

Tata Power Skill Development Institute - Mundra



TPSDI

TATA POWER

SKILL DEVELOPMENT INSTITUTE

Power Skills for Life

A Tata Power CSR Initiative

About TPSDI

Tata Power Company is India's largest integrated power company with a presence across all the segments of the power sector - Generation (thermal, hydro, solar, and wind), Transmission, Distribution, Fuel Security and Logistics, and Power Trading. Tata Power has been lighting up lives in the nation for over a hundred years. In 2015, its centenary year of operations, Tata Power, true to the Tata Group philosophy of giving back to the society a significant portion of its earnings, launched the **Tata Power Skill Development Institute** as a non-profit corporate social responsibility initiative under the **Tata Power Community Development Trust**.

TPSDI is mandated to provide modular training and certification in power sector and allied skills leading to employability and advancement. TPSDI harnesses the rich experience of Tata Power employees to bring **"Power Skills for Life!"** to prepare youth and others for the huge opportunities coming up in the power sector in the country. TPSDI - Mundra is the fourth integrated training hub established by TPSDI across India. TPSDI - Shahad (Center of Excellence for Power System Skills) and TPSDI - Trombay (Center for Excellence Power Plant Skills), both in Maharashtra, and TPSDI - Maithon, in Jharkhand, are the other three TPSDI training hubs.

TPSDI - Mundra

TPSDI - Mundra is within the sprawling 1305 hectare site of Coastal Gujarat Power Limited (CGPL), Tata Power's wholly-owned subsidiary. The institute located on the Tunda - Vandh Road, south of Tunda village in Mundra taluka, in Kutch district of Gujarat. TPSDI - Mundra is well connected - approximately 6 Kms from SH-6 and 15 Kms from NH-8A. TPSDI - Mundra is a **Centre for Power Sector and**



Allied Skills with the extensive space and the infrastructure needed to conduct courses across the whole range of Electrical, Mechanical, and other skills. Considering the objective of building employability skills in the youth, TPSDI - Mundra would also offer various other employability skills to meet local needs and address industry requirement.

Centre for Fitter Skills

Centre for Rigging Skills

Centre for Electrician Skills

Centre for Solar Photovoltaic Skills

Centre for Allied Electrical and Mechanical Skills

Centre for Industrial Safety Skills

Centre for Other Employability Skills



Training Infrastructure and Facilities at TPSDI - Mundra

- Well-equipped Mechanical and Electrical laboratories for hands-on experience
- Workshop practice with Bench Fitting, Drilling, Grinding, and other equipment
- Basic Rigging training facilities
- Scaffolding - Safe Erection and Dismantling training facilities
- Allied Electrical Skills like Wiring - Domestic and Industrial, Motor Repair & Rewinding, Power Meter Installation, etc.
- Solar PV Facilities - Roof Top solar installation and maintenance and Solar PV pump set installation and maintenance skills
- Safety, Health and Environment - training facilities to train people on Working at Heights, Confined Space Entry, Electrical Safety, Fire Safety, Lock Out and Tag Out (LOTO), Permit To Work (PTW) etc.
- Fully-equipped classrooms with HD projectors
- Fully-equipped Computer Lab for IT-enabled learning
- Power plant experts with vast experience as instructors and demonstrators for guided learning and mentoring
- Library and Reference Books to supplement classroom teaching and other methods of learning

Site Visit for On-The-Job Learning:

- Thermal Power Plant
- Electrical Switchyard & Power Plant, Electrical Maintenance Setup
- Power Plant Mechanical Maintenance, Coal Handling System, Steam Generating System, Turbine and Auxiliaries, etc.

The following facilities at TPSDI - Mundra make it a complete training centre:

- Canteen
- Emergency Medical Services

TPSDI - Mundra Training Offerings

Technical Helper - Mechanical



What the Course Covers

- Fundamentals of various Power Plant equipment
- Basics of industrial safety, health, and environment
- Exposure to
 - ◆ Different types of hand tools
 - ◆ Bench fitting practices
 - ◆ Different types of Rigging equipment and tools
 - ◆ Power Transmission Equipment e.g. Gears, Belts & Pulleys, Chain and Sprocket, Shafts and Couplings
 - ◆ Bearings, Seals and Lubricants
 - ◆ Valves and packings
- 5S - Safe cleaning and storing of tools and equipment

Course Outcome: Successful trainees shall be able to work, under supervision, on various routine mechanical jobs by supporting fitters or riggers

Assistant Fitter



What the Course Covers

- Basics of various Power Plant equipment
- Basics of industrial safety, health, and environment
- Basic skilling on
 - ◆ Use of different types of Hand Tools
 - ◆ Bench fitting practices
 - ◆ Different types of Rigging equipment & tools
 - ◆ Power Transmission Equipment e.g. Gears & Gear Drives, Belt & Pulley Drives, Chain & Sprocket Drives, Shafts & Couplings
 - ◆ Rolling contact Bearings, Seals and Lubricants
 - ◆ Low pressure Valves maintenance and packings
 - ◆ Single-stage Centrifugal Pump maintenance

Course Outcome: *Successful trainees shall be able to work, under supervision, as an Assistant Fitter assisting a Fitter/Senior Fitter*

Mill-Wright Fitter



What the Course Covers

- Power Plant equipment
- Industrial safety, health, and environment
- Skilling on
 - ◆ Hand tools and precision bench fitting practices

- ◆ Different types of Rigging equipment and tools
- ◆ Maintenance of Power Transmission equipment
- ◆ Alignment of shafts, gears
- ◆ Rolling and Sliding contact Bearings, Seals and Lubricants
- ◆ High pressure Valves maintenance and packings
- ◆ Multi-stage Centrifugal Pump maintenance

Course Outcome: *Successful trainees shall be able to work on maintaining, under supervision, basic equipment in a power plant*

Rigger



What the Course Covers

- Industrial safety, health, and environment
- Common engineering and rigging terms
- Wire rope terms, configuration, lay, strengths, inspection criteria, common uses
- Various types of slings and their uses
- Various devices used in rigging, safety, uses and inspection criteria
- Types of cranes and their safety features, uses
- Hand signals for crane operations used during rigging
- Communication set up for safe lifting operations
- Hazard identification for lifting operations
- Lifting and lowering for safe rigging operations

Course Outcome: *Successful trainees shall be able to work, under supervision, as Riggers and should be able to rig and direct load to destination*

Domestic Wireman



What the Course Covers

- Basics of electricity
- AC and DC Circuits
- Types of conductors, sizes, and usage
- Wiring principles and methods, drawing and using electric circuits for various kinds of house and industrial uses like power, lighting, appliances, etc.
- Laying of single phase and three phase electric circuits
- Hands-on learning of various types of conduits, casing and capping, concealed wiring, etc.
- Hands-on learning on mounting and dismounting of various electrical accessories and fixtures and connection - switches, lights, etc.
- Laying circuits for telecommunication, cable TV, CCTV, fire alarm system, etc.
- Installation, repair and maintenance of geysers, fans, iron, & other modern appliances
- Installation and connection of electrical protections like fuse, RCCB, MCB, earthing system, etc.
- Installation, repair, and maintenance of distribution transformer, switch gear, feeder pillar and distribution boards, AC, DC drives, motors, pumps, contactors and starters
- Installation and maintenance of battery, battery chargers, invertors, and UPS
- Installation and wiring of single-phase and three-phase energy meters
- Testing and trouble shooting
- Safety practices including Lock Out Tag Out (LOTO) and Permit to Work (PTW) procedures for cable jointing & termination
- Fire safety procedures applicable to cable storing, jointing termination
- Identifying and using tools and tackles and their inspection, upkeep and maintenance

Course Outcome: Successful trainees should be able to work as a wireman under supervision

Industrial Electrician



What the Course Covers

- Installation, repair and maintenance of AC, DC drives, starters, contactors
- Single phase and 3 phase motors
- Installation and maintenance of battery, battery chargers, invertors and UPS
- 3 phase industrial wiring, installation of 3 phase energy meters including earthing
- Testing and trouble shooting
- Safety practices including Lock Out Tag Out (LOTO) and Permit to Work (PTW)
- Regulatory norms and practices

Course Outcome: Successful trainees should be able to work as an Industrial Electrician under supervision

Solar Power and Pump Technician



What the Course Covers

- Solar Photovoltaic (PV) cells and their uses
- Connection and maintenance of solar panels for off-grid and grid connection
- Connection and maintenance of PV batteries
- Install off-grid and on-grid inverters
- Install solar-powered pumps
- Marking and labelling different components of PV and pump systems
- Identifying and rectifying installation errors
- Identifying and troubleshooting problems in PV and pump systems
- Monitor, clean and maintain PV and pump Systems
- Install and maintain solar home and street lighting

Course Outcome: Successful trainees should be able to work as a Solar Power and Pump Technician under supervision

Solar Power and Pump Installer



What the Course Covers

- Solar Photovoltaic (PV) cells and their uses
- Installation, connection and maintenance of solar panels for off-grid and grid connection
- Installation, connection and maintenance of PV batteries
- Installation of off-grid, on-grid and hybrid inverters
- Install solar-powered pumps
- Identifying location for PV installation
- Zero-defect installation
- Marking and labelling different components of PV and pump system
- Identifying and rectifying installation errors
- Identifying and troubleshooting problems in PV and pump systems
- Monitor, clean and maintain PV and pump systems
- Install and maintain solar home and street lighting
- Overview of designing a PV System

Course Outcome: Successful trainees should be able to work as a Solar Power and Pump Installer under supervision

Safety Courses



TPSDI - Mundra conducts various specialized training courses in the area of safety. These courses enable people to work safely and responsibly. TPSDI's safety training covers a variety of possible safety scenarios and roles in the power industry.

Safety Training at TPSDI - Mundra Covers the Following Areas

- Safety basics - personal protective equipment (PPE), Job Safety Analysis (JSA), Hazard Identification Risk Assessment (HIRA), Emergency preparedness
- Occupational health and safety
- Confined Space Entry and Shoring and Sloping
- Working at Heights including Safe Scaffolding
- Safety in use of Electricity
- Lock Out and Tag Out (LOTO) and Permit to Work (PTW)
- Fire hazards, fire protection and life support
- Safety in use of Hand Tools and Power Tools
- Material Handling and Safety
- Mobile Crane Rigging and Slings Safety

The safety modules can be administered separately or together.

C o n t a c t T P S D I

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