July - September 2025

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VIDYUT ANUSANDHAN SAMACHAR

QUARTERLY NEWSLETTER

CENTRAL POWER RESEARCH INSTITUTE

(Ministry of Power, Govt. of India)

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Compiled and Edited by Business Development Division

ABOUT CPRI

Central Power Research Institute (CPRI) was established by the Government of India in 1960. It became an Autonomous Society in the year 1978 under the aegis of the Ministry of Power, Government of India. For the last six decades, CPRI has been rendering dedicated service to the Power Sector.

Over the years, CPRI has developed expertise in Generation, Transmission, Distribution Systems and established world-class facilities for research and testing in the areas of High Voltage, High Power, Short Circuit, Power Capacitors, Power Cables, Solar PV, Smart Metering & AMI, Power System Studies, Energy Studies, Tower Design, Vibration Studies, Seismic Performance, Liquid Dielectrics, Diagnostics, Condition Monitoring, Cybersecurity, Smart Grid Systems, Energy Storage, RLA studies and development of newer materials for Power Sector.

Activities of CPRI:

- Applied Research in Power Systems Engineering.
- Independent Third-Party National Laboratory for Testing & Certification
- Consultancy & Field-Testing Services
- Third Party Witnessing & Specialized Training

DIRECTOR GENERAL's MESSAGE

It gives me immense pleasure to accept responsibility of Director General of CPRI and thank the Ministry for the same. I also take the opportunity to convey my best compliments to former DG Shri. Asit Singh for having steered the organization effectively with significant achievements to his credit during his tenure.

It also gives me pleasure to place before you the issue of 'Vidyut Anusandhan Samachar' for the quarter July - September 2025. The period marks remarkable progress with regard to organizing the Annual Customer Meet 2025 and inauguration of New Regional Unit at Nashik, Maharashtra. CPRI received 'Swacchta Pakhwada 2025' award from the Secretary, Ministry of Power, Govt. of India.

I wish all the best to the CPRI employees for their continued daily efforts in upholding the goals and mission of CPRI.

Dr. J. Sreedevi
Director General, CPRI

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IN THE NEWS

Inauguration of New CPRI Regional Unit at Nashik, Maharashtra.

CPRI has established its new Regional Testing Laboratory at Nashik on 10th September 2025. Shri Manohar Lal Khattar, Honourable Minister of Power and Minister of Housing & Urban Affairs, Government of India along with Shri Devendra Fadnavis, Honourable Chief Minister of Maharashtra, inaugurated the CPRI Nashik Unit. Shri Manohar Lal Khattar, Honourable Minister of Power, emphasized the critical role of CPRI testing laboratories in ensuring the safety, reliability, and quality of power sector equipment. He also highlighted that every state requires access to such advanced testing infrastructure to support industrial growth and secure power supply.

Shri Devendra Fadnavis, Honourable Chief Minister of Maharashtra, highlighted Nashik's emergence as a key hub for port-led development. He attributed this growth to improve connectivity through the Jawaharlal Nehru Port Trust (JNPT), Nagpur-Mumbai Samruddhi Expressway, and planned 105 km multimodal freight corridor connecting Nashik with the Vadhvan Port. He emphasized that the new testing laboratory will not only save time and cost for electric equipment manufacturers by eliminating the need to send their products to Hyderabad or Bhopal for testing and certification but will also benefit the entire electric industry across Maharashtra.

Shri Asit Singh, DG, CPRI extended a warm welcome to Shri Manohar Lal Khattar, Honourable Union Minister of Power and Minister of Housing & Urban Affairs, and Shri Devendra Fadnavis, Honourable Chief Minister of Maharashtra and all dignitaries. In his address, he highlighted the strategic significance of the new CPRI Nashik Unit in supporting the power and electrical equipment industry in the western region, its state-of-the-art facilities, and its role in promoting quality, efficiency, and innovation in testing and research. He also acknowledged the support of the Ministry of Power and the State Government of Maharashtra in realizing this important initiative.

Test facility at CPRI Nashik:

- 1500 MVA On Line Short Circuit Testing Laboratory – Transformers up to 10 MVA 33 kV class (HV).
- Routine & Temperature Rise Test facility - Transformers up to 10 MVA 33 kV class (HV)
- Impulse Voltage test facility for 800kV, 80 KJ - Transformers up to 10 MVA 33 kV class (HV) and other equipment up to 132 kV

The Honourable Power Minister (GoI) and Chief Minister, Maharashtra visited the lab at CPRI Nashik.

- Energy Meter Test Laboratory - Type and Acceptance test on conventional and Smart Energy Meters
- EMI/EMC Laboratory - Type test on Conventional & Smart Energy Meters and Other equipment- up to 200 A

Annual Customer Meet 2025

Business Development Division has organized the Annual Customer Meet 2025 (ACM 2025) on 4th September 2025 at CPRI, Bengaluru. The event was well-attended, with 152 customers. CPRI was proud to present the Valued Customer Award 2025 to thirteen customers, including several overseas clients, as a gesture of appreciation for their partnership.

Shri. V.K. Singh, Member, Power System, CEA, graced the occasion as the Chief Guest and delivered an insightful keynote address. The event was officially opened by the Director General, CPRI setting a positive tone for the day. Dr. M.G. Anandakumar, JD & HOD, BD&CBSD, presented an overview of CPRI's activities and achievements. Senior officers from various CPRI laboratories and units presented details on new testing facilities, showcasing the institute's continued investment in enhancing technical capabilities.

The ACM 2025 provided an invaluable platform for engaging with our customers and reinforcing their faith in our capabilities. The positive feedback and strong attendance reflect the division's successful efforts in promoting relationships.

Valued Customer Awardees

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RESEARCH HIGHLIGHTS

Key Research Highlights

- Dr. Samir Kumar Nath, JD (R&DM) attended One-Day Conference on Collaborative R&D initiatives between the Power Sector, Lead Academic Institutes of Madhya Pradesh, and CPRI organised by M.P. Power Management Co. Ltd. (MPPMCL), Bhopal on 03.07.2025. The conference was chaired by Addl. Chief Secretary (Energy), GoMP and co-chaired by Managing Director, MPPMCL. Many delegates from IIT Indore, IIM Indore, MANIT Bhopal, MPERC, MPPMCL, MP DISCOMS attended the programme. Dr. Nath made a presentation in the conference about CPRI and possible collaborative R&D with MPPMCL.
- The R&D Management Division co-ordinated with VTU and conducted a colloquium seminar on 25.09.2025. Shri. Shivakumar V, Part-Time Ph.D. Research Scholar, registered in VTU Research Centre at CPRI, delivered his presentation as part of the research progress review.
- A special meeting of Sub-Group-1 under the National Mission on Use of Biomass in Thermal Power Plants (SAMARTH) was organised by R&D Management Division on 26.08.2025 to review the project proposal titled “Developing an Effective Protocol to Mitigate Foaming in the Flue Gas Desulfurization (FGD) Absorber Unit Due to Biomass Co-firing in Thermal Plants”.
- The 20th meeting of the Technical Committee on Grid, Distribution & Energy Conservation Research was conducted on 20th September 2025 via video conferencing. The meeting was attended by representatives from the Central Electricity Authority (CEA), Central Power Research Institute (CPRI), Ministry of New and Renewable Energy (MNRE).
- The 20th meeting of the Technical Committee on Thermal Research was conducted on 16th September 2025 via video conferencing. The meeting was attended by representatives from the Central Electricity Authority (CEA), Central Power Research Institute (CPRI), Office of Mission Directorate of SAMARTH,NTPC-NETRA.

Field visit under evaluation of PSDF project

- Power System Development Fund (PSDF) is a Government of India corpus to strengthen the national power system supporting grid reliability, transmission upgrades, ancillary services, capacity-building, and applied R&D. The Ministry of Power (MoP) entrusted CPRI with an independent evaluation of the PSDF scheme, and the assignment has been successfully completed. CPRI’s review combined desk analysis of sanction and completion works in consultation with stakeholder and selective field verification to assess how well PSDF-funded works met objectives, timelines, and cost norms.

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TECHNICAL SPOTLIGHT

Special Test

Cables & Diagnostics Division, CPRI Bengaluru has carried out Thermal endurance tests on materials as per IEC 60216 was performed for the first time for M/s. Yamuna Densons on Anti Tracking, Insulating and Stress Control Tubes. The test was a long duration test lasting for approximately 7000h involving periodic measurements of tensile strength, elongation at break and dielectric strength. The test involved use of three different ageing temperatures. The data collected was subjected to mathematical analysis following the Arrhenius equation for thermal degradation. The material constants were evaluated and the temperature index (TI) and halving interval (HIC) of the material was arrived it.

First Time Test

- Mechanical Engineering Division, CPRI Bengaluru has carried out Vibration / Fatigue test on 400kV Composite Insulated Cross Arm for the first time in India. The Frequency: 12.5 to 14.5 Hz, Amplitude: 8.30 to 12.30 mm peak to peak, No. of cycles: 10 million cycles. The Conductor used for the test is ACSR Twin Moose, Tension in the conductor bundle:

80.6kN (25 % of UTS). The test sample, Insulator was manufactured by Deccan Enterprises Pvt. Ltd., Hyderabad and Hardware was manufactured by M/s. Mosdorfer India Pvt. Ltd., Nashik. The end user for the product will be M/s. Power Grid Corporation of India Ltd., Gurgaon.

- Switchgear Testing & Development Station, CPRI, Bhopal has carried out Temperature rise Test on 20/28 MVA, 33/11kV, Power Transformer of M/s. Tesla Transformers India Ltd., Bhopal for the first time in CPRI Bhopal lab.

- Switchgear Testing & Development Station, CPRI, Bhopal has carried out Temperature rise test on 33kV Compact Substation of M/s. Siemens Ltd., for the first time at CPRI, Bhopal lab.

New Test Facility:

- Switchgear Testing & Development Station (STDS), CPRI, Bhopal has carried out Radiated Emission Test in 3M Semi anechoic chamber as per IS 16444(Part1) and CISPR 32 standard for frequency range from 30MHz to 6GHz on Smart Energy meter first time in EMTL,CPRI,Bhopal for M/s Capital Power Systems Pvt Ltd, Noida.

OVERSEAS CUSTOMERS

Testing for overseas customers

CPRI is rendering testing services to many overseas customers. Few of the services rendered are listed below:

- **Ultra-High Voltage Research Laboratory, CPRI, Hyderabad** has carried out tests on 400 kV, 160kN single suspension insulator string was conducted for M/s. IAC Electrical Pvt. Ltd. Kolkata. The test was witnessed by Mr. Savvas Katemliadis, Head of Branch, Quality Control and Contact Management from M/s. IPTO, Athens, Greece

- **Mechanical Engineering Division, CPRI, Bengaluru** has carried out Tower testing of 132kV DG Tension tower type DD (30-60') was conducted for M/s. Nepal Electricity Authority. The test was witnessed by Mr. Pranil Parajuli and Mr. Anup Guatam M/s. NEA, Nepal

- **High Voltage Division, CPRI, Bengaluru** has carried out Lightning Impulse test on 17.5kV,8300A Line & Neutral Cubicle Panel of M/s. Vee Vee Controls Pvt. Ltd., Bengaluru. The test was witnessed by Mr. Milan Duser from M/s. Doosan Skoda Power and Mr. Melichar Radak from M/s. ETD Transformtory, Czech Republic.

- **Switchgear Testing & Development Station (STDS), CPRI, Bhopal** has carried out test on TS II+III & TS I on ACB & MCCB for M/s. ABB India Ltd., Bengaluru. The test was witnessed by Mr. Carlo Ghisalberti from M/s. ABB, Italy

- **Earthquake Vibration Research Centre, CPRI, Bengaluru** has carried out Seismic test on 172 kV, 1250A condenser type resin impregnated paper bushing for M/s. Massa Izolyator Mehru Private Limited., Russia.

- **Earthquake Vibration Research Centre, CPRI, Bengaluru** has carried out Seismic test on 420 kV, 1000A condenser type resin impregnated paper bushing for M/s. Massa Izolyator Mehru Private Limited., Russia

- Mr. Davide Valsecchi, Ms. Viviana Scandelli and Ms. Valentina Bocchi of ABB Italy along with team of ABB, Bengaluru had visited Ingress protection (IP) testing Lab, EATD on 07th August, 2025. Shri. Venkatesh. D, Engineering Officer-3 had briefed about the IP test facility viz IP 11 to IP 69 feasible with CPRI and also demonstrated the tests to the visitors. The team ABB Italy and Bengaluru have appreciated the facility available in CPRI and assured to use the test facility to test their product. The team have expressed their gratitude towards the fruitful brief and demonstration.

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INDUSTRY TRENDS

Technical Article

Star Rated Transformers: Enhancing Energy Efficiency and Sustainability

Abstract

Transformers are critical components in electrical power systems, converting voltage levels and facilitating the efficient transmission of electricity. The increasing demand for energy efficiency and sustainability in power systems has led to the introduction of star-rated transformers, which adhere to standards established by various regulatory bodies to promote energy conservation. This paper examines the technical design, operational advantages, and energy-saving potential of star- rated transformers. We also explore the regulatory frameworks and the role of advanced materials and manufacturing techniques in enhancing transformer efficiency.

Keywords

Star-rated transformers, energy efficiency, power loss reduction, sustainability, regulatory standards, transformer design.

I. INTRODUCTION

Transformers are essential to the operation of electrical grids, transferring electrical energy between circuits by increasing or decreasing voltage levels. Given the continuous operation of transformers, even small efficiency improvements lead to substantial energy savings over time. The increasing global emphasis on energy conservation has introduced star-rated transformers, designed to minimize energy losses. Star ratings indicate the efficiency of transformers, helping to reduce both environmental impact and operational costs.

In this, we review the technical aspects of star- rated transformers, including their design, performance characteristics, and the regulatory standards that govern them. The environmental and economic benefits of adopting energy- efficient transformers are also highlighted.

II. TRANSFORMER LOSSES AND EFFICIENCY

Transformers exhibit two primary types of losses:

No-load losses (core losses): These arise from hysteresis and eddy currents in the core, occurring even when the transformer is not supplying load.

Load losses (copper losses): These result from the resistance in the windings and increase as the load increases.

Star-rated transformers minimize these losses through enhanced design and material usage, leading to improved overall efficiency and reduced operational costs.

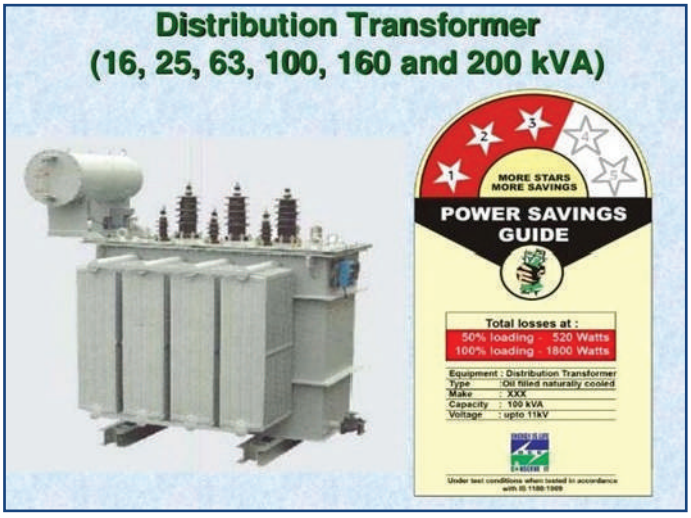
III. STAR RATING SYSTEM

Transformers are rated based on their efficiency under specific conditions, according to standards set by various regulatory bodies.

A. Bureau of Energy Efficiency (BEE) Standards

In India, the Bureau of Energy Efficiency (BEE) assigns star ratings to transformers, ranging from energy efficiency level 1 to energy efficiency level 5. The rating is based on the maximum allowable losses at 50% and 100% load. A energy efficiency level

5 transformer exhibits significantly reduced energy losses compared to lower-energy efficiancy level transformers.



BEE Star Rating Label for Distribution Transformer

B. U.S. Department of Energy (DOE) Standards

The U.S. Department of Energy (DOE) defines minimum efficiency levels for transformers. These standards are revised periodically to account for technological advances, and transformers are tested under standardized conditions to receive a star rating.

The DOE's 2016 regulations set the efficiency standard for transformers at 98.70–99.55%, which was an increase from the 2010 standards of 98.36–99.49%. The DOE also recently published a final rule that establishes amended standards for distribution transformers.

C. International Electro technical Commission (IEC) Standards

The International Electrotechnical Commission (IEC) has established global benchmarks for transformer efficiency through its standards, which include:

IEC 60076 the main standard for power transformers, covering construction, performance, testing, insulation, cooling, and noise levels. IEC 60076-20 standard that covers the energy performance of medium power transformers.

IV. DESIGN IMPROVEMENTS IN STAR-RATED TRANSFORMERS

Achieving high efficiency in star-rated transformers requires several innovations in their design and materials:

A. Core Materials

The transformer core significantly influences efficiency. High-grade silicon steel and amorphous metal cores are utilized to reduce no-load losses. Amorphous metal cores, for instance, exhibit lower magnetic hysteresis losses, resulting in reduced energy consumption.

B. Winding Techniques

Advanced winding techniques using low-resistance copper or aluminum conductors reduce load losses. Optimizing winding geometry enhances heat dissipation, further improving efficiency.

C. Insulation and Cooling Systems

Improved insulation materials and cooling systems maintain transformers at optimal operating temperatures, reducing thermal stress and energy losses.

D. Advanced Manufacturing

Precision manufacturing processes, such as automated core and winding

assembly, ensure minimal gaps in the magnetic circuit and tighter tolerances, which contribute to reduced losses and increased efficiency.

V. IMPACT ON POWER SYSTEMS

The adoption of star-rated transformers brings multiple benefits to the power grid and the environment:

A. Reduced Energy Losses

Star-rated transformers significantly lower energy losses during transmission and distribution, leading to lower electricity costs for end-users and reduced operational costs for utility companies.

B. Enhanced Grid Reliability

Improved transformer efficiency results in more stable voltage regulation and less strain on the grid, reducing the likelihood of power outages and enhancing the reliability of power systems.

C. Environmental Benefits

Energy-efficient transformers reduce carbon emissions by lowering the overall energy demand of the grid. They contribute to global efforts to combat climate change by enabling more sustainable power distribution systems.

VI. REGULATORY FRAMEWORK AND COMPLIANCE

Regulatory standards ensure that transformers meet minimum efficiency and performance requirements. Compliance is critical for manufacturers and utilities alike.

A. Testing and Certification

Star-rated transformers must undergo rigorous testing to ensure they meet specified efficiency standards. For instance, standards such as IEC 60076, IEEE C57.12, and BEE guidelines outline the procedures for measuring efficiency and energy losses under standard conditions.

B. Global Standards

Countries around the world have implemented energy efficiency standards for transformers. For example, India's BEE recomends that the minimum level losses against each energy efficiency level, utility will decide which level they have to purchase, while the European Union enforces Eco Design regulations to ensure transformers meet minimum efficiency levels.

VII. CASE STUDIES AND FIELD PERFORMANCE

Field studies of star-rated transformers have demonstrated significant energy savings and operational improvements. In India, for instance, the adoption of 5-star rated transformers has led to a 15-20% reduction in energy losses. Similarly, in the U.S., utilities using DOE-compliant high-efficiency transformers have reported millions of dollars in annual savings.

VIII. FUTURE TRENDS IN TRANSFORMER EFFICIENCY

Future advancements in transformer efficiency are expected to develop from new materials, digital monitoring, and integration with renewable energy systems.

A. Smart Transformers

Smart transformers are capable of adjusting voltage levels in real-time based on grid conditions.

B. Renewable Energy Integration

As the world moves toward renewable energy sources, efficient transformers will play a critical role in integrating distributed energy resources (DERs) such as solar and wind power into the grid, further reducing carbon footprints.

IX. Conclusion

Star-rated transformers are an essential component of modern power distribution systems, offering significant energy savings and environmental benefits. Their advanced designs, materials, and adherence to strict regulatory standards ensure that they contribute to the global push for sustainable energy use. As new technologies emerge, the efficiency of transformers will continue to improve, further enhancing the reliability and sustainability of the power grid.

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LEGACY DESK

Diagnostic testing and condition assessment of high-voltage generators

Diagnostic testing of high-voltage (HV) generators is essential for ensuring insulation integrity, reliability, safety, and operational efficiency of power systems. Regular testing helps to identify problems associated with different components before they escalate into major failures, which can have severe technical and economic consequences. This proactive approach, which includes predictive maintenance, allows identification of potential problems that may eventually lead to costly breakdowns, downtime, and safety hazards.

CPRI is fully equipped with facilities for conducting appropriate on-site diagnostic tests on the HV generators. The Diagnostic Laboratory of CPRI has been offering field engineering services, such as diagnostic testing of generators and consultancy services to most of the power stations (hydro, turbo & nuclear) in India over the last three decades. The Following Tables provide a list of the diagnostic tests as per the National and International standards.

View of testing of Hydro generator

The important components that have a direct bearing on the operational reliability and life of the machine are:

1. Stator winding
2. Stator core
3. Rotor winding

The stator winding is the most important and expensive part of the generator, where full power is generated. The life of the stator is affected by one or more combinations of various stresses like electrical, thermal, mechanical and environmental at any point in time during operation of the machine. In addition to these stresses, the stator insulation is also subjected to unforeseen stresses during transient over-voltage conditions. Steep fronted over-voltages generated during switching actions and system faults propagate through the winding and have deleterious effects on the insulation. Since the mechanical stresses are relatively higher in turbo generators, many of the stator winding failures are mechanically induced electrical failures. Some of the degradation processes include loosening of wedges and coils, slot and end winding discharges, erosion of stress grading and corona shielding coatings, de-lamination of insulation, de-bonding of copper from insulation and the like.

Excessive mechanical forces and vibrations during normal operation of the generator may cause abrasion of inter laminar insulation that may eventually lead to shorts between adjacent laminations. It cause eddy currents to be induced by the rotating magnetic flux. These currents can produce dangerous local overheating/hot spots in the damaged areas of the core. The hot spots may lead to premature failure of the stator winding insulation.

Dominating ageing stresses acting on the rotor winding insulation are thermal and mechanical stresses. Electrical stresses are relatively lower to cause ageing of the insulation. Thermal stresses are due the winding current and mechanical stresses are due the centrifugal forces. Thermal expansion and contraction of the copper conductors and insulation cause abrasion of the insulation. Environmental stresses such as moisture, oil and abrasive materials cause electrical tracking.

ELCID testing on Turbo generator stator core

Table-1

Sl. No.	Tests on stator	Significance
1	Insulation Resistance/ Polarization test	Index of dryness of insulation
2	Tangent delta & Capacitance test	Dielectric losses in insulation
3	DC leakage current test	Inhomogeneities/ discontinuities in the overhang portion
4	Partial discharge test	Internal partial discharge, slot & end winding discharges

Table 2

Sl. No.	Tests on Stator Core	Significance
1	Electromagnetic Core Imperfection Detector (ELCID)	Inter-laminar shorts Hot spots in the Core

Table 3

Sl. No	Tests on Rotor	Significance
1	Insulation Resistance/ Polarization test	Index of dryness of insulation, ground fault
2	Winding Resistance test	Inter turn short, broken conductor
3	Pole voltage drop test	Inter turn short
4	Recurring surge oscillogram test	Inter turn short, broken conductor, speed-dependent fault

View of Rotor testing

Author:
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Additional Director (Retd.), CPRI

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EXHIBITION

EPS Expo Exhibition 2025, Ahmedabad

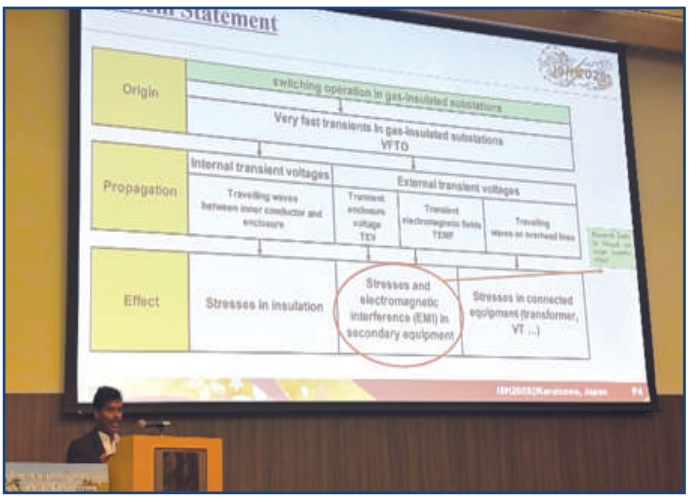
Central Power Research Institute (CPRI) participated in EPS EXPO 2025 Exhibition organised by A and A Media Group (Industrial Outlook) during 12th to 14th September 2025 at Gujarat University Convention & Exhibition Centre, Ahmedabad, Gujarat.

CPRI has showcased its test facilities at exhibition. CPRI officers from BD&CBD, Bengaluru were deputed for managing the CPRI stall at exhibition. The event has provided an excellent opportunity to highlight the CPRI strength in testing and certification of electrical equipment. The visitors from industries, manufacturers, utilities, educational institutions etc., visited our stall and discussed about ranges of test facilities and services. Dr. M.G.Anandakumar, Joint Director & HoD, Business Development Division has presented the CPRI test facilities and credentials to the distinguished gathering.

CONFERENCE/SEMINAR/WORKSHOP/ TRAINING

➢ Shri. K. Urukundu, Engineering Officer, was deputed to attend the 24th International Symposium on High Voltage Engineering (ISH) held from 24th to 29th August 2025 at Karuizawa, Japan. The conference was organized by the University of Tokyo in association with the IEEE Dielectrics and Electrical Insulation Society (DEIS).

The officer presented research findings on the topic "Mitigation Strategies for Reducing Very Fast Front Transient Overvoltage Impact on Intelligent Protection Systems in 420 kV Gas-Insulated Substations." The work received accolades from various experts in the field of High Voltage Engineering, particularly from university professors, manufacturers, utilities, and CIGRE committee experts.



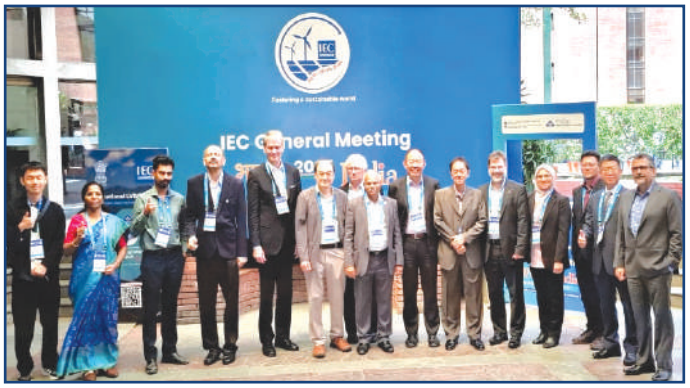
Presentation of research findings during the session by CPRI Official

The symposium provided insights into advanced research areas in High Voltage Engineering at the global level. It offered in-depth knowledge on various domains such as SF_6-free technologies, advanced insulation systems, condition monitoring, transient over

voltages, space charge phenomena, high-voltage measurements, HVDC systems, and more.

➢ Shri B.A. Sawale, DG CPRI(retd), Dr J Sreedevi, AD & HoD, Shri Ved Prakash Yadav, Engineering Officer-2, Shri K. Marimuthu, Engineering Officer-2, Shri Pola Soma Sekhar Reddy, Engineering Officer-1 and Gaurav Gupta Engineering Officer-1 have attended one day workshop on "Energy Internet at IISc, Challakere Campus" on 17.07.2025 as part of the RSOP project "Development of Energy Internet Based Next Generation Smart Grid". Importance of Energy Internet & Important Outcomes, Specifications for the project work and implementation are discussed in the work shop.

➢ Dr J Sreedevi, AD & HoD being a Principal Member of BIS ETD-40 attend the 'IEC TC115 -HVDC transmission for DC voltages above 100kV Plenary and working groups meetings" during 11.9.2025 to 12.9.2025 at New Delhi.



Protection Audit

Power Systems Division carried out the Protection Audit of 13 substations of Meghalaya Power transmission corporation Ltd.

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EVENTS

Independence Day Celebrations

CPRI celebrated the 79th Independence Day on August 15, 2025, with the Director General hoisting the National Flag at Headquarters in Bengaluru. Celebrations were also held at other units of CPRI across the country.

Director General, CPRI addressing the gathering

Flag hoisting at CRTL, Bengaluru

Flag hoisting at UHVRL, Hyderabad

➢ Swacchta Pakhwada 2025

Certificate of Appreciation was awarded by the Ministry of Power, Govt. of India, to CPRI recognizing the commendable performance during observance of Swacchta Pakhwada 2025. Shri. Asit Singh, Director General, CPRI and Shri. Suryanarayana K, Joint Director, CED & Nodal Officer, Swacchta Pakhwada 2025, CPRI received the award from the Secretary, Ministry of Power, Govt. of India, at the award function held at the Ministry of Power, New Delhi on 29th September 2025.

DG CPRI received the award from Secretary, MoP

➢ Voluntary Blood Donation

'National Voluntary Blood Donation Day' is observed across the country on 1st of October to create awareness on the importance of the blood donation by individuals. National Voluntary Blood Donation Day was observed at CPRI, Bengaluru on 23rd September 2025. Employees & Contract Employees including women employees also voluntarily donated the blood.

➢ Hindi Workshop on AI

A Workshop on "Kantasth and Various AI-based Translation Tools" was organized on 09.09.2025 at the CCAR Auditorium. The workshop was conducted exclusively for Directors, Additional Directors and Joint Directors. The session was delivered by Dr. S. N. Mahesh, Assistant Director, Centre for Artificial Intelligence and Robotics (CAIR), DRDO, Bengaluru.

In view of the forthcoming Parliamentary Committee's inspection on Official Language, the speaker provided a comprehensive overview of the Parliamentary Inspection and emphasized the role of Heads of Divisions and Sections in promoting the progressive use of Hindi in official work. He highlighted the importance of adhering to Official Language (OL) policies and further elaborated on the use of Kantasth, explaining how this tool can assist everyone in effectively contributing to the implementation of the Official Language Hindi in the office. It was indeed a highly insightful and thought-provoking session.

Parliamentary Committee's Inspection

The Second Subcommittee of the Committee of Parliament on Official Language, under the Chairmanship of Honourable Shri Ujjwal Raman Singh along with esteemed Members conducted an Inspection meeting with Central Power Research Institute (CPRI), Bengaluru on Thursday, 25th September 2025.

During the visit, the Committee reviewed the progress of the Official Language (Hindi) implementation in the Institute. The Inspection was carried out in the presence of Senior Officials (Rajbhasha) from the Ministry of Power, the Director General and other senior officers of CPRI. The Committee expressed satisfaction with the efforts undertaken by CPRI in promoting and implementing Official Language.

Director General receiving the Certificate from Honorable Chairman and Esteemed Members of the Committee.

➢ UHV Research Laboratory, CPRI, Hyderabad

Successfully commissioned 66 kW capacity rooftop solar project under Prime Minister Surya Ghar Yojana on 24th July 2025. The project was executed by NVVN. Shri K.Devender Rao, Additional Director & Unit Head has inaugurated the project connecting the solar system to grid. UHVRL Group Head, Shri. N. Raj Kumar, JD& HoD of QAD and in charge of implementation of solar system in CPRI were present online during commissioning. UHVRL team members were present during commissioning.

Rooftop solar project at UHVRL, CPRI Hyderabad

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Power Research – A Journal of CPRI is a biannual publication by the Central Power Research Institute, Bangalore, India. The journal focuses on research and innovative applications in the generation, transmission, distribution, utilization, and conservation of electric power within the power and energy sectors. It serves as a platform for technical and managerial professionals across utilities, R&D institutions, planners, industries, and academia.

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