

**Course Brochure**

**52 Weeks Post Graduate Diploma Course  
in  
Thermal Power Plant Engineering  
(05<sup>th</sup> Batch):2015-16**



Central Board of Irrigation and Power  
Malcha Marg, Chanakyapuri, New Delhi-110021  
Web Site: [www.cbip.org](http://www.cbip.org) Email: [cbip@cbip.org](mailto:cbip@cbip.org)  
(More than 8 decades of Service to the Nation in Power Sector)  
*(Recognized as category-1 training Institute for providing training in the field of Hydro, Thermal,  
Transmission, Distribution and Power management Ministry of Power, Government of India)*

# **POST GRADUATE DIPLOMA COURSE IN THERMAL POWER PLANT ENGINEERING**

## **ABOUT THE COURSE**

Development of Power Sector is the key to the economic development of a country. The power Sector in India has been receiving adequate priority ever since the process of planned development began in 1950. The Power Sector has been getting 18-20% of the total Public Sector outlay in initial plan periods. Remarkable growth and progress have led to extensive use of electricity in all the sectors of economy in the successive five years plans. Over the years (since 1950) the installed capacity of Power Plants (Utilities) has increased to 268000 MW (as on May, 2014) from meager 1713 MW in 1950.

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. For operation and maintenance of such a huge installations with state of the art technologies and sophisticated machines and controls, there is a need of engineers who are having in-depth knowledge for each discipline of power plant engineering along with the applied engineering knowledge of the power industry. This could only be possible when fresh engineers are groomed extensively by giving them exposure through a structured training program like Post graduate Diploma in Thermal Power Plant Engineering. 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 designed in line with the mandatory training requirements set in Central Electricity Authority (CEA) under Regulations-2010.

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 having latest state of the art technology. To enhance the managerial skills, some inputs of management are also to be given to the students.

## **COURSE OBJECTIVES:**

The objective of the course is to develop groomed manpower for the power sector having high skill and confidence in running the power plant. After completion of the course the students will acquire extensive knowledge and skill in :

- 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 aspects of power plants
- power plant schemes

## **METHODOLOGY FOR THE COURSE**

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

## **WHY YOU SHOULD JOIN CBIP FOR THIS COURSE?**

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 to the tune of 4 Lakhs which is fast emerging as a serious obstacle to the Govt. efforts related to capacity addition of power generation in the country. Technically trained manpower comprising skilled engineers, supervisors, artisans/technicians and managers is required in every sphere of the power supply industry to mitigate the shortage of trained manpower in Indian Power Sector.

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

**CBIP Centre of Excellence, Gurgaon is recognized by Ministry of Power, Govt. of India. Hence, there is an ample scope of making a carrier in the Power Sector for the Engineers who undertake this program.**

**Placements: Though CBIP does not guarantee for any confirmed placements, we facilitates the students for getting placements through our close associations with various utilities of Power sector.**

**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, Sh. S.K. Ghosh, Advisor, CBIP, formerly Director, NPTI & Sh. A.K.Malhotra, Advisor, CBIP , formerly, AGM(HRD),PMI,NTPC, Shri Rakesh Gupta, Advisor, CBIP, formerly Chief Engineer, HPGCL would be supervising this course.**

## STRENGTHS OF CBIP

- A 88 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
- 3000 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 three 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 (WR) and Joint Secretary, MNRE as Vice President (RE).
- CBIP has set up an 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.
- Power Sector Skill Council (PSSC) is housed in CBIP premises at Malcha Marg, Chanakyapuri, New Delhi, and CBIP is providing the secretariat support to PSSC. Shri A.B.Pandya,Chairman, CWC is the president and Shri V.K. Kanjlia, Secretary, CBIP is Secretary of PSSC
- 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.

## RECOGNISION/CERTIFICATION OF THE COURSE

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.

***CBIP institute has been recognized as Category-I training Institute by Ministry of Power, Govt. of India under CEA regulations-2010. The syllabus of the course is as per the mandatory Training requirements specified in Central Electricity Authority regulations-2010.***

## DETAILED CURRICULUM

1 <sup>st</sup> Semester			2 <sup>nd</sup> Semester		
Sl. No.	subject/Modules-first semester	duration	Sl. No.	subject/Modules-second semester	duration
1.	Power Plant Introduction and Industrial Safety	2 weeks	16.	Power Plant Protection	1 week
2.	Basic Engineering Fundamentals	2 weeks	17.	Load Despatch	1 week
3.	Power Plant Familiarization	6 weeks	18.	Energy Audit	1 week
4.	Power Plant Briefing and Scheme Tracing	2 weeks	19.	Maintenance Management	1 week
5.	Power Plant Operation	2 weeks	20.	Renewable Energy Sources & Hydro Power Plants	1 week
6.	Rotational On-Job (Operation)	4 weeks	21.	Maintenance Practices	4 week
7.	Erection & Commissioning	2 week	22.	Design Aspects of Power Plant equipment	1 week
8.	Construction Management	1 week	23.	Power Reforms, Regulations and Tariff	1 week
9.	Power Plant Performance & Efficiency Calculations	1 week	24.	Control & Instrumentation	2 week
10.	Power Plant Chemistry, Metallurgy, NDT & Welding	1 week	25.	IT Application in Power Sector & GIS	½ week
11.	Gas Turbine & Combined Cycle Power Plant	1 week	26.	Environment Management	½ week
12.	Advanced Steam Generation/ Supercritical Technology	1 week	27.	Rotational On-Job (Maintenance)	5 weeks
13.	Management & Personality Development	1 week	28.	Training & Visit to Manufacturing Works	2 weeks
14.	Aptitude Test		29.	Simulator	2 weeks
15.	Mid-term Appraisal	1 week	30.	Project	1 week
			31.	Final Appraisal	1 week
	<b>sub-total</b>	<b>27 weeks</b>		<b>sub-total</b>	<b>25 weeks</b>
				<b>GRAND TOTAL</b>	<b>52</b>

## FACULTY

In house as well as renowned/reputed faculty members from Power Utilities/Distribution equipment manufacturers/Contractors/IIT/Engineering colleges having rich knowledge/experience in the concerned area will be delivering the lectures during the entire program.

## VISITS & ON-JOB TRAINING

On-job training will be arranged at power stations of various capacities. Visit will be arranged to various manufacturing plants, labs, sub -station, contractors site etc.

## PLACEMENT SERVICE

While looking at the aforesaid strengths of CBIP, which has a strong network with good chunk of power utilities of the country, by virtue of the institutional memberships, individual memberships of the very Senior Officers of Indian Power Sectors and the strength/support of other Govt. organizations, CBIP shall be putting in best of its efforts for arranging for the placements of the candidates in various power utilities of the country.

***Though CBIP is not committed for any confirmed placement, the students of such previous completed batches have been placed in various companies through CBIP's linkages and the efforts of students themselves. Excellent placements have been achieved for the current Thermal Batch (4<sup>th</sup> Batch)***

## INFORMATION TO THE CANDIDATES

### A. ELIGIBILITY

- **For Non-sponsored candidates,**
  - Bachelor of Engineering or equivalent in Mechanical / Electrical / Electronics & Instrumentation / Control & Instrumentation / Electronics & Communication/Power Engineering with minimum 60% marks in various examinations from 10<sup>th</sup> onwards.
  - The candidates should not have more than two supplementary/ backlog/ATKT during the entire course and no backlog in last semester
- **For Sponsored candidates,**
  - Bachelor of Engineering or equivalent in Mechanical / Electrical / Electronics & Instrumentation / Control & Instrumentation / Electronics & Communication/Power Engineering with minimum 60% marks
  - One year experience in the relevant field.

*Those appearing in their final year examination can also apply. However, they must submit their degree/provisional degree at the time of counseling/start of the course. The candidates shall also have to submit medical fitness certificate at the time of admission with no color blindness*

*Electrical / Electrical & Electronics Engineering Students can also apply simultaneously for 26 Weeks PGDC in O&M of Transmission & Distribution System (7<sup>th</sup> Batch) mentioning their preference in online application form and the demand draft of Rs.600/-in favor of "CBIP", New Delhi*

### B. SELECTION CRITERIA FOR ADMISSION

The students will be shortlisted based on the merit of the marks obtained by the candidates in Class 10<sup>th</sup>, 12<sup>th</sup> & Engineering degree and or GATE 2015. Merit list of the eligible candidates will be declared in CBIP Web site. Admission shall be subject to strict verification of all the original testimonials/documents and depositing of the required fees (given in the brochure).

### C. TOTALSEATS

Total No. of seats for the program is **60** (provisional), 25% seats are reserved for candidates sponsored from Power utilities having more than one year experience with a minimum of 60% marks in Engineering. The seats of sponsored category can be filled by non-sponsored category and vice-versa depending on the position of vacant seats.

### D. AGE LIMIT

For the Non sponsored candidates maximum age limit as on **31/08/2015** is 27 years. However, there is no age limit for the sponsored candidates.

### E. SPONSORED CANDIDATES

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

### F. COURSE CHARGES

- **Admission Fee:**
  - a. **For Non-Sponsored candidates:** Rs. 1,95,000/- excluding the lodging & boarding (payable in 3 installments; 1st installment - Rs.70,000/- at the time of allotment of seat, 2nd Installment - Rs.70,000/- latest by 30<sup>th</sup> November, 2015 and 3<sup>rd</sup> Installment – Rs. 55,000/- latest by 28<sup>th</sup> February, 2016 )
  - b. **For sponsored candidates:** Rs. 2, 45,000/- (to be paid in full at the time of allotment of seat).
  - c. For Foreign nationals: US dollar 6,500/- (to be paid in full at the time of allotment of seat).
- **Caution Money:** An amount of Rs. 5000/- as security deposit which is refundable has to be deposited by the student at the time of admission.
- **Placement assistance Charges:** Rs. 2000/- (Non-refundable) only for non sponsored candidates
- **Placement Charges:** Rs.14, 000/- as placement charges (refundable if placement is not there) to be deposited after 6 months of starting of course. Only for non sponsored candidates
- **Lodging/Boarding:** CBIP has tied-up with local Guest Houses / Hostels. Accommodation will be made for lodging, boarding and transport (To and Fro) from guest house on nominal payment basis. The candidates who are interested to have accommodation may give option for the same. The accommodation shall be arranged for the candidates only if response is good. The accommodation charges will be as per actual.
- **Working Lunch & Tea:** The lunch and two times tea in the institute during the working days will be available approximately Rs.1700/- per month (compulsory). Exact amount shall be told at the time of admission

*The course fee may be paid in the form of demand draft drawn in favour of "CBIP, New Delhi".*

## **G. LOAN FACILITY**

The candidates who get confirmed admission and wish to avail loan from a Bank/Financial institute may also take a certificate from CBIP for availing the same.

## **HOW TO APPLY**

Application may please be submitted through CBIP website. The downloaded hard copy of the application form along with the demand draft of Rs. 400/- in favour of CBIP payable at New Delhi, should reach The Secretary, CBIP, (address given below) latest by 23/07/2015 with two passport size photographs. Candidates are advised to go through the brochure thoroughly before filling the form.

Points to be noted:

- a. All the future notifications/ information will be available on CBIP website. The candidates are advised to be regularly in touch with the website.
- b. Attach attested copies of proof of Date of birth, certificates / mark sheets of 10th / 12th / Degree issued by Registrar/controller of the concerned university.
- c. Application fee is non refundable.
- d. Applications after due date will not be accepted.
- e. Candidates are advised to book their tickets in advance to avoid any last moment inconvenience.

## **ADDRESS FOR COMMUNICATION**

The Secretary, CBIP, Malch Marg, Chanakyapuri, New Delhi-110021

Tel No: 011-26875017 / 26116567 / 24102437 / 09818737480 (Mr. S.K. Ghosh) / 09871718218 (Mr. Jaideep) / Fax: 011-26116347

E-mail: cbip@cbip.org / ghoshsk@cbip.org / jaideep@cbip.org

## **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.

## **OTHER EXPENSES**

The candidates have to bear charges against uniforms, safety shoes, safety helmets, bus facility. Travelling/lodging cost in case of outstation visits is to be borne by the students.

## **IMPORTANT DATES**

<b>SI. NO.</b>	<b>DESCRIPTION</b>	<b>DATES</b>
1	DATE OF ADVERTISEMENT IN EMPLOYMENT NEWS	23.05.2015
2	LAST DATE OF ONLINE APPLICATION	23.07.2015
3	LAST DATE OF RECEIVING HARD COPY THROUGH POST	03.08.2015
4	DECLARATION OF RESULT	05.08.2015
5	STARTING OF COURSE	31.08.2015



## **HOW TO REACH CBIP**

CBIP is located at Malcha Marg, adjacent to Malcha Market, Chanakypuri, New Delhi, which is around 15KM from New Delhi Railway Station and around 18KM from Delhi Domestic Airport.

## **HOW TO REACH CBIP CENTRE OF EXCELLENCE, PLOT NO-21, SECTOR-32, GURGAON, (TRAINING INSTITUTE)**

Gurgaon, is the second largest city in the Indian state of Haryana and is a part of the National Capital Region (NCR). It is about 15 Kilometers from IGI Airport, New Delhi. Gurgaon is well connected to Delhi via an expressway (NH8 highway) and Delhi Metro.