

**Post Graduate Diploma Course
in
Thermal Power Plant Engineering
(2nd Batch)
Program Brochure
(01/10/2012 TO 27/09/2013)**



**CENTRAL BOARD OF IRRIGATION & POWER
MALCHA MARG, CHANAKYA PURI
NEW-DELHI-110021**

1. POST GRADUATE DIPLOMA COURSE IN THERMAL POWER PLANT ENGINEERING (2nd Batch)

A) ABOUT THE COURSE

The Indian power Sector is presently passing through a phase of transition of technology up-gradation in the area of Generation and Transmission of Power. Several new Ultra Mega Thermal Power Projects are in the process of installation both in Public and private sectors where advanced technology like Super Critical Technology supported by the latest technology of Electrical, Control & Instrumentation systems etc are coming in a big way. The course contents of this one year training programme have been designed to fulfill the mandatory requirements of Indian Electricity Rules amended in 1981 to groom the students having the basic theoretical knowledge of Power Generation from their college with the latest technology of Operation & Maintenance of the Thermal power plants. After completion of the course, the Engineers would be eligible for operation & Maintenance of Power plants of Capacity 100 MW and above as the course is in line with the syllabus recognized by Central Electricity Authority (CEA).

The duration of the course would be 52 weeks having 2 semesters comprising class room sessions as well as on-the-job training. The students have to attend the on-job practice sessions in power plants, substations etc. Visit to some reputed manufacturing plants is also an integral part of the course. At the end of the course, 2 weeks Simulator training will be arranged in the Simulator having latest state of the art technology. To enhance the personal skills, some inputs of management are also to be given to the students.

B) DETAILED CURRICULUM OF THE COURSE:

I. Course Objectives

After completion of the course the students will acquire extensive basic and advanced knowledge of:

- Operation & Maintenance of Thermal power plant equipment and its process.
- Necessary safety aspects required in a power plant
- Details of plant equipment
- Power plant project management.
- Process flow,
- Mechanical/Electrical/Instrumentation aspects of power plants,
- Power plant schemes

II. Methodology For The Course

- Classroom Lecture Sessions
- Power Plant Visits
- Scheme Tracing in Thermal Power Plant
- On-Job Operation & Maintenance Training at Thermal Power Plant
- Group Discussion session
- Projects, Seminars Submissions

C) COURSE PROFILE

1st Semester

Sl.No.	Subject/Modules-First Semester	Duration
1.	Power Plant Introduction and Industrial Safety	1 week
2.	Power Plant Familiarization	6 weeks
3.	Power Plant Briefing and Scheme Tracing	2 weeks
4.	Power Plant Operation	3 weeks
5.	Rotational On-Job (Operation)	6 weeks
6.	Erection, Commissioning & Construction Management	2 weeks
7.	Power Plant Performance & Efficiency Calculations	1 week
8.	Power Plant Chemistry, Metallurgy, NDT & Welding	1 week
9.	Gas Turbine & Combined Cycle Power Plant	½ week
10.	Advanced Steam Generation Technologies	½ week
11.	Management & Personality Development	1 week
12.	Mid-term Appraisal	2 weeks

2nd Semester

Sl.No.	Subject/Modules-Second Semester	Duration
13.	Power Plant Protection & Load Despatch	1 week
14.	Energy Audit	1 week
15.	Maintenance Management	1 week
16.	Renewable & Hydro Power Plants	1 week
17.	Maintenance Practices	4 weeks
18.	Design Aspects of Power Plant equipment	½ week
19.	Power Reforms, Regulations and Tariff	1 week
20.	Control & Instrumentation	2 weeks
21.	IT Application in Power Sector & GIS	½ week
22.	Environment Management	1 week
23.	Rotational On-Job (Maint.)	6 weeks
24.	Training & Visit to Manufacturing Works	2 weeks
25.	Simulator	2 weeks
26.	Project	2 weeks
27.	Final Appraisal	2 weeks

Note:

- I. The above curriculum subject to change as per the requirement of industry and the customized needs so as to make it more effective and meaningful.
- II. Simulator training for 2-weeks will be imparted in a latest technology based Simulator of the country.

D) FACULTY

In-house as well as Renowned/Reputed and well experienced faculties from Power Industry/Manufacturers/Contractors/IIT/engineering colleges will be delivering the lectures for the entire programme.

E) ON-JOB

On-job training will be arranged at the sites of reputed Thermal Power Stations.

2. WHY YOU SHOULD JOIN CBIP FOR THIS COURSE?

India is growing at faster pace with a GDP of around 9% for the last 5 years. To sustain this GDP it is necessary to have the growth of its power sector even at a higher rate. Indian Power industry, being highly capital intensive industry, is growing at a very fast rate of about 10% per annum. The present installed capacity of Indian power industry is about 202979.03 MW. To keep pace with the GDP growth of our country Govt. of India has a mandate of adding about 75,000MW to 100,000MW during the 12th (2012-2017) Five Year Plan and about same capacity during 13th Plan (2017-2022). Human resource development and capacity building in the present power scenario demands a very comprehensive and pragmatic approach to attract, utilize, develop, and conserve valuable human resources. Training, re-training, and career prospects are some of the important elements of human resource development. By the working group on manpower planning in power sector it has been estimated that there is a shortage of skilled manpower which is fast emerging as a serious obstacle to the Govt. efforts to expedite the pace of power generation capacity addition in the country. Technically trained manpower comprising skilled engineers, supervisors, artisans/technicians and managers is required in every sphere of the power supply industry. The capacity addition along with commensurate Transmission and Distribution infrastructure leads to an estimated requirement of about 7.4 Lakh additional personnel for construction and O&M during 12th plan itself.

In order to mitigate the shortage of trained manpower Govt. of India has already taken many initiatives for providing training and developing the required manpower but the requirement of trained manpower is so high that there is a need of training/retraining of fresh and in service engineers and groom them by providing them the required training inputs and make them readily available for deploying them in the Power Sector as per its manpower requirements.

Hence, there is an ample scope of making a carrier in the Power Sector for the Engineers who undertake this programme.

In view of this CBIP has taken initiative and launched **52 weeks Post Graduate Diploma Course in Thermal Power Plant Engineering** as training in Power Sector is niche area of CBIP:

- The objective of the course is to develop groomed manpower for the power sector having high skills and confidence in running a Power Plant. After completion of the course the students would be readily available for the Indian Power Sector for taking over the charge of Operation & Maintenance of Power Plant equipments.
- The course satisfies the mandatory requirements of Rule 3 of Indian Electricity (Amendment) Rules, 1981 and Indian Electricity Act, 2003.

The course is also open for the sponsored candidates from SEBs and Power Utilities (Public & Private).

The present course is for 2nd batch for PGDC in Thermal Power Plant Engineering.

The course will be conducted under the supervision of experienced faculty who were the main initiators of this program in Indian Power Sector. Sh. C.S. Malik, Director, CBIP formerly Principal Director, NPTI and Sh. S.K. Ghosh, Adviser, CBIP, formerly Director, NPTI would be supervising this course.

3. STRENGTHS OF CBIP

- An 84 years old establishment into dissemination of knowledge in Power, Irrigation and Renewable sectors
- Almost all reputed utilities of Power, Irrigation and Renewable sectors of the country are the institutional members and at least 2600 senior officers of the level of Chief engineer and above from these sectors are the members
- Has a great networking and close relations with all reputed utilities of these sectors. Institute is located in most posh and central place of the capital city of the country i.e. Chanakyapuri, New Delhi
- Easy availability and access to the reputed and highly experienced faculty because of above two facts
- Has a strong base of the very senior officers with deep experience of various disciplines of Power and irrigation sector
- Has state of the art infrastructure facilities like Digitized library, dining hall, classrooms, conference hall etc. well equipped with audio visual aids and Air conditioning system
- Publishes very strong technical publications on very thrust areas in above sectors
- Has the secretariat of at least 10 international organizations and the Secretary CBIP is the secretary or the member secretary of their India chapters.
- A very strong Board with Chairperson, CEA as the President; Chairman Power Grid as the Vice President (Power); Member, CWC as the vice President.
- CBIP is also in the process of setting up of its Power Management Institute at new plots allotted by HUDA in Gurgaon for conducting long term/short term training programs in all the three niche sectors i.e. Power, Water Resources and Renewable Energy.
- CBIP has also signed a Memorandum of Understanding (MoU) with Indian Electrical and Electronics Manufacturers Association (IEEMA) which has a network of around 650 member organizations from public, joint & private sectors including good no. of organizations associated with Transmission & Distribution systems for collaborative ventures/ efforts for enhancement of quality service through various activities viz., joint assignments, training programs, conferences, seminars, consultancy, R&D activities, joint studies and surveys, knowledge sharing and action plans identified by CBIP and/or IEEMA.
- The **“Excellence Enhancement Centre for India power Sector” has been established under the aegis of CEA at CBIP, Malcha Marg.**
- Most of the organizations (Govt. sector & Private) of Indian Power sector involved in Generation, Transmission and Distribution of Power are the members of CBIP.
- **CBIP has a strong team of senior training officers, having in-depth knowledge of conducting various long term training programs related to**

Power sector and were among the team of main initiators for launching the Post Graduate Diploma Course and Post Diploma Certificate programs in Thermal/T&D/GIS and B-Tech(Power) in the country.

4. COURSE CERTIFICATION

Certificate will be issued by **Central Board of irrigation & Power (CBIP)** which is a reputed autonomous body in the field of Power & Water Resources having liaison with various Govt./Semi-Govt./Pioneer-Pvt. Sector Organizations including Central Electricity Authority, NTPC, NHPC, Powergrid etc.

5. PLACEMENT SERVICES

CBIP maintains close linkages with various power utilities and reputed companies of Indian Power Sector. Most of the Govt. utilities, IPPS, T&D utilities etc and other reputed manufacturing organizations of the above said field are associated with CBIP as member organizations and prefer to depute their Engineers to attend the training programmes/Workshops/ Seminars at CBIP. Though there is no commitment for placement of the candidates, CBIP would try its best and exploit all the opportunities for arranging campus interviews through its good networking with all of the power sector utilities/companies including reputed manufacturers. **Almost all the candidates of 1st Batch of PGDC in Transmission & Distribution System have been placed in reputed organizations like WAPCOS, Powerlinks Transmission Ltd., Skipper Electricals India Ltd., Noida Power Co. Ltd. (NPCL), Indiabulls Ltd., Epsilon Asia, etc. Also the placement activities for the 1st Batch of PGDC in Thermal Power Plant Engineering have already been started and a good response from different organizations/independent power producers have already been recieved.**

6. INFORMATION TO THE CANDIDATES

A) WHO CAN APPLY

- The candidates who have obtained B.E./B.Sc. (Engg.), A.M.I.E. or equivalent degree in Mechanical/Electrical/Power/Electronics/C&I Engineering are eligible to apply for admission to this Post Graduate diploma Course. Those appearing in their final year examination may also apply. However, they must submit their degree/provisional degree at the time of counseling/start of the course.
- Graduate Engineers sponsored by State Electricity Boards/Power Utilities and Private Companies with at least one year post qualification experience as on 01/10/2012 and minimum 60% marks in BE/B-Tech./equivalent degree.

B) COURSE FEES/PAYMENT OF FEE

For non-sponsored candidates: Rs.1,50,000/- (to be paid in 3 installments; 1st installment – Rs.60,000/- at the time of counseling (non-refundable), 2nd Installment – Rs.50,000/- latest by 07/01/2013, 3rd Installment – 40,000/- latest by 08/04/2013)

For sponsored candidates: Rs. 2,00,000/- (to be paid in full at the time of counseling)
Course fee includes the Simulator Training fee.

Travelling/lodging cost in case of outstation visits is to be borne by the students.

For foreign nationals: US\$6,000/- (to be paid in full at the time of counseling)

The course fee may be paid in the form of demand draft drawn in favour of “**CBIP, New Delhi**”. The payment may also be done through online system of banks (ECS/RTGS/NEFT). The details of the bank of CBIP where remittance is to be made through online banking is given below:

- i. Name of the Bank: ICICI Bank Ltd.
- ii. Branch Address: 16/48, Malcha Marg, Shopping Center, Chanakyapuri, New Delhi-110021.
- iii. Branch Code: ICIC0000346
- iv. MICR: 110229052
- v. S/B A/c Number: 034601000738

In this case the candidates may supply the following information to CBIP through email/fax/letter:

- i. Name of the student
- ii. Amount Paid
- iii. Name of the Bank/Branch
- iv. Transaction ID/ UTR (Unique Transaction Reference) Number

C) SELECTION CRITERIA FOR ADMISSION

Admission will be given on the following basis:

- I. 70% seats to be filled up based on the score card of GATE and PGDC CET-2012.
- II. 30% seats from general applications based on the marks of 10th, 12th and Engineering Degree with minimum 60% marks in various examinations from 10th onwards.

Admission shall be subject to verification of documents. A candidate who is allotted a seat during counseling will be required to pay the 1st installment of fee (Rs.60,000/- for non sponsored candidate and Rs. 2,00,000/- for sponsored candidate) immediately without which the admission will not be confirmed.

D) TOTAL SEATS

Total No. of seats for the program is **60** (may vary). 10% of the seats are reserved for candidates sponsored from Power utilities having more than one year experience and more than 60% marks in Engineering Degree.

The seats of sponsored category can be filled by non-sponsored category and vice-versa depending on the position of vacant seats.

E) AGE LIMIT

For the non sponsored candidates maximum age limit as on 07/07/2012 is 27 years. However, there is no age limit for the sponsored candidates.

F) COUNSELING

Counseling will be held at CBIP, Malcha Marg, Chanakyapuri, New Delhi, opposite to Carmel Convent, Malcha Marg between 10AM to 5-30PM. The candidates must appear in person on the date of counseling with all relevant original documents like Birth certificate, Educational qualifications, GATE/PGDC CET-2012 Score Card, CGPA/CPI conversion chart issued by the registrar/controller of examinations of the concerned university (in case of CGPA/CPI candidates).

G) SPONSORED CANDIDATES

The Candidates who are sponsored from any organization have to enclose a sponsorship certificate issued by their respective organizations in the format given on the CBIP website.

7. HOW TO APPLY

Application as per the format available on CBIP website on plain paper along-with the demand draft of Rs.700/- in favour of "CBIP" payable at New Delhi, should reach the Secretary, CBIP, (address given below) latest by 01/09/2012 with Two passport size photographs. Candidates are advised to go through the brochure thoroughly before filling the form.

Points to be Noted:

- i. All the future notifications/ information will be available on CBIP website. The candidates are advised to be regularly in touch with the website.
- ii. Attach attested copies of proof of date of birth, certificates/scorecard of 10th/12th/Engg. Graduation/GATE Score Card/PGDC CET-2012 Score Card/CGPA/CPI Conversion Chart issued by Registrar/controller of the concerned university.
- iii. Application fee is non refundable.
- iv. Applications after due date will not be accepted.

8. ADDRESS FOR COMMUNICATION

Secretary, CBIP, Malch Marg, Chanakyapuri, New Delhi-110021
Tel No: 011-26875017/26116567/24102437/ Fax: 011-26116347
E-mail: cbip@cbip.org / ghoshsk@cbip.org / jaideep@cbip.org

9. HOSTEL ACCOMMODATION/TRANSPORT/WORKING LUNCH DURING THE SESSIONS

To facilitate the candidates in having a good accommodation, CBIP has tied up with local guest house nearby having good lodging and boarding facilities and the same is being provided by CBIP at a reasonable (subsidized cost). Thus, the total charges which the candidates have to bear are below:

- ❖ Lodging & boarding at guest house and transport to and fro from guest house will be around Rs. 8300/- per month (approx).
- ❖ Cost of lunch and two times tea/biscuits etc at institute = Rs.2400/- per candidate per month (for 5 working days in a week) which is compulsory.
- ❖ Payment towards lodging/boarding/travelling etc is to be made in advance at the time of counseling as per details given below.
 - Three months advance for lodging/boarding in the guest house, travelling, working lunch tea etc during the sessions = Rs.32000/- (approx.)

10. SECURITY DEPOSIT

An amount of Rs. 5000/- as security deposit which is refundable has to be deposited by the student at the time of admission.

11. REFUND

Fee once deposited will not be refunded. In case a selected candidate wishes to withdraw from the course for any reason, no part of course fee will be refunded except the security deposit.

12. OTHER EXPENSES

The candidates have to bear charges against uniforms, safety shoes, safety helmets, bus facility. The exact amount to be paid will be displayed along with the selection list after short-listing of the candidates for the course. Travelling/lodging cost in case of outstation visits is to be borne by the students.

13. IMPORTANT DATES

Last Date for receipt of completed application forms:	01/09/2012
Announcement of 1 st list of candidates for counseling on website:	07/09/2012
Dates for first counseling:	To be intimated
Dates for second counseling (in case of any vacant seat):	To be intimated
Commencement of Course:	01/10/2012

14. HOW TO REACH CBIP

CBIP is located at Malcha Marg, adjacent to Malcha Market, Chanakypuri, New Delhi, which is 12KM from New Delhi Railway Station and 18KM from Delhi Domestic Airport.