TRAINING BROCHURE

NABHA POWER LIMITED (2 X 700MW)
SUPERCRITICAL THERMAL POWER PLANT
TRAINING & DEVELOPMENT CENTRE

CONTACT

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Nabha Power Limited

ABOUT US

NPL is a wholly owned subsidiary of L&T Power Development Limited. NPL has been successfully operating 2X700 MW Super Critical Thermal Power Plant at Rajpura, Punjab since 2014.

Efficient and Reliable power from NPL forms the backbone of power supply to the state of Punjab.

In this age of globalization we have no option but to make a quantum leap in energy production.

NPL
Nabha Power Limited

VISION

To be the Center of Excellence for Training and Skill Development in Thermal Power Sectors.

MISSION

Enhancing human and organizational excellence in power sector by leveraging operational wisdom to impart knowledge and operational expertise to all power plant professionals.

VALUES

- Integrity
- Teamwork
- Pursue Excellence
- Committment

SERVICES

NPL offers comprehensive training on all technical systems, and all function areas, It also provides on-site and on-job technical training for personnel associated with Thermal Power plants.

NPL provides employees with excellent training environment

NPL provides trainees with excellent training environment to boost learning experience.

NPL
Nabha Power Limited

OFFERINGS

- Basic Training Program
- Intermediate Training Program
- Advanced training Program
- Customised Training Program
- Refresher Training Program

FACILITIES

- Residential Program
- Modern Accommodation
- Operations Health Center
- Recreation Rooms
- Weekend Tour to Chandigarh

WHY NPL?

- Nabha Power Limited (NPL) ought to be the first choice for getting trained for Simulator.
- NPL has been recognized at numerous trusted platforms.
- We offer hands on experience during training itself, which is one of its kind in Power Sector.

INDICES

Nabha Power Limited

Program	Category	Module Number	Module Name	Duration (Days)	SESSIONS
P-001	BASIC	M001	POWER PLANT FAMILIARIZATION	12	48
		M002	ENVIRONMENTAL MANAGEMENT & SAFETY ASPECT AT TPP	5	20
P-002	INTERMEDIATE	M003	POWER PLANT OPERATIONS	6	24
		M004	ELECTROSTATIC PRECIPITATOR	3	12
		M005	EFFICIENCY &PERFORMANCE MONITORING OF BOILER & AUXILIARIES	4	16
		M006	EFFICIENCY & PERFORMANCE MONITORING OF STEAM TURBINE & AUXILIARIES	3	12
		M007	CONTROL & INSTRUMENTATION	3	12
		M008	CHP OPERATIONS & MAINTENANCE	3	12
		M009	AHP OPERATIONS & MAINTENANCE	3	12
		M010	BOILER MAINTENANCE PRACTICES	6	24
		M011	STEAM TURBINE & GENERATOR MAINTENANCE PRACTICES	4	16
P-003	ADVANCED	M012	O&M of TURBINE & GENERATOR	6	22
		M013	BOILER OPERATION & CONTROL	5	20
		M014	POWER PLANT PERFORMANCE, EFFICIENCY & MONITORING	5	20
		M015	POWER PLANT PROTECTIONS	6	12
		M016	MAINTENANCE PLANNING & COST CONTROL	3	12
		M017	RELIABILITY CENTERED MAINTENANCE	3	6
		M018	POWER PLANT CHEMISTRY	4	16
P-004	SIMULATOR	M019	SIMULATOR TRAINING PROGRAM	6	12

BASIC TRAINING PROGRAM

VENUE: NPL
DURATION: 17 Days
Number of Sessions: 68

OBJECTIVE

- To train the engineers on specialized technical and functional areas of power plants, including the latest trends and innovations in super critical power plants

Nabha Power Limited

DESCRIPTION

Engineers are trained in new, advanced practices thereby upgrading the skills of the engineers to deal with the changing business needs

MODULES

- M001
- M002

WHO MAY ATTEND

- Newly recruited Power Plant Engineers
- Power Plant Supervisors
- Power Plant Engineers with experience up to 2 yrs
- Candidates aspiring to pursue career in Thermal Power Plants

M-001
POWER PLANT FAMILIARIZATION

VENUE: NPL
DURATION: 12 Days
Number of Sessions: 48

OBJECTIVE

- To enhance knowledge and skill of working Engineers and Supervisors in Power plant operations.
- To create technically trained manpower readily available for recruitment to the thermal power companies.

DETAILS

- Thermal Power Plant Working
- Boiler Functioning
- ESP & Ash Handling System
- Turbine Operations
- Cooling Tower Systems

METHODOLOGY

- Class Room Lectures
- Plant Visits
- Exposure to Actual Power Plant Operations
- Case Studies

WHO MAY ATTEND

- Newly recruited Power Plant Engineers
- Power Plant Supervisors
- Power Plant Engineers with experience up to 2 yrs
- Candidates aspiring to pursue career in Thermal Power Plants

M-002

ENVIRONMENTAL MANAGEMENT & SAFETY ASPECT AT THERMAL POWER PLANT

VENUE: NPL

DURATION: 5 Days

Number of Sessions: 20

OBJECTIVE

- To impart knowledge on installation, maintenance, and operation of ESPs and their control units

DETAILS

- FGD Technology for flue gas treatment
- Noise & Air pollution control legislation
- Fire Fighting System (Practical Demonstration)

METHODOLOGY

- Class Room Lectures
- Plant Visits
- Exposure to Actual Power Plant Operations
- Case Studies

WHO MAY ATTEND

- Newly recruited Power Plant Engineers
- Power Plant Supervisors
- Power Plant Engineers with experience up to 2 yrs
- Candidates aspiring to pursue career in Thermal Power Plants

INTERMEDIATE TRAINING PROGRAM

VENUE: NPL
DURATION: 35 Days
Number of Sessions: 140

OBJECTIVE

- To enrich the knowledge and upgrade the skills of power plant professionals to deal with the changing business requrements

DESCRIPTION

Engineers are trained in new, advanced systems introduced at NPL

MODULES

- M003
- M004
- M005
- M006
- M007
- M008
- M009
- M010
- M011

WHO MAY ATTEND

- Power Plant Engineers with experience from 2 to 5 yrs
- Power Plant Supervisors

M-003
POWER PLANT OPERATIONS

VENUE: NPL
DURATION: 6 Days
Number of Sessions: 24

OBJECTIVE

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

DETAILS

- Operational Dynamics of Thermal Power Plants
- Design & Operational challenges
- Fuel Characteristics
- Plant Load Variability

METHODOLOGY

- Class Room Lectures
- Exposure to Actual Power Plant Operations
- Case Studies

WHO MAY ATTEND

- Power Plant Engineers with experience from 2 to 5 yrs
- Power Plant Supervisors

M-004 ELECTROSTATIC PRECIPITATOR

VENUE: NPL
DURATION: 3 Days
Number of Sessions: 12

OBJECTIVE

- To impart knowledge on installation, maintenance, and operation of ESPs and their control units

DETAILS

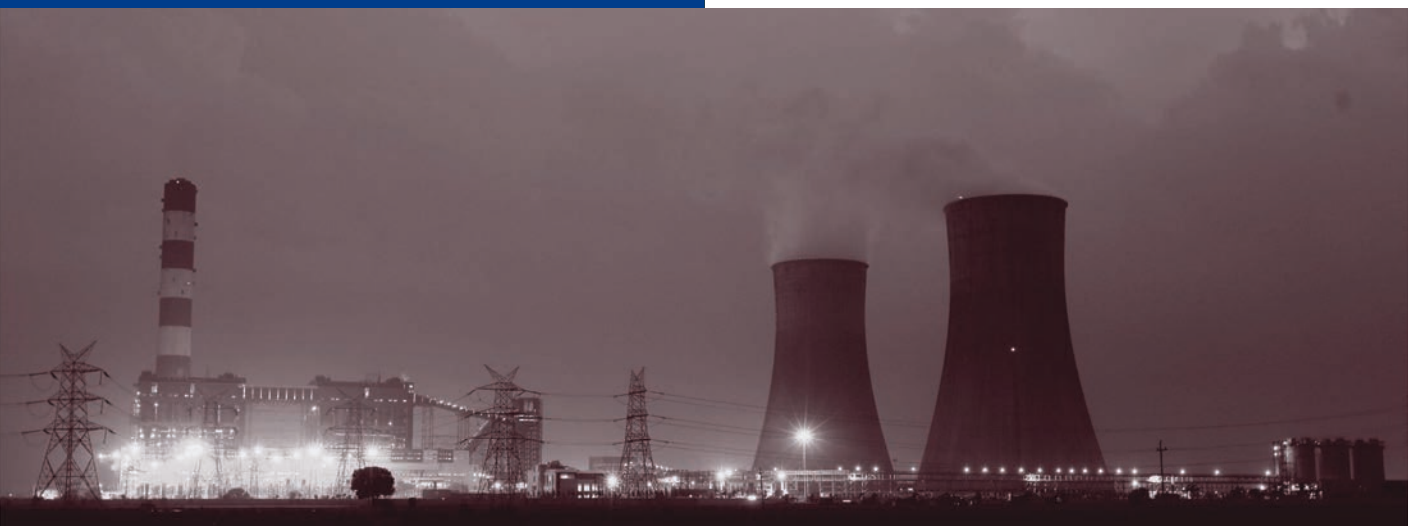
- Principles of construction and functioning of ESP
- Installation, Operation & Maintenance of ESP
- Efficiency & Performance of ESP

METHODOLOGY

- Class Room Lectures
- Plant Visits
- Exposure to Actual Power Plant ESP Operations
- Case Studies

WHO MAY ATTEND

- Power Plant Engineers with experience from 2 to 5 yrs
- Power Plant Supervisors



M-005

EFFICIENCY & PERFORMANCE MONITORING OF BOILER & AUXILIARIES

VENUE: NPL

DURATION: 4 Days

Number of Sessions: 16

OBJECTIVE

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

DETAILS

- Description of Boiler Components
- Working principle, function and classification of Boilers
- Function & Working of Boiler Auxiliaries

METHODOLOGY

- Class Room Lectures
- Exposure to Actual Power Plant Operations
- Case Studies

WHO MAY ATTEND

- Power Plant Engineers with experience from 2 to 5 yrs
- Power Plant Supervisors

M-006

EFFICIENCY & PERFORMANCE MONITORING OF STEAM TURBINE & AUXILIARIES

VENUE: NPL

DURATION: 3 Days

Number of Sessions: 12

OBJECTIVE

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

DETAILS

- Description of Turbine Components
- Function & Working of Turbine & Its Auxiliaries

METHODOLOGY

- Class Room Lectures
- Exposure to Actual Power Plant Operations
- Case Studies

WHO MAY ATTEND

- Power Plant Engineers with experience from 2 to 5 yrs
- Power Plant Supervisors

M-007
CONTROL & INSTRUMENTATION

VENUE: NPL

DURATION: 3 Days

Number of Sessions: 12

OBJECTIVE

- To acquaint trainees with working principles of various instruments & process parameters.

DETAILS

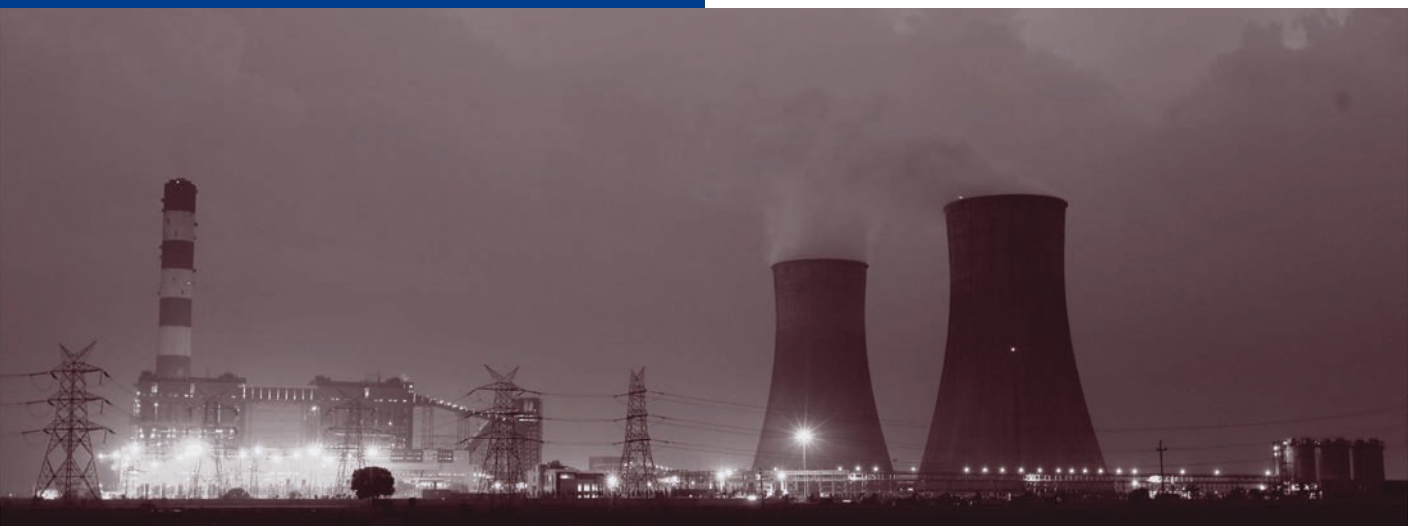
- Layout of C&I systems in thermal power plants
- Turbovisory Instrumentation Concepts
- Latest Technology in C&I

METHODOLOGY

- Class Room Lectures
- Exposure to C&I Systems
- Case Studies

WHO MAY ATTEND

- Power Plant Engineers with experience from 2 to 5 yrs
- Power Plant Supervisors



M-008
CHP OPERATIONS & MAINTENANCE

VENUE: NPL

DURATION: 3 Days

Number of Sessions: 12

OBJECTIVE

- To familiarize the participants with the Coal Handling Plant operations and maintenance practices

DETAILS

- Safety Aspects
- CHP Layouts
- Main Equipment & Systems
- Storage & Reclamation Aspects

METHODOLOGY

- Class Room Lectures
- Plant Visits
- Group Discussions
- Case Studies

WHO MAY ATTEND

- Power Plant Engineers with experience from 2 to 5 yrs
- Power Plant Supervisors

OBJECTIVE

- To familiarize the participants with the Ash Handling Plant operations and maintenance practices

M-009
AHP OPERATIONS & MAINTENANCE

VENUE: NPL

DURATION: 3 Days

Number of Sessions: 12

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Nabha Power Limited

DETAILS

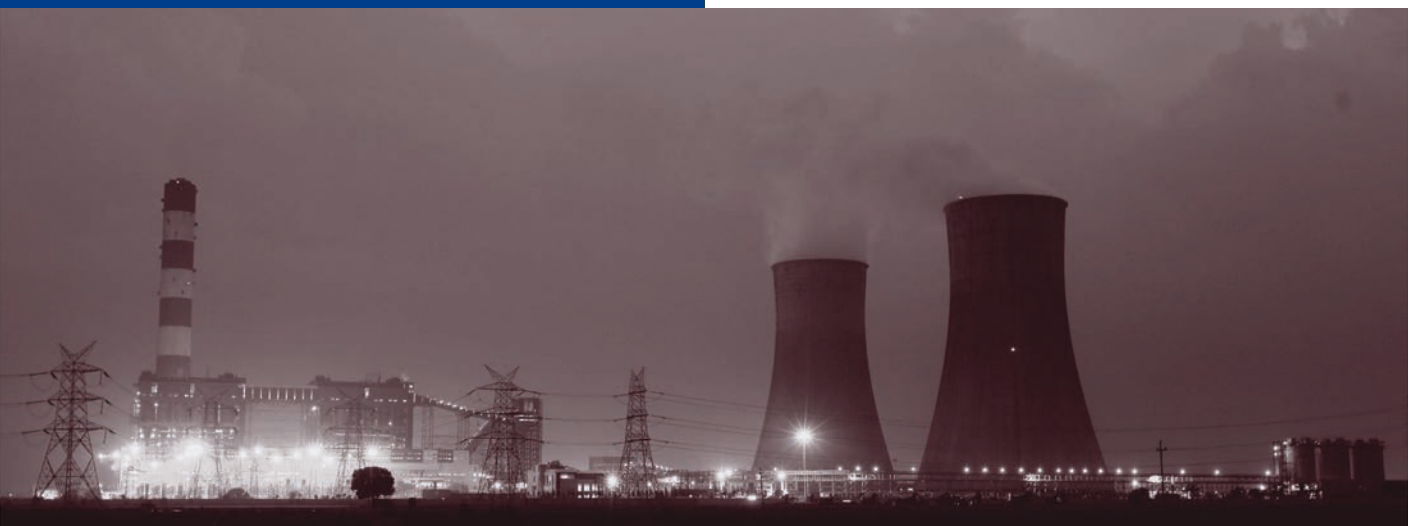
- Safety Aspects
- AHP Layouts
- Main Equipment & Systems
- Ash Utilization & Disposal
- Storage & Reclamation Aspects

METHODOLOGY

- Class Room Lectures
- Plant Visits
- Group Discussions
- Case Studies

WHO MAY ATTEND

- Power Plant Engineers with experience from 2 to 5 yrs
- Power Plant Supervisors



M-010
BOILER MAINTENANCE PRACTICES

VENUE: NPL

DURATION: 6 Days

Number of Sessions: 24

OBJECTIVE

- To impart knowledge to the participants in various Maintenance Aspects of Boilers

DETAILS

- Fans, RAPH, Coal Mills & Windbox Maintenance and Troubleshooting
- Weld Defects by NDT
- Best Boiler Maint. Practices at NPL

METHODOLOGY

- Class Room Lectures
- Plant Visits
- Group Discussions
- Case Studies

WHO MAY ATTEND

- Power Plant Engineers with experience from 2 to 5 yrs
- Power Plant Supervisors

M-011

STEAM TURBINE & GENERATOR MAINTENANCE PRACTICES

OBJECTIVE

- To impart knowledge to the participants in various Maintenance Aspects of Steam Turbine & Generator

VENUE: NPL
DURATION: 4 Days
Number of Sessions: 16

DETAILS

- Oil System & Coolers Inspection & Maintenance
- TDBFP, Condenser Tube Inspection & Maintenance
- Stator & Rotor Maintenance

METHODOLOGY

- Class Room Lectures
- Plant Visits
- Group Discussions
- Case Studies

WHO MAY ATTEND

- Power Plant Engineers with experience from 2 to 5 yrs
- Power Plant Supervisors

ADVANCED TRAINING PROGRAM

VENUE: NPL
DURATION: 32 Days
Number of Sessions: 108

OBJECTIVE

- To lay a strong foundation of knowledge and proficiency to enable the trainees to effectively handle their responsibilities in the respective functional or business areas

Nabha Power Limited

DESCRIPTION

These programmes impart in-depth theoretical and practical knowledge in various functional areas in thermal power plants

MODULES

- M012
- M013
- M014
- M015
- M016
- M017
- M018

WHO MAY ATTEND

- Power Plant Engineers and Supervisors targeting to develop core competence in specific areas
- Power plant engineers and supervisors with more than 5yrs experience

M-012
O&M OF TURBINE & GENERATOR

VENUE: NPL
DURATION: 6 Days
Number of Sessions: 22

OBJECTIVE

- To provide in depth knowledge and technical know how in turbine and generators
- To enhance the knowledge and skill of working Thermal Power Plant Professionals.

DETAILS

- Working of MHI Steam Turbine
- MHI Generator Functioning
- Turbine Protection System
- Generator Protection System

METHODOLOGY

- Class Room Lectures
- Plant Visits
- Exposure to Actual Power Plant Operations
- Case Studies

WHO MAY ATTEND

- Power plant engineers and supervisors with more than 5yrs experience
- Candidates targeting to develop area specific expertise

OBJECTIVE

- To enhance knowledge and skill of working Engineers and Supervisors in Power plant operations.
- To familiarize the participants with safe and efficient operation of super critical boilers and its auxiliaries.

M-013
BOILER OPERATION & CONTROL

VENUE: NPL
DURATION: 5 Days
Number of Sessions: 20

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DETAILS

- Super-critical Boiler Design
- Boiler O&M
- Fuel Management System
- Firing Systems & Startup Modes
- Control Loops & Protections

METHODOLOGY

- Class Room Lectures
- Plant Visits
- Exposure to Actual Power Plant Operations
- Case Studies

WHO MAY ATTEND

- Power plant engineers and supervisors with more than 5yrs experience
- Candidates targeting to develop area specific expertise

M-014
POWER PLANT PERFORMANCE, EFFICIENY & MONITORING

VENUE: NPL
DURATION: 5 Days
Number of Sessions: 20

OBJECTIVE

- To acquaint the participants with the latest techniques of monitoring and testing of unit performance, analysing data and suggesting ways and means for performance improvement.

DETAILS

- Boiler Performance Optimization
- Boiler Efficiency Calculation
- Air Heaters
- Turbine Heat Rate Calculations
- Auxiliary Power Consumption

METHODOLOGY

- Class Room Lectures
- Plant Visits
- Exposure to Actual Power Plant Operations
- Case Studies

WHO MAY ATTEND

- Power plant engineers and supervisors with more than 5yrs experience
- Candidates targeting to develop area specific expertise

M-015
POWER PLANT PROTECTIONS

VENUE: NPL
DURATION: 6 Days
Number of Sessions: 12

OBJECTIVE

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

DETAILS

- Fault Analysis
- Protection of Distribution Systems
- Turbine Protection
- Generator Protection
- Feeder and Bus Bar Protection

METHODOLOGY

- Class Room Lectures
- Plant Visits
- Exposure to Actual Power Plant Operations
- Case Studies

WHO MAY ATTEND

- Engineers from Electricity Board
- Candidates targeting to develop area specific expertise
- Power plant engineers and supervisors with more than 5yrs experience

M-016 MAINTENANCE PLANNING & COST CONTROL

VENUE: NPL

DURATION: 3 Days

Number of Sessions: 12

OBJECTIVE

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

DETAILS

- Aims & Objectives of efficient maintenance
- Preventive Maintenance
- AOH planning

METHODOLOGY

- Class Room Lectures
- Group Discussions
- Case Studies

WHO MAY ATTEND

- Power Sector Professionals
- Power plant engineers and supervisors with more than 5yrs experience

M-017 RELIABILITY CENTERED MAINTENANCE

VENUE: NPL

DURATION: 3 Days

Number of Sessions: 6

OBJECTIVE

- To impart a thorough knowledge of the latest developments in Maintenance Practices
- To enhance the conventional maintenance skill of engineers

DETAILS

- Maintenance road map & strategies
- RCM Concepts
- FMEA sheet Generation

METHODOLOGY

- Class Room Lectures
- Group Discussions
- Case Studies

WHO MAY ATTEND

- Power Sector Professionals
- Power plant engineers and supervisors with more than 5yrs experience

M-018
POWER PLANT CHEMISTRY

VENUE: NPL
DURATION: 4 Days
Number of Sessions: 16

OBJECTIVE

- To provide understanding and knowledge on various techniques of chemical controls and their effect on plant-performance

DETAILS

- Basic Chemistry involved
- DM Plant Functioning
- ET & RO Plant Operations
- Boiler Chemistry

METHODOLOGY

- Class Room Lectures
- Plant Visits
- Group Discussions
- Case Studies

WHO MAY ATTEND

- Power Sector Professionals
- Power plant engineers and supervisors with more than 5yrs experience

M-019 SIMULATOR TRAINING PROGRAM

VENUE: NPL
DURATION: 6 Days
Number of Sessions: 12

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

DETAILS

- Thermal Power Plant Operation
- Plant Start up & Shut Down
- Modes of Boiler operations
- Modes of Turbine operations

METHODOLOGY

- Class Room Lectures
- Simulator Training
- Exposure to Actual Power Plant Operations
- Case Studies - Malfunctions

WHO MAY ATTEND

- Newly recruited Power Plant Engineers
- Power Plant Supervisors and engineers who need hands on experience to operate supercritical power plant

REFRESHER TRAINING PROGRAM

VENUE: NPL

OBJECTIVE

- To recapitulate and recall the previously acquired skills and knowledge

NPL
Nabha Power Limited

DESCRIPTION

These programmes are designed for the experienced employees of the organization with a purpose to acquaint them with new skills and methods

MODULES

Sr.No.	Category	Module Name	Duration
1	REFRESHER	Basic	3
2		Intermediate	5
3		Advanced	7

WHO MAY ATTEND

- This can be opted for the participants those who have already enrolled for the respective categories in the past

CUSTOMISED TRAINING PROGRAM

VENUE: NPL
DURATION: Min. 6 Days
Number of Sessions: As Requested

OBJECTIVE

- To design, develop customized Tailor Made Induction Programs as per requirement for the batch of Graduate Engineers, Diploma and Experienced Engineers & Supervisors from Power & Process industries

NPL
Nabha Power Limited

DESCRIPTION

These programmes are designed to meet the specific requirements of the participants.

MODULES

- Based on preference of the participants

WHO MAY ATTEND

- Newly recruited Power Plant Engineers
- Experienced Power Plant Supervisors and Engineers