



## CENTRAL POWER RESEARCH INSTITUTE INDIA

**Central Power Research Institute (CPRI)** was established by the Government of India in 1960. It is a Premier Institute undertaking applied Research in electrical engineering besides functioning as an Independent National Testing and Certification authority for electrical equipment. It became an Autonomous Society in the year 1978 under the aegis of the Ministry of Power, Government of India. The Institute has offered its services for more than five decades to the Power Sector.

### Activities of CPRI :

- Applied Research in Electrical Power Engineering
- Testing & Certification of Power Equipment
- Consultancy and Field testing services to Power Utilities and Industry
- Third Party Inspection and Vendor Analysis
- Organising Customized Training programs for Utilities and Industries

The headquarters of the Institute is in Bangalore and its Units are located at Bhopal, Hyderabad, Nagpur, Noida, Kolkata and Guwahati. The Bhopal Unit has exclusive facilities for Testing Transformers and Switchgears. The Unit at Hyderabad focuses on Ultra High Voltage Research and evaluation while Unit at Nagpur offers consultancy to solve problems faced by the Thermal Power sector. The Unit at Noida has facilities for testing Low and Medium Voltage equipment and caters to the requirement of Northern region. The Units at Kolkata and Guwahati, have facilities for testing Transformer oil.

### Accreditations :

- ISO/IEC 17025 : 2017 accredited by National Accreditation Board for Testing and Calibration Laboratories (NABL) - Traceable to international bodies like International Laboratory Accreditation Co-operation (ILAC) and Asia Pacific Laboratory Accreditation Co-operation (APLAC)
- Bureau of Indian Standards (BIS)
- Intertek - ASTA, UK
- ISO 9001 Certification for Research and Consultancy activities



2500MVA Short Circuit Generator

### Credentials :

- Member of the Short Circuit Testing Liaison (STL)
- Corporate member on DLMS UA (Device Language Message Specification User Association) and UCA IUG (Utility Communication Architecture International User Group)

- Approved by INMETRO Brazil as a third party testing laboratory for Brazil Energy Labeling Program on transformers.
- Approved by Electricity & Water Authority (EWA), Kingdom of Bahrain - Electricity Distribution Directorate (EDD) as an Independent Testing and Certification Body
- Association with Underwriters Laboratories (UL) for testing of LV equipment
- Association with TUV Rheinland India Pvt. Ltd. for testing and certification



100 kV, 300 kJ Impulse Current Generator

### Research & Development :

CPRI promotes applied Research leading to technology development in Power Sector. With the State-of-the-art infrastructure, CPRI has been carrying out R&D in the areas of electrical Power Generation, Transmission and Distribution in the endeavor to assist the Power Utilities to supply reliable, uninterrupted, safe and quality power to the consumers at affordable cost. The Center for Collaborative & Advanced Research (CCAR) has been established with the aim of creating a conducive environment for collaborative research between R&D Institutions, Industry and Academia. The various R&D Schemes of CPRI are:

- In-House R&D (IHRD)
- Research Schemes on Power (RSoP)
- Research Project under National Perspective Plan (NPP)

CPRI also coordinates and monitors Uchhatar Avishkar Yojana (UAY) and Impacting Research Innovation and Technology (IMPRINT) under MHRD.



Solar Lighting Products Testing



# PROFILE

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### Testing and Evaluation :

CPRI has built up expertise to cater to the entire gamut of services required by Power Sector covering Generation, Transmission and Distribution under one roof. CPRI houses unique facilities for evaluation of EHV/UHV equipment going into the 800kV/1200kV system. Test facilities have been created for:

- High Power Short Circuit testing of Transformers / Switchgear
- Transmission line Tower & Accessories
- Power Cables, Capacitors
- Material characterization including CRGO
- Insulators & Lightning Arresters
- Vibration Studies
- Relays, Energymeters and Smart Meters
- Refrigerators and Air Conditioners
- Domestic appliances including LED and SPV Lighting Systems

The Institute has expertise for Seismic Qualification of electrical equipment, Real Time Digital Simulator for Power Systems Studies and Communication Protocol for Power System Automation.

### Consultancy Services :

CPRI offers consultancy in the areas of:

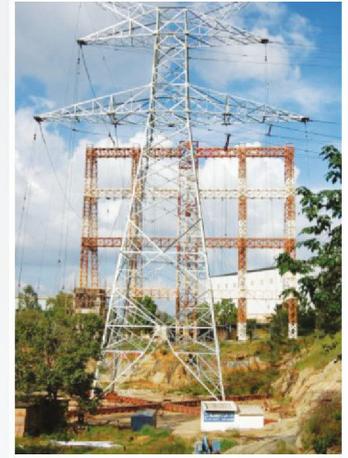
- Diagnostic & Condition Monitoring of HV substation and Power plant electrical equipment, Site testing of Transformer oil
- Power System Studies, Real Time Simulation of Power System Controls, Protection Audit - Generating stations and substations, Grid integration of Renewables - Wind and Solar, Power Quality Studies - Harmonic Filter design, Protection coordination studies / Equipment setting calculations
- RLA and R&M of Thermal & Hydro Power Plants, Failure analysis of industrial and plant components, Performance assessment of coal mills and cooling towers, In-situ oxide scale



Energymeter Testing



2.4MV, 240kJ Impulse Generator



Tower Testing

measurement in Super Heater and Re-heater tubes, Non-destructive evaluation of Thermal Power Station plant equipment, Corrosion mapping of water wall tubes of Boilers

- Energy Efficiency Services like Energy Audit, Fuel Audit of Thermal Power Stations, training services in Plant Optimization for Thermal Power Stations
- Power System Automation / Distribution Automation, Smart Grid
- The Institute offers Third Party Inspection Services and Vendor Assessment for Utilities. CPRI is also offering its services for programmes initiated by Government of India

### Training :

CPRI has been in the forefront for disseminating the knowledge assimilated by way of in-house Research through organising Technical Programmes. The training modules are designed to comprehensively address the specific needs of the power sector Utilities which has benefitted a large number of personnel from Electrical Utilities and Industries.

### Services for Overseas Customers :

CPRI has been addressing the electrical equipment testing requirements of Overseas countries like Nepal, Bhutan, Bangladesh, Myanmar, Thailand, Malaysia, Indonesia, Sri Lanka, Korea, Japan, UK etc. Besides the Certification, Consultancy and Training services are also utilized by the Utilities and Industries of countries in Middle East, South East & Far East Asia and Africa. Today, CPRI services are being sought by countries like USA, Europe, Australia, New Zealand and various other countries.

## Central Power Research Institute

Prof. Sir. C. V. Raman Road, Sadashivanagar P.O., P. B. No. 8066, Bangalore - 560 080, Karnataka, India

Tel : +91-80-2207 2210, 2207 2213, 2207 2208, Fax : +91-80-2360 1213

Email : shyamsundar@cpri.in / kamalasar@cpri.in / ramdas@cpri.in

Website : www.cpri.in

