhary** *Principal Director (MS/IT)*	B.Sc. (Engg.) 1979, Electronics & Communication, MHRM – 2002, MBA(Fin). – 2006	More than 29 years of work experience in Power Plant O&M **Specialization:** Distribution Reforms, Consultancy Services in, HRM, Finance Management, Corporate Planning & Restructuring	CEGB, UK. – 12 Weeks, Lead Auditor ISO 9001;, Neuro Linguistic, Programming; Business, Process Re-engineering

NPTI-CORPORATE CENTRE, FARIDABAD

Name/Designation	Educational Qualification	Experience & Specialization	Member/ Association/ Training
 **Sh. R. K. Mishra** *Director (Training/ Project/ F&A)*	B.Sc. Engg.(Elect.) from U.C.E. BURLA Sambalpur University Odisha.(Now VSSUT) in 1985 MBA, PGDIM PGDHRM from IGNOU, New Delhi in 2003.	More than 26 years of experience in the fields of Teaching, Power Industry and Training in REC (Now NIT) Rourkela, Talcher Thermal Power Station and NPTI respectively.	**Specialization** Operation & Mtce. of Thermal Power Station, Power Plant Automation 24 weeks training on Control& Instrumentation at POWERGEN, U.K 1991.
 **Mrs. Manju Mam** *Director*	B.E. (E & C) from NIT Srinagar, M.S. (Software Systems) from BITS Pilani, MBA (HR) from IGNOU, New Delhi	23 years experience in the field of Teaching **Specialization** HR, IT	Member of Institute of Electronics and Telecommunication Engineers.

NPTI (NR), BADARPUR

Name/Designation	Educational Qualification	Experience & Specialization	Member/ Association/ Training
 **Sh. Vijay Kumar Gupta** *Principal Director*	B.Sc. (Engg.) (Mechanical) from Delhi College of Engg. Delhi in 1977.	**Specialization:** Operation & Efficiency aspect of large Thermal Power Plants 34½ Years in DVC & NTPI:- • 6 Years in Design & Operation of large Thermal Plants • 27½ years in Training of Power Engineers as faculty , Design and Conduct of Training Programs including On-site & On-Job Program. **Training** 1. 12 weeks Operation of large plants (DCPL Calcutta 1980 2. 22 weeks Senior Operation Instructor's Training in CEGB, United Kingdom in 1986.	3. 2 weeks TPS Commissioning (NPTI-CEGB Delhi 1985 4. 2 weeks Power Plants Performance and Monitoring (NPTI-CEGB) Delhi 1985 5. 1 weeks Power Plants Performanance and Monitoring (NPTI-CEGB) Nagpur 1988 6. 1 weeks Management of Training (ISTM) Delhi-1999 7. 3 Days Finance Management in Govt. with Financial & Administrative Power (CTSR) Delhi 2010 8. 1 week Finance for Non-Finance Executive (NPTI) Faridabad-2011
 **Sh. H. P. Lall** *Director (BDD)*	B.E. (Electrical) from VNIT Nagpur, 1976	More than 35 Years of experience in various positions in MSEB and NPTI **Specialization:** 210 MW TPS Operation & Maintenance and Commissioning	12 weeks Instructor course in CEGB, UK in 1989
 **Sh. M. V. Pande** *Director*	B.E. Mechanical Engg. from Shivaji University Koulapur (M.S), Diploma in Bussiness Management, Nagpur University M. Tech Nagpur University. Energy Auditor B.E.E., New Delhi	Total 33 years experience in various position in MSEB & NPTI **Specialization:** Steam Turbine Governing & Protection TPS Operation hands on Training in 210 MW Simulator. Steam Turbine Operation. Power Plant Maintenance (Turbine, Pumps, Bearing, Valves)	Member Associates Training Energy Management at Audit Undergone simulator Instructor Training at S 3 Technologies USA in 1995 Undergone one month Training n Japan in the area Energy Conservation Techniques for India conducted by JICA.

NPTI (NR), BADARPUR

Name/Designation	Educational Qualification	Experience & Specialization	Member/ Association/ Training
 **Sh. Giriraj Kishore** *Director*	B.E. (Mechanical) from Aligarh Muslim University Diploma in PC, Networking, Director, 3D Max and VJ++	More than 30 years experience in different organization like Panchsheel Brothers, Delhi Administration, Ministry of Defence, Arya Bhatt Polytechnic, Central Electricity Authority and now in NPTI.	
 **Mrs. Meena Kumari** *Director*	B.E. (Elct.) Delhi College of Engineering, Delhi MBA (IT) - IASE Deemed University Rajasthan	24 years of service including number of years service in Bhutan. Worked in Royal Government of Bhutan as an Assistant Engineer for 4 years. Worked in CBT Section for Developing Multimedia CBTs. Worked in Combined Cycle Gas Turbine (CCGT) Simulator as instructor in-charge of CCGT. Worked as Nodal Officer (AMR) for implementing IONS at NPTI. Gained knowledge in 500 MW Simulator (Fossil Fuel Fired) as instructor.	Undergone 12 weeks training in UK on Tools for developing multimedia softwares, under Colombo plan. - Undergone 2 weeks training in USA for learning tools & techniques for development of CCGT Simulator. - Attended various training program in India. - Went to LAGU, Negeria as an expert faculty for conducting 2 weeks workshop. - Member - Institute of Engineers - Lifetime Membership - SESI, India (Solar Energy Society of India) - Developed many nos. of CBTs while working CBT section. - Coordinated / delivered lectures in short term & long term program.

NPTI-HYDRO POWER TRAINING CENTRE, NANGAL

Name/Designation	Educational Qualification	Experience & Specialization	Member/ Association/ Training
 **Sh. M. R. Chaubey** *Principal Director*	B.Sc. Lucknow University, 1973 B.E. (Mech.) - University of Roorkee , 1977	More than 32 years of work experience in different positions in Power Engineering comprising operation, maintenance, commissioning, procurement, performance monitoring, training etc. at Renusagar Power Co. Ltd., CTPS, DVC Corporate Centre and NPTI. **Specialization:** Commissioning, Operation & Maintenance of thermal power plants. 210 MW Simulator training at NPTI (NR). Launching of one year Post Graduate/Post Diploma Courses in TPPE at NPTI (NR) & B.Tech. (Power Engineering) including of establishment of Labs at NPTI (ER). Quality improvement of training programs, Upgradation and modernisation of infrastructure at NPTI Badarpur & Durgapur. Project monitoring & implementation work for establishment of Hydro Power Training Centre, Nangal. Conducting International and national Conferences/ Seminars in the area of Power Sector development.	1. 9 Weeks Senior Simulator Instructor's Course in C.E.G.B. - UK, 1987. 2. 6 Weeks training on Emission Upgradation Projects at Canada/ USA under CIDA
 **Sh. S. K. Sinha** *Director*	B.E. (Electrical) Bihar Institute of Technology, Sindri in 1980. M. Phill. Computer Science in 1982 JNU New Delhi	More than 28 years Experience in NPTI. **Specialization:** Computer & simulator	

NPTI-HYDRO POWER TRAINING CENTRE, NANGAL

Name/Designation	Educational Qualification	Experience & Specialization	Member/ Association/ Training
 **Sh. G. V. Harshe** *Director*	B.E. (Mech.), 1980 Walchand College of Engg. Sangli Shivaji University Kolhapur (M.S)	Total 31 years experience in Power Industry, Eight B.E. (Mech.), 1980 Walchand College of Engg. Sangli Shivaji University Kolhapur (M.S) Total 30 years experience in Power Industry, Eight years experience in O&M of Thermal Power Station. experience in O&M of Thermal Power Station. More than 22 years experience in Training & Development including faculty for B.E. (Power Engg.)	Member of Institute of Engineers India. 10 weeks Sr. Instructor Course in U.K. under B.E.I in the year 1990.
 **Ravinder Singh** *Director*	B. E. (Electronics & Communications), MBA (IT), M. Phil. (Management), Pursuing Ph. D. (Management)	About 23 years of experience of working in ITI Ltd., and NPTI. Specialization: Design & Development of Multimedia Computer Based Training Packages, Procurement & Maintenance of IT hardwares & softwares, EPABX System, Wi-Fi and LAN Networks, Virtual Private Server (VPS), Projection Systems, Website development & updation etc.	Undergone 12 weeks training on development of "Computer Based Training" Packages at United Kingdom under Colombo plan and two weeks training on "Geographical Information System" at ESRI, Washington, USA.

NPTI-PSTI BENGALURU

Name/Designation	Educational Qualification	Experience & Specialization	Member/ Association/ Training
 **Sh. M. N. Murthy** *Principal Director*	B. Tech. (EEE) JNT University A.P., 1979 M.E. (High Voltage Engg.) IIS, Bengaluru, 1981	More than 28 Years experience in various position in CEA & NPTI. **Specialization:** Power System Studies Operation, Simulation & Protection	12 Weeks simulator Software course training in Energy System Computer Application USA, 1990

HOT LINE TRAINING CENTRE, BENGALURU

Name/Designation	Educational Qualification	Experience & Specialization	Member/ Association/ Training
 **Sh. K. S. Venubabbu** *Dy. Director (Head of Institute)*	B. Tech. (Mechanical), JNT University, AP, 1982. M. Tech (Prodn. Engg.), IIT, Delhi in 1989. M.B.A. (Marketing), IGNOU, New Delhi in 2000.	More than 29 years experience in Pressteels & Fabrications Pvt. Ltd., Hyderabad, CEA & NPTI. **Specialization:** Contracting, Engineering of Thermal Power Plant equipment, Teaching in Mechanical Maintenance of power plant equipment & Live Line Maintenance techniques up to 400 KV Lines & switch yards.	

NPTI-SR, NEYVELI

Name/Designation	Educational Qualification	Experience & Specialization	Member/ Association/ Training
 **Sh. V. K. Sinha** *Director (Head of Institute)*	B.E. (Mechanical) from VNIT Nagpur, 1980. M.Tech. (Heat Power Engg.) from VNIT, Nagpur 2002	More than 31 Years of experience in various positions in Private Sector, MSEB and NPTI **Specialization:** Training in various areas of Power Sector. Worked in Operation, Maintenace and Commissioning of 210 MW TPS under MSEB, Koradi Thermal Power Station. Worked as I/C of Computer Based Training Section at NPTI Faridabad. Developed CBT Packages on 1. Drum & Drum internal 2. Super-heater, Re-heater & De-superheater Co-ordinated On-job training programs Co-ordinated and delivered lectures in long term and short programs.	1. 6 weeks training in Training Resource Unit conducted by CEGB, U.K. 2. 3 weeks study tour regarding "Development and implementation of Computer Based Training in Power Sector" in U.K.

NPTI-ER, DURGAPUR

Name/Designation	Educational Qualification	Experience & Specialization	Member/ Association/ Training
 **Sh. S. K. Bose** *Director (Head of Institute)*	A.M.I.E (Mech. Engg.) – IE(I) M. Tech (OR) – REC, Durgapur MBA (HR) – IGNOU Pursuing Phd (Engg) – J.U.	About 32 years of experience in CESC Ltd., Phillips Carbon Black Ltd. and NPTI. **Specialization:** Obtained Boiler Operation Engineering Certificate of WB Govt. Operation and Maintenance (Mech) of Thermal Power Station Training and HRD activities Academic administration	Undergone 12 weeks training program on "Maintenance of training" at United Kingdom under Colombo Plan. Fellow of the Institution of Engineers (I) (I) Vice President, Operational Research Society, Durgapur Chapter. (II) Executive Committee Member, The Institution of Engineers (I), Durgapur Chapter.
 **Sh. Atar Singh** *Director*	A.M.I.E. (Elect. Engg.), M.B.A. (H.R.), Certified Energy Auditor, F.I.E. –IE (I)	**Specialization:** 29 years working experience in N.T.P.C. Ltd and N.P.T.I., O & M of 200 MW & 500 MW units of Thermal Power Station, Energy efficiency/ Energy auditing and Performance Monitoring / Improvement of Thermal Power Station, Power Transmission & Distribution Systeem under APDRP / DRUM Project, H.R.D activities	"Environment Impact Assessment and Audit" training program conducted by University of Bradford, U.K. under Colombo plan, Country Focused Training Course on "Energy Conservation Techniques for India" Organized by JICA, Govt. of Japan, Training course on "Preventive Maintenance/Life extension and Advanced Technology for Thermal & Hydro plant and Environmental Improvement System" conducted by AOTS, Japan at New Delhi, Life Member – SEEM, Thiruanantpuram (Kerala)

NPTI –NER, GUWAHATI

Name/Designation	Educational Qualification	Experience & Specialization	Member/ Association/ Training
 **Sh. S. Viswanathan** *Principal Director*	Director B.E. (Mechanical) Anna University Tamil Nadu 1978	More than 31 Years experience in various positions in M/s Jinda Aluminum Ltd., TNEB & NPTI **Specialization:** Mehnical power boilers O&M Power Plants	24 weeks welding instruction course in CEGB, U.K. 1984

NPTI –NER, GUWAHATI

Name/Designation	Educational Qualification	Experience & Specialization	Member/ Association/ Training
 **Sh. Atish Banerjee** *Director*	B.E. (Electrical) from Jadavpur University 1976 M.E. (Electrical) from Jadavpur University 1982 M.I.E. 1990	More than 32 Years experience in different positions in CEA and NPTI **Specialization:** Electrical machines and Systems of TPS	22 Weeks Sr. Instructor course CEG, UK, 1986
 **Sh. Sanjay. V. Malpe** *Director*	B.E. (Mechanical) Visivesvaraya National Instisitute of Technology in 1982, M.E. (Mechanical) from Victoria Jubilee Technical Institute Mumbai in 1985, Certified Energy Auditor.	**Specialization:** More than 30 years experience in various position in private sector and NPTI. About 24 years experience in training and development. Developed CBT Packages on 1. Steam Turbine Construction. 2. Gas Turbine for Power Generation. 3. Coal to Electricity for non technical Executives 4. Cooling towers.	Lead Faculty for Indo German seminars on "Draft Guidelines for Energy Audit of Thermal Power Station" 10 weeks simulator instructor training in CEGB UK in 1991. **Training:** Simulator Instructor course GSE Systems Inc USA in 1995, various training Programs in India in Power industry.

NPTI-WR, NAGPUR

Name/Designation	Educational Qualification	Experience & Specialization	Member/ Association/ Training
 **Sh. A. G. Vinchurkar** *Principal Director*	B.E. (Mechanical)from Visveshwaraya National Institute of Technology in 1977. M.Tech. (Heat Power Engg.) from VNIT in 1985. PGDHRM from IGNOU in 1996.	**Experience:** More than 33 years experience in different positions in MSEB and NPTI **Specialization:** Thermal Power Plant Operation Performance & 210 MW Simulator Operation, Testing and Commissioning.	1. Member - Institution of Engineers, India. 2. Chairman - Board of Studies, ETM Nagpur University. 3. 12 wekks Sr. Instructor Course in CEGB, UK in 1989. 4. 2 weeks Training for Trainers in ISTM, New Delhi. 5. 2 weeks Energy Conservation in CIRE, Hydrabad. 6. 5 weeks Simulator course GSE Systems Inc., USA in 1994.

NPTI-WR, NAGPUR

Name/Designation	Educational Qualification	Experience & Specialization	Member/ Association/ Training
 **Sh. D. M. Lokhande** *Director*	B.E. (Electrical) VRCE (VNIT) Nagpur Year 1980. MBA (Production & Personnel) Nagpur University 1984. Registered for Ph.D Studies in Management at RTM Nagpur University.	Total 31 years of experience in power industry. About 6 years experience in O&M of thermal power plant. About 24 years of experience in training & development including 210 MW simulator project & operation, training etc.	1. 10 weeks senior instructor training in CEGB UK in 1990 2. Simulator Modelling Training of GSE Systems INC USA in 1994 3. Simulator Instructor course GSE Systems INC USA (5 weeks) in 1995 4. Various trg programs in India in power industry areas.
 **Sh. P.K. Yadav** *Director*	B.E. (Electrical), Nagpur University M.Tech (Integrated Power System), Nagpur University	More than 30 years of work experience in various position in MSEB, Koradi & NPTI Operation maintenance, testing of 210MW thermal power plant equipments 210 MW thermal power plant control room / plant in-charge. To conduct & impart thermal power plant operation & maintenance training to different LT/ST training courses. To conduct regular 2 weeks 210 MW simulator training to different course trainees. To co-ordinate & conduct 26 weeks course in O&M of T&D system. To conduct theory & practical classes for B.E. (Power Engineering). Evaluation & paper setting work of RTM Nagpur University.	52 weeks course in Thermal Power Plant Engineering 2 weeks training for Model Development & Instructor Training for 210 MW Simulator Department of Electronics (DoE) Govt. of India "O" level certification course
 **Sh. P.P. Kose** *Director*	B.E. (Electronics), Amravati University, 1989 M.E. (Automatic Control & Robotics), MSU, Baroda, 1993	More than 20 years of work experience at NPTI in Teaching / Training.	3 years course Professional / Industry.

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40.	R & M for Hydro Power Station	Rs.10,000/-	Rs.8,000/-	Rs.6,000/-
	T & D			
41.	Power Transformers	Rs.40,000/-	Rs.25,000/-	Rs.15,000/-
42.	Condition Monitoring of Power Transformers	Rs.40,000/-	Rs.25,000/-	Rs.15,000/-
43.	Maintenance of Power Transformers	Rs.40,000/-	Rs.25,000/-	Rs.15,000/-
44.	Power Station Switchgear	Rs.40,000/-	Rs.25,000/-	Rs.15,000/-
45.	Switchgear Maintenance	Rs.25,000/-	Rs.15,000/-	Rs.12,000/-
46.	Sub Station Maintenance Management - A System Approach	Rs.15,000/-	Rs.10,000/-	Rs.8,000/-
47.	Drying out System of Power Transformers and Reactors	Rs.15,000/-	Rs.10,000/-	Rs.8,000/-
48.	Cable and Cable Jointing	Rs.25,000/-	Rs.15,000/-	Rs.12,000/-

49.	Motor & Motor Maintenance	Rs.15,000/-	Rs.10,000/-	Rs.8,000/-
50.	Battery and Battery Maintenance	Rs.15,000/-	Rs.10,000/-	Rs.8,000/-
51.	Renewable Energies	Rs.40,000/-	Rs.25,000/-	Rs.15,000/-
	MANAGEMENT			
52.	Project Management through the Technology Consciousness	Rs.40,000/-	Rs.25,000/-	Rs.15,000/-
	HINDI			
53.	Rajbhasha Hindi Ki Sambhidhanic Sthiti aur Karyalaya Prayog	Rs.6,000/-	Rs.4,000/-	Rs.3,000/-
	MISCELLANEOUS			
54.	Electrical Safety	Rs.10,000/-	Rs.8,000/-	Rs.6,000/-
55.	Coal to Electricity	Rs.10,000/-	Rs.8,000/-	Rs.6,000/-

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TRAINING & ACADEMIC CALENDER

2013-2014

at

A Glance

TRAINING AND ACADEMIC CALENDER 2013-2014

S. No.	Name of Course	Duration (Years/ weeks/ days)	Faridabad	Badarpur	Nangal	PSTI Bengaluru	HLTC Bengaluru	Nayveli	Durgapur	Guwahati	Nagpur	Trg. Fee (in Rupees)
	A. ACADEMIC COURSES											
1	MBA in Power Management	2 years	1-Aug-13									2,50,000 per annum non sponsored 5,00,000 per annum sponsored
2	B.Tech/ BE in Power Engineering	4 years		1-Aug-13					Jul-13		Jul-13	*refer to booklet
3	Post Graduate Diploma Course (Thermal)	52 weeks		19-Aug-13	19-Aug-13			19-Aug-13	19-Aug-13	19-Aug-13	19-Aug-13	2,00,000 per annum non sponsored 3,10,000 per annum sponsored
4	Post Graduate Diploma Course (Hydro)	39 weeks			12-Aug-13							1,55,000 per annum non sponsored 1,75,000 per annum sponsored
5	Post Graduate Diploma Course in (O&M of T&D System)	26 weeks		16-Sep-13		12-Jul-13 05-Aug-13 31-Jan-14				4-Nov-13	2-Sep-13	1,30,000 per annum non sponsored 1,65,000 per annum sponsored
6	Post Diploma Course (Thermal)	52 weeks		16-Sep-13				2-Dec-13	1-Mar-14	19-Aug-13	16-Sep-13	1,30,000 per annum non sponsored 1,90,000 per annum sponsored
7	Certificate Course in Power Distribution (CCPD)	26 weeks							Jul-13 Jan-14			1,30,000 per annum non sponsored 1,90,000 per annum sponsored
	B. LONG TERM COURSES (17 weeks and above)											
1	Graduate Engineers Course (Thermal)	52 weeks						24-Feb-14				2,00,000 per annum non sponsored 3,10,000 per annum sponsored
2	Supervisors/Operators Course (Hydro)	39 weeks			16-Sep-13							1,55,000 per annum non sponsored 1,75,000 per annum sponsored
	C. MEDIUM TERM COURSES (5 weeks to 16 weeks)											
1	Live line maintenance Techniques (LLMT), using Hot Stick Method (HSM)	12 weeks					24-Jun-13 21-Oct-13 3-Mar-14					1,40,000
2	Live line maintenance Techniques (LLMT) using Bare and methods (BHM) up to 400 KV lines	5 weeks					20-Jan-14					1,00,000
	D. SHORT TERM COURSES (One Day to 4 weeks)											
1	Control & Instrumentation	1 week									20-Jan-14	13,000
2	RLA & Life Extension of Sub-Station Equipment	1 week				2-Dec-13						13,000
3	Power Systems SCADA & EMS	1 week				15-Apr-13 25-Nov-13						13,000

TRAINING AND ACADEMIC CALENDER 2013-2014												
S. No.	Name of Course	Duration (Years/ weeks/ days)	Faridabad	Badarpur	Nangal	PSTI Bengaluru	HLTC Bengaluru	Nayveli	Durgapur	Guwahati	Nagpur	Trg. Fee (in Rupees)
4	Substation Planning & Engineering	1 week				1-Apr-13 4-Nov-13						13,000
5	Distribution Franchising	3 Days				8-Apr-13						10,000
6	Capsule Course for Executive in Hot Line activities	1 week					29-Apr-13 2-Sep-13 30-Dec-13					16,500
7	Valve and Pump Maintenance	1 week		7-Oct-13					22-Apr-13			13,000
8	Gas Turbine & CCPP (Refresher Course)	1 week		29-Apr-13				3-Feb-14				13,000
9	Pumps Operation, Maintenance and Performance Monitoring	1 week		9-Dec-13				8-Apr-13			18-Nov-13	13,000
10	Valve Actuator	3 Days						1-May-13				10,000
11	Thermal Power Station Operation	1 week		20-Jan-14				6-May-13	5-Aug-13		23-Sep-13	13,000
12	Power Plant Auto Control	1 week						6-May-13 08-Jul-13				13,000
13	Valve Maintenance	1 week						13-May-13			29-Jul-13	13,000
14	Fans & Air Heaters	3 Days		20-May-13				5-Jun-13				10,000
15	Switchgear and Transformer Maintenance	1 week							27-May-13			13,000
16	Switchyard Maintenance Technique using LLMT for lineman supervisors	4 weeks					20-May-13					77,000
17	Inspection of Electrical Installation Under IE Rules 1956	1 week				20-May-13 3-Mar-14						13,000
18	Reactive Power Management	3 Days				1-May-13 28-Oct-13						10,000
19	Distribution Metering	1 week				13-May-13						13,000
20	O & M Transformer and circuit Breakers	1 week		14-Oct-13		27-May-13 3-Feb-14						13,000

TRAINING AND ACADEMIC CALENDER 2013-2014												
S. No.	Name of Course	Duration (Years/ weeks/ days)	Faridabad	Badarpur	Nangal	PSTI Bengaluru	HLTC Bengaluru	Nayveli	Durgapur	Guwahati	Nagpur	Trg. Fee (in Rupees)
21	Power Quality and Harmonics Mitigation	4 Days				5-Aug-13						12,000
22	Boiler Operation/ Boiler & its Auxiliaries Operations	1 week		13-May-13				1-Jul-13	13-Jan-14		6-May-13	
23	HT/ LT Switchgear / Transformer O & M	1 week				17-Feb-14				13-May-13		13,000
24	C & I in Power Station (for operation Engineers)	1 week		30-Sep-13							17-Jun-13	13,000
25	Power Station Studies	1 week				3-Jun-13						13,000
26	Grid Management	1 week				10-Jun-13						13,000
27	Power System Operation and Control	2 weeks				3-Jun-13						24,000
28	Power System Protection	2 weeks				18-Jun-13 10-Mar-14						24,000
29	Advanced Power System Protection	1 week				24-Jun-13 17-Mar-14						13,000
30	Steam Turbine & Aux. Operation	1 week		18-Nov-13				10-Jun-13	17-Feb-14		3-Mar-14	13,000
31	Electrostatic Precipitator	3 Days						26-Jun-13				10,000
32	Boiler Firing System & Equipments	1 week						15-Jul-13				13,000
33	Electrical Protection System	1 week		10-Jun-13				22-Jul-13	29-Jul-13		3-Feb-14	13,000
34	Maintenance of Pumps and Valves	1 week								9-Sep-13		13,000
35	Reliability Centered maintenance of Rotary Equipment	1 week		5-Aug-13								13,000
36	Coal Mills and Milling system, case studies / O&M of coal mill Feeders	1 week		8-Jul-13								13,000
		3 days						20-Nov-13				10,000
37	Reduction in Power Distribution Losses	3 Days							22-Jul-13			10,000
38	Flexible AC Transmission system (FACTS)	1 week		2-Dec-13		8-Jul-13						13,000
39	Power Exchange and Power Trading	2 Days				25-Apr-13						6,500
40	Power Business, Tariff & Regulations	1 week				1-Jul-13						13,000
		4 Days				14-Jan-14						12,000

TRAINING AND ACADEMIC CALENDER 2013-2014												
S. No.	Name of Course	Duration (Years/ weeks/ days)	Faridabad	Badarpur	Nangal	PSTI Bengaluru	HLTC Bengaluru	Nayveli	Durgapur	Guwahati	Nagpur	Trg. Fee (in Rupees)
41	Low Voltage Power Distribution System Design	1 week				22-Jul-13						13,000
42	Generator & Auxiliaries including Excitation System AVR	1 week		16-Dec-13				9-Dec-13	4-Nov-13		6-Jul-13	13,000
43	Power Cables & Jointing Techniques (workshop)	3 Days				29-Jul-13						10,000
		4 Days				28-Jan-14						12,000
44	High Voltage Testing of Power System Equipment	1 week				19-Aug-13 10-Feb-14						13,000
45	Transformer Oil	3 Days				12-Aug-13						10,000
46	Indian Electricity Act & Rules and Deregulation	1 week				2-Sep-13						13,000
47	Distributed Generation & Integration	1 week				26-Aug-13						13,000
48	Non Destructive Testing & Welding Defects	1 week		26-Aug-13								
49	Thermal PP Efficiency & Performance Monitoring	1 week						19-Aug-13	23-Sep-13		10-Feb-14	13,000
50	O & M of Transmission lines & Sub-Station	1 week							19-Aug-13			13,000
51	Relay Maintenance	3 Days						21-Aug-13				10,000
52	Boiler operation refresher courses	1 week						9-Sep-13				13,000
53	Power Plant Chemistry for operation Engineers	1 week		9-Sep-13					16-Sep-13		25-Nov-13	13,000
54	Boiler Tube Failure & Case Studies	1 week							9-Sep-13			13,000
55	Training Program for Power Grid Personnel on cold Lines	4 weeks					16-Sep-13					66,000
56	Management of Electrical Contacts & Negotiations	1 week				16-Sep-13						13,000
57	Distribution Automation	1 week				23-Sep-13						13,000
58	Power System Energy Losses	1 week						9-Sep-13			7-Oct-13	13,000
59	Energy efficiency in electrical utility	1 week				7-Oct-13						13,000
60	O&M of EHV Transmission Lines	4 Days				10-Sep-13						12,000
61	Issues Related to Super-Critical Technology	2 Days						20-Feb-14				6,500
62	Burner Management System/ FSSS	3 Days						23-Oct-13				10,000

TRAINING AND ACADEMIC CALENDER 2013-2014												
S. No.	Name of Course	Duration (Years/ weeks/ days)	Faridabad	Badarpur	Nangal	PSTI Bengaluru	HLTC Bengaluru	Nayveli	Durgapur	Guwahati	Nagpur	Trg. Fee (in Rupees)
63	Power Systems Studies Load Dispatch	1 week						7-Oct-13	9-Dec-13			13,000
64	Battery Maintenance	3 Days						9-Oct-13				10,000
65	Large Capacity CFBC Boilers	3 Days						6-Nov-13				10,000
66	Motor Maintenance	1 week						18-Nov-13				13,000
67	Energy Conservation & Energy Audit Generation Sector	1 week						3-Mar-14			28-Oct-13	13,000
		3 Days								25-Nov-13		10,000
68	O & M of Transformer (supervisor / Technician)	1 week								18-Nov-13		13,000
69	HVDC Transmission System	1 week				18-Nov-13						13,000
70	Welding Practices	1 week							18-Nov-13			13,000
71	Trouble shooting of Steam Turbines	3 Days							11-Nov-13			10,000
72	Small. Mini & Micro Hydro Power Generation	3 Days			2-Dec-13							10,000
73	Governing Systems of Hydro Power Generation	2 Days			9-Dec-13							6,500
74	Fan & Air Heaters Maintenance	1 week		25-Nov-13								13,000
75	Project Management for Power System Engineers	1 week				9-Dec-13						13,000
76	Fire Prevention, Protection & Safety (for thermal power plants)	1 week									9-Dec-13	13,000
77	Bearing Maintenance and Shaft Alignment	1 week		7-Mar-14				10-Mar-14			16-Dec-13	13,000
78	Switchgear Maintenance	2 Days						5-Dec-13				6,500
79	Transformer Maintenance	3 Days						11-Dec-13				10,000
80	Transformers	1 week						20-Jan-14				13,000
81	Pump Maintenance	1 week						6-Jan-14			27-Jan-14	13,000
82	O & M of Power & Distribution Transformers	1 week				16-Dec-13						13,000
83	Data Acquisition &Distributed Digital Control System in Thermal Power Station	1 week									6-Jan-14	13,000
84	Protection of Industrial Power System	3 Days				1-Jan-14						10,000
85	Condition Bases Maintenance	1 week							13-Jan-14			13,000

TRAINING AND ACADEMIC CALENDER 2013-2014												
S. No.	Name of Course	Duration (Years/ weeks/ days)	Faridabad	Badarpur	Nangal	PSTI Bengaluru	HLTC Bengaluru	Nayveli	Durgapur	Guwahati	Nagpur	Trg. Fee (in Rupees)
86	Coal Mill/Milling System Maintenance (Case Study)	1 week		13-Jan-14								13,000
87	Maintenance of boiler rotary Machines	1 week		3-Feb-14								13,000
88	Energy Audit & Demand side Management in power Utilities	1 week						3-Feb-14				13,000
89	Environment Pollution & Pollution Control Related with Thermal Power Plants	1 week									17-Feb-14	13,000
90	Power Plant Instrumentation	1 week							20-Jan-14			13,000
91	Management Development Program	1 week			17-Jun-13					6-Feb-14		13,000
92	Power & Tele Communication Coordination (PTCC)	1 week				24-Feb-14						13,000
93	Renewable Energy Sources & Grid Integration	1 week				24-Mar-14						13,000
94	Advance C & I in thermal Power Station	3 Days							3-Mar-14			10,000
95	Renewable Energy Technology	3 Days							5-Feb-14			10,000
96	Change Management	3 Days							8-Jan-14			10,000
97	Advance in Power Generation Protection and Control	1 week				6-May-13						13,000
98	Power Market Regulation	1 week				21-Oct-13						13,000

TRAINING AND ACADEMIC CALENDER 2013-2014

	Duration (weeks)	Faridabad	HPTC Nangal	PSTI Bengaluru	Nagpur	TRG Fees
E. SIMULATOR TRANING PROGRAM						
1 210 MW FOSSIL FUEL POWER PLANT SIMULATOR TRAINING	2 weeks				08-04-2013 22-04-2013 13-05-2013 27-05-2013 17-06-2013 01-07-2013 22-07-2013 05-08-2013 26-08-2013 16-09-2013 30-09-2013 14-10-2013 11-11-2013 25-11-2013 09-12-2013 06-01-2014 20-01-2014 03-02-2014 17-02-2014 03-03-2014 17-03-2014	50,000
2 500 MW FOSSIL FUEL POWER PLANT SIMULATOR TRAINING	2 weeks	08-04-2013 22-04-2013 06-05-2013 20-05-2013 03-06-2013 17-06-2013 01-07-2013 15-07-2013 29-07-2013 12-08-2013 26-08-2013 09-09-2013 23-09-2013 07-10-2013 21-10-2013 04-11-2013 25-11-2013 09-12-2013 06-01-2014 20-01-2014 03-02-2014 17-02-2014 03-03-2014 17-03-2014				50,000
3 COMBINED CYCLE GAS TURBINE POWER PLANT SIMULATOR TRAINING	2 weeks	08-04-2013 22-04-2013 06-05-2013 20-05-2013 03-06-2013 17-06-2013 01-07-2013 15-07-2013 29-07-2013 12-08-2013 26-08-2013 09-09-2013 23-09-2013 07-10-2013 21-10-2013 04-11-2013 25-11-2013 09-12-2013 06-01-2014 20-01-2014 03-02-2014 17-02-2014 03-03-2014 17-03-2014				50,000
4 250 MW HYDRO SIMULATOR TRAINING	1 week		08-04-2013 22-04-2013 06-05-2013 20-05-2013 03-06-2013 08-07-2013 22-07-2013 05-08-2013 02-09-2013 07-10-2013 21-10-2013 04-11-2013 16-12-2013 06-01-2014 10-02-2014 24-02-2014 24-03-2014			18,000
5 DISPATCH TRAINING SIMULATOR	2 weeks			20-05-2013 15-07-2013 18-11-2013 20-01-2014		36,000

TRAINING and ACADEMIC CALENDER 2013-2014

S. No	Name of Course	Duration (years/weeks /days)	Faridabad	Badarpur	Nangal	PSTI Bengluru	HLTC Bengluru	Neyveli	Durgapur	Guwahati	Nagpur (in rupees)	Trg. Fee
	Following program can be conducted/offered to national as well as international organization on request / demand basis on applicable basis on applicable terms and conditions at different NPTI Institutes											
	A. MEDIUM TERMS COURSES FOR ENGINEERS TRAINING CALENDER 2013-2014											
1	Distribution Engineering	6 weeks				*						
2	Control and Instrumentation for Supervisors/Technicians	6 weeks		*		*		*	*	*		
3	Training program for Supervisors/Managerial Person deployed in Power Plant	6 weeks	*									
4	New and Renewable sources and grid integration in India	6 weeks	*	*		*		*	*	*	*	
5	Executive Development Program the supervisory staff working in Finance and Accounts Department	6 weeks	*									
	B. SHORT TERM COURSES FOR ENGINEERS TRAINING CALENDER											
1	GIS in Distribution Planning	4 weeks	*									
2	GIS Application in Network Planning and Asset Management	1 week	*									
3	Maintenance Planning and Cost Control	1 week		*	*			*	*	*	*	
4	Training of Trainers	1 week	*	*	*			*	*	*	*	
5	Operation and Maintenance of EHV Sub Station	2 weeks					*					
6	Microprocessors	1 week/ 2 weeks				*						
7	Vibration Analysis	3 Days	*	*				*	*	*	*	
8	Renovation and modernisation of Thermal Power Plant/Station	1 week	*	*	*			*	*	*	*	
9	Regenerative Feed Heating System	1 week	*	*	*			*	*	*	*	
10	Transmission Distribution Equipment Maintenance	1 week					*					
11	Balancing and Alignment Techniques	3 Days		*	*			*	*	*	*	
12	Electricity Act and Regulation	3 Days	*	*	*	*		*	*	*	*	
13	Basic Electronics	1 week		/	/			/	/	/	/	
14	Training for Assistant Level Persons/Personal Staff	1 week	*									
15	Human Resources Development Program for Finance Officer/Manager	1 week	*									
16	Development of Finance Managers	1 week	*									
17	Training mind or Excellency		*									
18	Executive/Management Development Programs for Executives & Supervisors		*									
19	Executive Development Program for Law Stream		*									

TRAINING and ACADEMIC CALENDER 2013-2014

S. No	Name of Course	Duration (years/weeks /days)	Faridabad	Badarpur	Nangal	PSTI Bengluru	HLTC Bengluru	Neyveli	Durgapur	Guwahati	Nagpur (in rupees)	Trg. Fee
20	Supervisory Development Programs		*									
21	HR for Non-HR Executive		*									
22	Executive Development for Supervisory Staff Working in Finance and Accounts		*									
23	Environment Management		*	*								
24	Business Communications & presentations skills		*									
25	General Introduction to Hydro Power Plant				*							
26	Hydro Power Plant Schemes & System Discussions				*							
27	Hydro Power Plant Operation & Pump Storage Options to Governing				*							
28	Hydro Power Plant Protection				*							
29	Maintenance (On-Job) in Hydel Plant				*							
30	Planning and Cost Control of Hydro Electric Power Station				*							
31	Control & Instrumentation of Hydro Electric Power Station				*							
32	Site Station of Hydro Electric Plants, Geology, Hydrology etc.				*							
33	Tunnels & Channels, Penstocks, Surge shaft, Spillways				*							
34	Valves in Hydro Power Plants				*							
35	Construction equipment of Hydro Electric Plants				*							
36	Environmental Impact Assessment				*							
37	Material Handling and Transportation				*							
38	Safety in Hydro Power Plants				*							
39	Pumps in Hydro Power Plants				*							
40	Transformers & Electrical Equipments in Hydro Power Plants				*							
41	Constructional Details of Hydro Turbines & Generators				*							
42	Electrical Auxiliaries of Hydro Power Plants				*							
43	Erection of Hydro Turbines, Generators and Auxiliaries				*							
44	Types of Dams & Their Constructional Details				*							
45	Lead Auditors Program on ISO-14001		*									
46	HR issues in Power Sector		*									
47	Time Management		*									

TRAINING and ACADEMIC CALENDER 2013-2014

S. No	Name of Course	Duration (years/weeks /days)	Faridabad	Badarpur	Nangal	PSTI Bengluru	HLTC Bengluru	Neyveli	Durgapur	Guwahati	Nagpur (in rupees)	Trg. Fee
48	Stress Management		*									
49	Lead Auditors Program ISO 9000		*									
50	Leadership Skills		*									
51	Project Management		*									
52	Customer Relationship Management		*									
53	Finance for Non-Finance Executive		*									
54	ABT, Power Trading		*									
55	Electricity Act 2003 & CERC, SERC		*									
56	Financial Management in Power Sector		*									
57	Current HR Problems in Power Sector		*									
58	First – Aid for Technical Persons		*									
59	Total Production Maintenance		*									
60	Retirement Management		*									
61	Change in Attitude		*									
62	Customer Orientation		*									
63	Contact Management		*									
64	Computer Appreciation Program											
65	O & M of Motors											
66	Power System Studies & Load Dispatch											
67	Valve Maintenance											
68	Maintenance of pumps											
69	IT Application in Power System											
70	Pump Storage Hydro Power Station											
71	Management Development Program											
72	Performance in Testing of Hydro Power System											
73	GIS/GPS for Power Utilities											
74	Managing Carbon Credit of TPS through CDM Route											
75	Energy Efficiency in Thermal Utilities											

TRAINING and ACADEMIC CALENDER 2013-2014

S. No	Name of Course	Duration (years/weeks /days)	Faridabad	Badarpur	Nangal	PSTI Bengluru	HLTC Bengluru	Neyveli	Durgapur	Guwahati	Nagpur (in rupees)	Trg. Fee
76	IT Application in Power Utilities											
77	Energy Efficiency in Electrical Utilities											
78	Power Distribution Management											
79	Steam Turbine its Auxiliaries Operation											
80	Advance Mechanical Maintenance Practices											
81	O & M of Generators & Excitation System for Supervisors											
82	Fuel (Coal & Oil) Handling System Operation											
83	Material Management											
84	Fluidised Bed Combustion Boilers											
85	Reviewable Energy Source & Grid Integration											
86	System Operator Training											
87	Advances in Power Plant Chemistry for Chemists											
88	Boiler & Auxiliaries											
89	Electrical Motors for Power Plants											
90	Switchgear for Power Plant											
91	High Voltage Direct Current (HVDC) Transmission											

*Indicates that the course can be conducted at the institute and the duration can be tailor made

TRAINING & ACADEMIC CALENDER 2013-2014

FARIDABAD

S. No.	Names of Course	Batch	Duration (years/ Weeks/ Days)	Dates	April	May	June	July	August	September	October	November	December	January	February	March
	A. ACADEMIC COURSES															
1	MBA IN POWER MANAGEMENT	2011-13	2 years		←	←	←	←								
		2012-14			←	←	←	←								→
		2013-15		01-08-2013					01-08-2013							→
	B. SIMULATOR TRAINING															
1	500 MW FOSSIL FUEL POWER PLANT SIMULATOR TRAINING		2 weeks	08-04-2013 22-04-2013 06-05-2013 20-05-2013 03-06-2013 17-06-2013 01-07-2013 15-07-2013 29-07-2013 12-08-2013 26-08-2013 09-09-2013 23-09-2013 07-10-2013 21-10-2013 04-11-2013 25-11-2013 09-12-2013 06-01-2014 20-01-2014 03-02-2014 17-02-2014 03-03-2014 17-03-2014	08-04-2013 22-04-2013	06-05-2013 20-05-2013	03-06-2013 17-06-2013	01-07-2013 15-07-2013 29-07-2013	12-08-2013 26-08-2013	09-09-2013 23-09-2013	07-10-2013 21-10-2013	04-11-2013 25-11-2013	09-12-2013	06-01-2014 20-01-2014	03-02-2014 17-02-2014	03-03-2014 17-03-2014
2	COMBINED CYCLE GAS TURBINE POWER PLANT SIMULATOR TRAINING		2 weeks	08-04-2013 22-04-2013 06-05-2013 20-05-2013 03-06-2013 17-06-2013 01-07-2013 15-07-2013 29-07-2013 12-08-2013 26-08-2013 09-09-2013 23-09-2013 07-10-2013 21-10-2013 04-11-2013 25-11-2013 09-12-2013 06-01-2014 20-01-2014 03-02-2014 17-02-2014 03-03-2014 17-03-2014	08-04-2013 22-04-2013	06-05-2013 20-05-2013	03-06-2013 17-06-2013	01-07-2013 15-07-2013 29-07-2013	12-08-2013 26-08-2013	09-09-2013 23-09-2013	07-10-2013 21-10-2013	04-11-2013 25-11-2013	09-12-2013	06-01-2014 20-01-2014	03-02-2014 17-02-2014	03-03-2014 17-03-2014

Legend :

Courses started in previous year(s).

Courses started in current year.

TRAINING & ACADEMIC CALENDER 2013-2014

BADARPUR

S. No.	Names of Course	Batch	Duration (years/ Weeks/ Days)	Dates	April	May	June	July	August	September	October	November	December	January	February	March
	A. ACADEMIC COURSES															
1	B.Tech in Power Engineering	2009-13	4 years		←											
		2010-14			←											→
		2011-15			←											→
		2012-16			←											→
		2013-17		01-08-2013					01-08-2013							→
2	Post Graduate Diploma Course	2012-13	52 weeks		←											
	(Thermal)	2013-14		19-08-2013					19-08-2013							→
3	Post Diploma Course	2012-13	52 weeks		←											
	(Thermal)	2013-14		16-09-2013						16-08-2013						→
4	Post Graduate Diploma Course	2012-13	26 weeks		←											
	in O&M of T&D System	2013-14		16-09-2013						16-09-2013						→
	B. SHORT TERM COURSES (One Day to 4 weeks)															
1	Gas Turbine & CCPP		1 week	29-04-2013	29-03											
2	Boiler Operation/Boiler and its Auxiliaries operation		1 week	13-05-2013		13-17										
3	Fans and Air Heaters		1 week	20-05-2013		20-24										
4	Electrical Protection System		1 week	10-06-2013			10-14									
5	Coal Mills and Milling System & Case Studies		1 week	08-07-2013				08-12								
6	Reliability Centered Mainte--nance of Rotary Equipment		1 week	05-08-2013					05-09							
7	Non Destructive Testing & Welding Defects		1 week	26-08-2013					26-30							

TRAINING & ACADEMIC CALENDER 2013-2014

BADARPUR

S. No.	Names of Course	Batch	Duration (years/ Weeks/ Days)	Dates	April	May	June	July	August	September	October	November	December	January	February	March
8	Power Plant Chemistry for Engineers		1 week	09-09-2013						09-13						
9	C&I in Power Station (for Operation Engineers)		1 week	30-09-2013						30-04						
10	Valve & Pump Maintenance		1 week	07-10-2013							07-11					
11	O & M Transformer and Circuit Breakers		1 week	14-10-2013							14-18					
12	Steam Turbine and Auxiliaries Operation		1 week	18-11-2013								18-22				
13	Fan & Air Heaters Maintenance		1 week	25-11-2013								25-29				
14	Flexible AC Transmission System (FACTS)		1 week	02-12-2013									02-06			
15	Pumps Operation Maintenance of Performance Monitoring		1 week	09-12-2013									09-13			
16	Generator & Auxiliaries including Excitation System		1 week	16-12-2013									16-20			
17	Coal Mill/ Milling System Maintenance Case Studies		1 week	13-01-2014										13-17		
18	Thermal Power Station Operation		1 week	20-01-2014										20-24		
19	Maintenance of Boiler Rotary Machines		1 week	03-02-2014											03-07	
20	Bearing Maintenance and Shaft Alignment		1 week	07-03-2014												07-11

Legend :

Courses started in previous year(s).

Courses started in current year.

TRAINING & ACADEMIC CALENDER 2013-2014

HPTC NANGAL

S. No.	Names of Course	Batch	Duration (years/ Weeks/ Days)	Dates	April	May	June	July	August	September	October	November	December	January	February	March
	A. ACADEMIC COURSES															
1	Post Graduate Diploma Course	2012-2013	52 weeks		←	←	←	←								
	(Thermal)	2013-2014		19-08-2013					19-08-2013	→	→	→	→	→	→	→
2	Post Graduate Diploma Course	2012-2013	39 weeks		←	←	←									
	(Hydro)	2013-2014		12-08-2013					12-08-2013	→	→	→	→	→	→	→
	B. LONG TERM COURSES (16 Week and Above)															
1	Supervisors/Operators Course	2012-2013	39 weeks		←	←	←									
	(Hydro)	2013-2014		16-09-2013						16-09-2013	→	→	→	→	→	→
	C. SHORT TERM COURSES (one Day to 4 Weeks)															
1	Management Development Program		1 week	17-06-2013			17-21									
2	Small, Mini & Micro Hydro Power Generation		3 Days	02-12-2013									02-04			
3	Governing systems of Hydro Power Generation		2 Days	09-12-2013									09-10			
	D. SIMULATOR TRAINING															
1	250 MW HYDRO SIMULATOR TRAINING		1 week	08-04-2013 22-04-2013 06-05-2013 20-05-2013 03-06-2013 08-07-2013 22-07-2013 05-08-2013 02-09-2013 07-10-2013 21-10-2013 04-11-2013 16-12-2013 06-01-2014 10-02-2014 24-02-2014 24-03-2014	08-04-2013 22-04-2013	06-05-2013 20-05-2013	03-06-2013	08-07-2013 22-07-2013	05-08-2013	02-09-2013	07-10-2013 21-10-2013	04-11-2013	16-12-2013	06-01-2014	10-02-2014 24-02-2013	24-03-2014

Legend :

Courses started in previous year(s).

Courses started in current year.

TRAINING & ACADEMIC CALENDER 2013-2014

PSTI Bengluru

S. No.	Names of Course	Batch	Duration (years/ Weeks/ Days)	Dates	April	May	June	July	August	September	October	November	December	January	February	March
	A. ACADEMIC COURSES															
1	Post Graduate Diploma Course	2012-13	26 weeks	12-07-2013	←											
	in O&M of T&D System	2013-14		05-08-2013				12-07-2013	05-08-2013							
				31-01-2014										31-01-2014		→
	B. SHORT TERM COURSES (One Day to 4 Weeks)															
1	Substation Planning & Engineering		1 week	01-04-2013	01-05											
2	Distribution Franchising		3 Days	08-04-2013	08-10											
3	Power System Communication SCADA & EMS		1 week	15-04-2013	15-19											
4	Power Exchange and Power Training		2 Days	25-04-2013	25-26											
5	Reactive Power Management		3 Days	01-05-2013		01-03										
6	Advanced in Power Generation Protection and Control		1 week	06-05-2013		06-10										
7	Distribution Metering		1 week	13-05-2013		13-17										
8	Inspection of Electrical Installation Under IE Rules-1956		1 week	20-05-2013		20-24										
9	O&M of Transformer and Circuit Breakers		1 week	27-05-2013		27-31										
10	Power System Opera. & Control		2 weeks	03-06-2013			03-14									
11	Power System Studies		1 week	03-06-2013			03-07									
12	Grid Management		1 week	10-06-2013			10-14									
13	Power System Protection		2 weeks	18-06-2013			18-29									
14	Advanced Power System Protection		1 week	24-06-2013			24-28									
15	Power Business, Tariff & Regulation		1 week	01-07-2013				01-05								
16	Flexible AC Transmission System (FACTS)		1 week	08-07-2013				08-12								

TRAINING & ACADEMIC CALENDER 2013-2014

PSTI Bengluru

S. No.	Names of Course	Duration (years/ Weeks/ Days)	Dates	April	May	June	July	August	September	October	November	December	January	February	March
17	Low Voltage Power Distribution System Design	1 week	22-07-2013				22-26								
18	Power Cables & Jointing Techniques	3 Days	29-07-2013				29-31								
19	Power Quality and Harmonics Mitigation	4 Days	05-08-2013					05-08							
20	Transformer Oil	3 Days	12-08-2013					12-14							
21	High Voltage Testing of Power System Equipment	1 week	19-08-2013					19-23							
22	Distributed Generation & Integration	1 week	26-08-2013					26-30							
23	Indian Electricity Act & Rules and Deregulation	1 week	02-09-2013						02-06						
24	O&M of EHV Transmission Lines	4 Days	10-09-2013						10-13						
25	Management of Electrical Contacts & Negotiations	1 week	16-09-2013						16-20						
26	Distribution Automation	1 week	23-09-2013						23-27						
27	Energy Efficiency in Electrical Utilities	1 week	07-10-2013							07-11					
28	Power Market Regulation	1 week	21-10-2013							21-25					
29	Reactive Power Management	3 Days	28-10-2013							28-30					
30	Substation Planning & Engineering	1 week	04-11-2013								04-08				
31	HVDC Transmission System	1 week	18-11-2013								18-22				
32	Power System Communication SCADA & EMS	1week	25-11-2013								25-29				
33	RLA & Life Extension of Sub-Station Equipment	1 week	02-12-2013									02-06			
34	Project Management for Power System Engineers	1 week	09-12-2013									09-13			

TRAINING & ACADEMIC CALENDER 2013-2014

PSTI Bengluru

S. No.	Names of Course	Duration (years/ Weeks/ Days)	Dates	April	May	June	July	August	September	October	November	December	January	February	March
35	O&M of Power & Distribution Transformers	1 week	16-12-2013									16-20			
36	Protection of Industrial Power Systems	3 Days	01-01-2014										01-03		
37	Power Business, Tariff & Regulation	4 Days	14-01-2014										14-17		
38	Power Cables & Jointing Techniques	4 Days	28-01-2014										28-31		
39	O&M of Transformer and Circuit Breakers	1 week	03-02-2014											03-07	
40	High Voltage Testing of Power System Equipment	1 week	10-02-2014											10-14	
41	O&M HT/LT Switchgear	1 week	17-02-2014											17-21	
42	Power & Tele Communication Coordination (PTCC)	1 week	24-02-2014											24-28	
43	Inspection of Electrical Installation Under IE Rules-1956	1 week	03-03-2014												03-07
44	Power System Protection	2 weeks	10-03-2014												10-21
45	Advanced Power System Protection	1 week	17-03-2014												17-21
46	Renewable Energy Sources & Greed Integration	1 week	24-03-2014												24-28
	C. SIMULATOR TRAINING														
1	Dispatcher Training Simulator	2 weeks	20-05-2013 15-07-2013 18-11-2013 20-01-2014		20-31	15-26					18-29		20-31		

Legend :

Courses started last year and finishing in this year.

Other Courses continuing or finishing in this year.

TRAINING & ACADEMIC CALENDER 2013-2014

HLTC Bengaluru

S. No.	Names of Course	Duration (years/ Weeks/ Days)	Dates	April	May	June	July	August	September	October	November	December	January	February	March
	A. MEDIUM TERM COURSES (5 weeks to 16 week)														
1	Live Line Maintenance Technique (LLMT) using Hot Stick Method (HSM)	12 weeks	24-06-2013 to 21-10-2013 to 03-03-2014				24-06 to 13-09					21-10 to 10-01			03-03 to 23-05
2	Live Line Maintenance Technique (LLMT) using bare Hand Methods (BHM) up to 400Kv lines	5weeks	20-01-2014										20-01 to 21-02		
	B. SHORT TERM COURSES (One Day to 4 Weeks)														
1	Capsule Course for Executive in Hot Line activities	1 week	29-04-2013		29-03										
2	Switchyard Maintenance Techniques using LLMT for Linemen/supervisors	4 weeks	20-05-2013		20-05 to 14-06										
3	Capsule Course for Executive in Hot Line activities	1 week	02-09-2013						02-06						
4	Training Program for Power Grid / KPTCL Personnel on Cold Lines	4 week	16-09-2013						16-09 to 11-10						
5	Capsule Course for Executive in Hot Line activities	1 week	30-12-2013									30-12 to 03-01			

Legend :

Courses started in previous year(s).

Courses started in current year.

TRAINING & ACADEMIC CALENDER 2013-2014

NEYVELI

S. No.	Names of Course	Batch	Duration (years/ Weeks/ Days)	Dates	April	May	June	July	August	September	October	November	December	January	February	March
	A. ACADEMIC COURSES															
1	Post Graduate Diploma Course	2012-13	52 weeks	19-08-2013	←	←	←	←								
	(Thermal)	2013-14							19-08-2013	→	→	→	→	→	→	→
2	Post Diploma Course	2012-13	52 weeks	02-12-2013	←	←	←	←	←	←	←	←				
	(Thermal)	2013-14											02-12-2013	→	→	→
	B. LONG TERM COURSES (16 week and above)															
1	Graduate Engineers Course	2012-13	52 weels		←	←	←	←	←	←	←	←	←	←	←	
	(Thermal) [GEC]	2013-14		24-02-2014											24-02-2014	→
	C. SHORT TERM COURSES (One Day to 4 weeks)															
1	Pumps-Operation Maintenance & Performance Monitoring		1 week	08-04-2013	08-12											
2	Valve Actuators		3 days	01-05-2013		01-03										
3	Thermal Power Station Operation		1 week	06-05-2013		16-10										
4	Power Plant Auto Control		1 week	06-05-2013		06-10										
5	Valve Maintenance		1 week	13-05-2013		13-17										
6	Fans and Air Heaters		3 days	05-06-2013			05-07									
7	Steam Turbine & Auxilliaries Operation		1 week	10-06-2013			10-14									
8	Electrostatic Precipitator		3 days	26-06-2013			26-28									
9	Boiler Operation		1 week	01-07-2013				01-05								
10	Power Plant Auto Control		1 week	08-07-2013				08-12								
11	Boiler Firing System & Equipment		1 week	15-07-2013				15-19								
12	Electrical Protection System		1 week	22-07-2013				22-26								
13	Efficiency & Performance Monitoring		1 week	19-08-2013					19-23							
14	Relay Maintenance		3 days	21-08-2013					21-23							

TRAINING & ACADEMIC CALENDER 2013-2014

NEYVELI

S. No.	Names of Course	Duration (years/ Weeks/ Days)	Dates	April	May	June	July	August	September	October	November	December	January	February	March
15	Boiler Operation – Refresher Course	1 week	09-09-2013						09-13						
16	Power System Energy Losses	1 week	09-09-2013						09-13						
17	Power System Studies Load Despatch	1 week	07-10-2013							07-11					
18	Battery Maintenance	3 days	09-10-2013							09-11					
19	Burner Management System/FSSS	3 days	23-10-2013							23-25					
20	Large Capacity CFBC Boiler	3 days	06-11-2013								06-08				
21	Motor Maintenance	1 week	18-11-2013								18-22				
22	O&M of Coal Mills & Feeder	3 days	20-11-2013								20-22				
23	Switchgear Maintenance	2 days	05-12-2013									05-06			
24	Generator & Auxiliaries including Excitation System	1 week	09-12-2013									09-13			
25	Transformer Maintenance	3 days	11-12-2013									11-13			
26	Pump Maintenance	1 week	06-01-2014										06-10		
27	Transformers	1 week	20-01-2014										20-24		
28	Gas Turbine Combined Cycle Power Plant Appreciation	1 week	03-02-2014											03-07	
29	Energy Audit & Demand Side Management in Power Utilities	1 week	03-02-2014											03-07	
30	Issues Related to Supercritical Technology	2 days	20-02-2014											20-21	
31	Energy Conservation and Energy Audit	1 week	03-03-2014												03-07
32	Bearing Maintenance & t Shaft Alignmen	1 week	10-03-2014												10-14

Legend :

Courses started in previous year(s).

Courses started in current year.

TRAINING & ACADEMIC CALENDER 2013-2014

DURGAPUR

S. No.	Names of Course	Batch	Duration (years/ Weeks/ Days)	Dates	April	May	June	July	August	September	October	November	December	January	February	March
	A. ACADEMIC COURSES															
1	B.Tech. in Power Engineering	2009-13	4 Years	July 2013	←	←	←									
		2010-14			←	←	←									→
		2011-15			←	←	←									→
		2012-16			←	←	←									→
		2013-17						July 2013 →	→	→	→	→	→	→	→	→
2	Post Graduate Diploma Course (Thermal)	2012-13	52 weeks	19-08-2013	←	←	←	←								
		2013-14							19-08-2013 →	→	→	→	→	→	→	→
3	Post Diploma Course (Thermal)	2012-13	52 weeks	01-03-2014	←	←	←	←	←	←	←	←	←	←	←	
		2013-14														01-03-2014 →
4	Certificate of Competency in Power Distribution (CCPD)	2012-13	26 weeks	July 2013	←	←	←									
		2013-14		Jan 2014				July 2013 →	→	→	→	→	→			
														Jan 2014 →	→	→
	B. SHORT TERM COURSES (One Day to 4 weeks)															
1	Valve & Pump maintenance		1 week	22-04-2013	22-26											
2	Switchgear & Transformer Maintenance		1 week	27-05-2013		27-31										
3	Reduction in Power Distribution Losses		3 Days	22-07-2013				22-24								
4	Electrical protection system		1 week	29-07-2013				29-02								
5	Thermal Power Station Operation		1 week	05-08-2013					05-09							
6	O&M of Transmission Lines and Sub Station		1 week	19-08-2013					19-23							
7	Boiler Tube Failure and Case Study		1 week	09-09-2013						09-13						

TRAINING & ACADEMIC CALENDER 2013-2014

DURGAPUR

S. No.	Names of Course	Duration (years/ Weeks/ Days)	Dates	April	May	June	July	August	September	October	November	December	January	February	March
8	Power Plant Chemistry For Engineers	1 week	16-09-2013						16-20						
9	Thermal Power Plant Efficiency and Performance Monitoring	1 week	23-09-2013						23-27						
10	Generator & Auxiliaries including Excitation System and AVR	1 week	04-11-2013								04-08				
11	Trouble Shooting of Steam Turbine	3 Days	11-11-2013								11-13				
12	Welding Practice	1 week	18-11-2013								18-22				
13	Power Systems Studies and Load Dispatch	1 week	09-12-2013									09-13			
14	Change Management	3 Days	08-01-2014										08-10		
14	Boiler and its Auxiliaries Operation	1 week	13-01-2014										13-17		
15	Condition bases Maintenance	1 week	13-01-2014										13-17		
16	Power Plant Instrumentation	1 week	20-01-2014										20-24		
17	Renewable Energy Technologies	3 Days	05-02-2014											05-07	
18	Steam Turbine its Aux. Operation	1 week	17-02-2014											17-21	
19	Advanced C&I in Thermal Power Station	3 Days	03-03-2014												03-05

Legend :

Courses started in previous year(s).

Courses started in current year.

TRAINING & ACADEMIC CALENDER 2013-2014

NPTI- NER GUWAHATI

S. No.	Names of Course	Batch	Duration (years/ Weeks/ Days)	Dates	April	May	June	July	August	September	October	November	December	January	February	March
	A. ACADEMIC COURSES															
1	Post Graduate Diploma Course	2012-13	52 week	19-08-2013	←											
	(Thermal)	2012-14							19-08-2013	→						
2	Post Diploma Course	2012-2013	52 week	19-08-2013	←											
	(Thermal)	2013-2014							19-08-2013	→						
3	Post Graduate Diploma Course	2012-13	26 week	04-11-2013	←											
	in O&M of T&D System	2013-14										04-11-2013	→			
	B. SHORT TERM COURSES (1 Day to 4 Weeks)															
1	HT/ LT Switchgear/ O&M (Supervisor / Technician)		1 week	13-05-2013		13-17										
2	Maintenance of pumps & valve (Supervisor / Technician)		1 week	09-09-2013						09-13						
3	O&M Transformers (Supervisor / Technician)		1week	18-11-2013								18-22				
4	Energy Conservation & Energy Audit (For Generation Sector)		3 days	25-11-2013								25-27				
5	Management Development Program		1week	06-02-2014											06-10	

Legend :

Courses started in previous year(s).

Courses started in current year.

TRAINING & ACADEMIC CALENDER 2013-2014

NAGPUR

S. No.	Names of Course	Batch	Duration (years/ Weeks/ Days)	Dates	April	May	June	July	August	September	October	November	December	January	February	March
	A. ACADEMIC COURSES															
1	B.E. in Power Engineering	2009-13	4 Years	July 2013	←	←	←									
		2010-14			←	←	←	←	←	←	←	←	←	←	←	→
		2011-15			←	←	←	←	←	←	←	←	←	←	←	→
		2012-16			←	←	←	←	←	←	←	←	←	←	←	→
		2013-17							July 2013	→	→	→	→	→	→	→
2	Post Graduate Diploma Course	2012-13	52 weeks	19-08-2013	←	←	←	←								
	(Thermal)	2013-14							19-08-2013	→	→	→	→	→	→	→
3	Post Diploma Course	2012-13	52 weeks	16-09-2013	←	←	←	←	←							
	(Thermal)	2013-14								16-09-2013	→	→	→	→	→	→
4	Post Graduate Diploma Course	2012-13	26 weeks	02-09-2013												
	in Operation & Maintenance	2013-14								02-09-2013	→	→	→	→	→	
	of Transmission & Distribution															
	B. SHORT TERM COURSES (One Day to 4 weeks)															
1	Boiler & its Auxiliaries Operation		1 week	06-05-2013		06-10										
2	Control & Instrumentation for Operation Engineers		1 week	17-06-2013			17-21									
3	Generator Auxiliaries including Excitation System		1 week	08-07-2013				08-12								
4	Valve Maintenance		1 week	29-07-2013				29-02								
5	Boiler & Its Auxiliaries Operation		1 week	26-08-2013					26-30							

TRAINING & ACADEMIC CALENDER 2013-2014

NAGPUR

S. No.	Names of Course	Batch	Duration (years/ Weeks/ Days)	Dates	April	May	June	July	August	September	October	November	December	January	February	March
6	Thermal Power Plant Operation		1 week	23-09-2013						23-27						
7	Power System Energy Losses		1week	07-10-2013							07-11					
8	Energy Conservation & Energy Audit for Generation Sector		3 days	28-10-2013							28-30					
9	Pumps Operation, Maintenance & Performance Monitoring		1 week	19-11-2013								18-22				
10	Power Plant Chemistry for Operation Engineers		1 week	25-11-2013								25-29				
11	Fire Prevention, Protection & Safety for Thermal Power Station		1 week	09-12-2013									09-13			
12	Bearing Maintenance & Shaft Alignment		1 week	16-12-2013									16-20			
13	Data Acquisition & Distributed Digital Control System in Thermal Power Station		3 days	06-01-2014										06-08		
14	Control & Instrumentation		1 week	20-01-2014										20-24		
15	Pump Maintenance		1 week	27-01-2014										27-31		
16	Electrical Protection System		1 week	03-02-2014											03-07	
17	Thermal Power Plant Efficiency & Performance Monitoring		1 week	10-02-2014											10-14	
18	Environmental Pollution & Pollution Control related with Thermal Power Plants		1 week	17-02-2014											17-21	
19	Steam Turbine & Its Auxiliaries Operation		1 week	03-03-2014												03-07

TRAINING & ACADEMIC CALENDER 2013-2014

NAGPUR

S. No.	Names of Course	Batch	Duration (years/ Weeks/ Days)	Dates	April	May	June	July	August	September	October	November	December	January	February	March
	C. SIMULATOR TRAINING															
1	210 MW Fossil Fuel Power Plant Simulator Training		2 week	08-04-2013 22-04-2013 13-05-2013 27-05-2013 17-06-2013 01-07-2013 22-07-2013 05-08-2013 26-08-2013 16-09-2013 30-09-2013 14-10-2013 11-11-2013 25-11-2013 09-12-2013 06-01-2014 20-01-2014 03-02-2014 17-02-2014 03-03-2014 17-03-2014	08-04-2013 22-04-2013	13-05-2013 27-05-2013	17-06-2013	01-07-2013 22-07-2013	05-08-2013 26-08-2013	16-09-2013 30-09-2013	14-10-2013	11-11-2013 25-11-2013	09-12-2013	06-01-2014 20-01-2014	03-02-2014 17-02-2014	03-03-2014 17-03-2014

Legend :

Courses started in previous year(s).

Courses started in current year.

RELEASE OF MANUALS

'Overview of Indian Power Sector – Organizational Set-up'
Authors: Shri J.S.S. Rao, Principal Director and Mrs. Vatsala Sharma, Dy. Director

'Basics of Electric Power System'
Authors: Shri N.R. Halder, Dy. Director

'Selected Readings on Finance for Non Finance Executives'
Authors: Mrs. Madhu Bala Kumar, Dy. Director and Ms. Bhawana Choudhary, Asstt. Director

Inauguration of Solapur Power and Industrial Training Institute, Solapur (Maharashtra)

Power System Operator Certificate Conferment Ceremony, New Delhi

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Quality Endorsed Company ISO 9001 QEC 24791 Standards Australia

Environmental System

Certified Environmental Management ISO 14001 CEM 20733 Standards Australia

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