Short Circuit Test on 100 MVA, 220/132 KV Auto Transformer
Hearty greetings to all!

It gives us great pleasure and happiness to be awarded yet again, the prestigious Indira Gandhi Rajbhasha Award for the year 2010-11. The H’ble President of India Shri. Pranab Mukherjee gave away the award on 14th September 2012 on the occasion of Hindi Divas.

We have reached another milestone in successfully carrying out short circuit test on 100MVA, 220/132kV auto transformer. This is the highest rating of transformer tested within India so far, which was hitherto done either at KEMA, Netherlands or CESI, Italy.

In time to come as we are moving towards smarter grid - Electric vehicles are going to play a major role in reduction of carbon footprint. In our quest for a green campus, we have introduced electric vehicles in the campus that would be ultimately configured to give back energy to the grid.

Among the plethora of training programs and conferences, the IEEE 10th International Conference on Properties and Application of Dielectric Materials (ICPADM) stands out.

It’s gratifying to see many clients from countries like Afghanistan, Thailand, Malaysia, and Sri Lanka utilize our evaluation facilities. This is only a small step in our dream to turn CPRI into a truly international laboratory, and we will keep innovating in this quest and request support and feedback from our stake holders.

N. Murugesan, Director General
dgcpri@cpri.in
SHORT CIRCUIT TEST ON 100MVA, 220/132KV AUTO TRANSFORMER

The High Power Laboratory (HPL) of CPRI, Bangalore has created a record in the history of CPRI and India on 24 August 2012 by successfully carrying out a short circuit test on 100 MVA, 220/132 kV auto transformer for M/s Kanohar Electricals Ltd, Meerut. This is the highest rating of a transformer tested within India so far. Earlier, manufacturers performed transformers rating at KEMA, Netherlands or CESI, Italy. The next target transformer to be short circuit tested at HPL is 160 MVA, which is likely to be taken up in the near future.

The augmentation of an existing bus bar system and switch yard is under way after which the capability of the laboratory to test 400 kV transformers will go up to 120 MVA, 3-phase.

Foreign Visit
Deputation to Australia

Dr P Thomas, Joint Director, CPRI, Bangalore was deputed to Australia from 1 July 2012 to 5 July 2012 to participate in a UNIDO mission to assess the plasma technology at the works of M/s Plascon facility in Brisbane, Australia.
In our endeavor towards Smart Grids, CPRI has procured two electric vehicles that can be charged with photo-voltaic modules. In case of a grid failure or requirement, the vehicles can give back power to the grid. CPRI has a sprawling campus of about 120 acres and various laboratories situated in different locations. These vehicles are a boon for moving around the campus, making CPRI campus a green campus. It is also a process to reduce the carbon footprint. These vehicles also fulfill a long-time request from our clients. The Director General of CPRI inaugurated the shuttle service of the electric vehicles in the campus.

Non-Polluting Vehicle Service Started

On 2 July 2012, Shri N Murugesan, Director General and a team of senior officers - Shri B H Narayana, Additional Director; Dr S Sentharamu, Additional Director and Dr R Ramesh Babu, Additional Director visited different Tehsils in and around Nagpur (M.S.) to inspect the land for relocation of Thermal Research Centre (TRC). The team visited sites at Kaldongri, Maligaon, Godhni and Chicholi. After completing inspection of the sites, the team had a meeting with the Divisional Commissioner of Nagpur. The Director General appraised the circumstances leading to the relocation of the Nagpur unit of TRC. He also explained the need for a large enough land as the objective is to have a large unit with expanded activities in research and evaluation.
CPRI organized an international conference on Emerging Trends and Challenges in Transformer Technology from 13 September 2012 to 14 September 2012 at Scope Complex, New Delhi. The conference was attended by more than 350 delegates, including senior executives of the major public utilities, equipment manufacturers, academic and research institutions from India and abroad. The conference was inaugurated by the chief guest Shri A S Bakshi, Chairperson, CEA. Shri Manoranjan Kumar, Economic Advisor, Ministry of Power was the guest of honor. In his welcome address, Shri N Murugesan, Director General, CPRI invited all the guests and delegates. He explained the positive role played by CPRI in the improvement of quality of transformers manufactured in the country. He expressed his happiness about the overwhelming response from utilities and manufacturers to the conference.

The chief guest, in his inaugural speech, urged that the transformer industry, utilities and academic institutions should come together to find a solution to improve the quality of transformers. He also emphasized on reducing transmission losses by adopting advanced technologies. Shri Manoranjan Kumar advised all to find a suitable solution to the problems faced by power utilities. He expressed his concern about the manpower in utilities and emphasized the need for infusing the younger generation for building a future generation of power system operators. He also stressed the need for electricity supply to all at an affordable price. Shri B V Raghavaiah, Additional Director, CPRI delivered the vote of thanks. He expressed his gratitude to all the dignitaries for their warm response.
International Conference on Emerging Trends and Challenges in Transformer Technology (Contd.)

Delegates at the Conference

Around 53 technical papers were presented in the conference focusing on new and future technologies of transformer technology. Altogether, eight sessions were conducted including design, manufacturing, quality, testing, installation, commissioning, conditioning, monitoring, diagnostic tests, operation, maintenance and field experience. Separate sessions for bushings, tap changers and academic sides were also provided. The papers published were well appreciated by the participants. The conference activities were reported in the leading newspapers in New Delhi and Bhopal. The feedback received from the delegates was rated very good. The participants further requested for such conferences in the future too.

DG CPRI with Delegates

In the concluding session, eminent guests shared their views and Shri N Murugesan, Director General, CPRI delivered the concluding remark. He also thanked the dignitaries for their advice on improving transformer technology.

Health Seminar

A health seminar on neurology and stroke diseases led by Dr Hariram Acharya, Senior Neurologist, Narayana Hridayalaya, was organized on 21 September 2012 for the staff. The seminar was followed by a very informative interaction and discussion.
Hindi Month Celebrations

CPR observed Hindi Month starting on 31 August 2012. Ten separate competitions were organized for employees proficient in Hindi and those with working knowledge in Hindi. Hindi Divas was celebrated on 21 September 2012 and three prizes were given for each competition. Awards were given for working in Hindi under incentive schemes, and for technical articles in Hindi, which was open to all central government organizations in Bangalore.

Hindi Week in TRC - CPRI, Koradi

Hindi week was celebrated at Thermal Research Centre (TRC) - CPRI, Koradi from 8 September 2012 to 14 September 2012. Shri B H Narayana, Additional Director and Unit Head inaugurated the celebration by lighting the lamp. In the inaugural lecture, he requested the staff and officers of TRC to work in Hindi. During the week, all employees participated in various competitions with great enthusiasm. At the end of the week, prizes were distributed to the winners in the competitions.

121st Birth Anniversary of Dr B R Ambedkar

The 121st Birth Anniversary of Dr. B.R. Ambedkar was celebrated in the institute on 6th September 2012. The Chief guest of this function was Dr. Banjagere Jayaprakash a Kannada writer and literature reviewer who delivered a talk on current social status in the perspective of ambedkar’s view. Shri N.Murugesan, Director General, CPR presided over the function. On this august occasion, the management of CPR distributed Dr. B.R. Ambedkar Merit Awards to the children of CPR employees who topped in the 10th and 12th standard examinations under different schemes during the year 2011-12.
IEEE 10th International Conference on Properties and Application of Dielectric Materials

The 10th ICPADM, the International Conference on the Properties and Applications of Dielectric Materials was held in Bangalore, on July 24-28, 2012. The Conference was hosted by the Central Power Research Institute (CPRI) Bangalore with the following Institute members playing a dominant role in the conference organization:

Mr. N. Murugesan, Director General, CPRI & Conference Chair,
Dr. Seetharamu, Conference Co-Chair,
Dr. R.S. Shivakumara Aradhya, Conference Co-Chair & Technical Chair
Mr. B. Nageshwar Rao, Finance Chair
Dr. N. Vasudev, Publication Chair
Dr. M. Shekhar Kumar, Secretariat Chair
Dr. P. Sampath Kumar, Member
Dr. H.N. Nagamani, Member
Mrs. S. Ganga, Member
Dr. C. Viswanatha, member
Mr. K. Mallikarjunappa, member

The total delegates for the conference were 156 of which 44 were overseas delegates representing China, Japan, UK, Australia, USA, Canada, Germany, Italy, Romania, Poland, Indonesia and Switzerland. The pre-conference tutorial program was held on July 24, 2012 covering the topics of Nano-Dielectrics, Outdoor Insulation and Insulation Aspects of Power System Components with 80 participants. The ICPADM 2012 commenced with a formal inauguration by Mr. D.N. Narasimha Raju IAS, Principal Secretary, Energy Department, Government of Karnataka, India on July 24, 2012 which was followed by the addresses of Dr. Harry Orton and Prof. Len Dissado. Mr. N. Murugesan presided over the function. This was followed by a welcome dinner. In the inaugural speech, Mr. Narasimha Raju stressed the need for improved infrastructure within the Indian Power Sector and further he remarked that the ICPADM 2012 is a very timely event for India for this reason.

The technical program started with Ziyu Liu Memorial Lecture delivered by Dr. Keith Nelson, Professor Emeritus at the Rensselaer Polytechnic Institute, NY, USA followed by other plenary presentation by invited speakers.

The contributory papers presented in various technical sessions comprised a good mix of various topics and were of a high technical standard. It was pleasing to note that there were a large number of student papers presented by different Universities and by young engineers from the industry, which were well recognized and appreciated. Finally, a total of 129 papers were presented in the conference 60 papers from abroad and 69 from India. Among the 60 papers presented from overseas countries, 41 papers were from China.

On the final day, a concluding session was held on July 27, 2012 with a panel discussion on “Future of Dielectrics” chaired by Mr. N. Murugesan, Director General, CPRI and steered by Dr. Harry Orton, Canada. The panelists were Dr. Keith Nelson, USA, Dr. Tatsuki Okamoto and Dr. Yoshimichi Ohki, Japan, Dr. Toan Phung, Australia and Dr. Zheng Xioquan. Each panelist gave a five minute dissertation on their views of what holds for the future of dielectrics. The following question and discussion session saw lively audience participation.

CPRI organized an R & D Expo of Indian industry from July 24-26, 2012 coinciding with ICPADM 2012. This included exhibition by nine major industries of their latest products & interaction with R & D institutions, Academicians and Industry personnel.
Training on Switchgear Testing

Mr. J Santhosh, Joint Director - CPRI, Bangalore trained engineers of M/s TNBR Utility, Kuala Lumpur, Malaysia on switchgear testing during 3 July 2012 to 4 July 2012.

Training Program on Enhancing Distribution System Management Skills

The training division of CPRI, Bangalore organized a three-day training program on Enhancing Distribution System Management Skills for 99 JEs/AEEs/AEEs of BESCOM (Batches 23, 24 and 25) at CPRI, Bangalore from 9 July 2012 to 11 July 2012 and from 6 August 2012 to 8 August 2012. In addition to attending the training lectures, the engineers visited High Voltage Laboratory, Short Circuit Laboratory, Diagnostic Cables and Capacitors Division of CPRI, Bangalore.

Training Program for WBSEDCL Assistant Engineers

The training division of CPRI, Bangalore organized a four-week residential training programme for 45 WBSEDCL Assistant Engineers at CPRI, Bangalore from 3 July 2012 to 30 July 2012. In addition to the training lectures, the engineers visited all the technical laboratories of CPRI, KPTCL, RTU unit, KAVIKA & 220 Sub-stations.

Inauguration of the four-week Residential Training Program
Shri. Sabhya Sachi De, GM (SRD) WBSEDCL, Dr. P.V Reddy, Dr. R.S. Shivakumara Aradhya, Additional Director, Dr. Balasubramaniyam Additional Director, are present on the dias.

Distribution of Certificates to the Training Program Delegates

Smt. H.K. Bharathi DGM BESCOM, Shri. Nagendra, AGM, BESCOM, Dr. P.V. Reddy, Joint Director, Dr. Balasubramaniyam, Additional Director, Dr. S Seetharamu, Additional Director are on the dias.
Workshop on Instrument Transformers Testing as per National and International Standards

CPRI, Bhopal organized a one-day national workshop on Instrument Transformers Testing as per National and International Standards on 11 August 2012. More than 100 delegates from various manufacturers, testing authorities, utilities and academic institutions from around the country, such as BHEL, Vijay Electricals - Hyderabad, CGL - Nasik, ABB - Vadodara, Laxmi Engineering - Bhopal, Audion Vision - Kolkata, MPMKVV Co Ltd - Jabalpur, and MPPKVV Co Ltd - Indore attended the program. The event was presided over by the chief guest, Dr Appu Kuttan K K, Director, MANIT, Bhopal. Mr B V Raghavaiah, Additional Director and Unit Head, CPRI, Bhopal addressed the delegates. Ten technical papers were presented at the workshop. These papers covered the general design aspects of instrument transformers, routine and type tests, its role in the power sector, verification of short circuit withstand capacity of current transformers, failure analysis and remedial measures and more. The day ended with vote of thanks delivered by Mr Ansari, Joint Director, CPRI, Bhopal.

Tutorial Program on Condition Monitoring of Transformers by Oil Analysis for NTPC Officers

The Dielectric Materials Division of CPRI, Bangalore organized a two-day tutorial program exclusively for NTPC officers on Condition Monitoring of Transformers by Oil Analysis from 21 August 2012 to 22 August 2012 and Condition Monitoring of Lubricating Machines by Oil Analysis from 23 August 2012 to 24 August 2012. Around 26 officers from various power stations attended the program. Faculty members delivered lectures on various aspects of transformer oil and lubricating oil testing. They also demonstrated the tests in the laboratory. Mr N Murugesan Director General, awarded certificates to all the participants at the valedictory function on 24 August 2012.

Workshop on Gapless Surge Arresters for Transmission and Distribution Systems

The High Voltage Division of CPRI, Bangalore organized a two-day workshop on Gapless Surge Arresters for Transmission and Distribution Systems at CCAR, Bangalore on 16 August 2012 and 17 August 2012.

Inauguration of the National Workshop: Shri. B.V. Raghavaiah, Additional Director, Dr. Appu Kuttan K.K, Director MANIT, Mr. S.Mahendra, Ex AGM, BHEL, Bhopal and Mr. S. Bhattacharya, Joint Director on the dias
Training Program on Impulse Voltage Generation, Measurement and Latest Trends in High Voltage Testing and Diagnostics of Equipment


Tutorial Program on Coal Quality Impact on Power Plant Performance


Training Program on Damage Mechanisms and Failure Analysis of Boiler Tubes and its Prevention

Thermal Research Centre, CPRI, Koradi organized a one-day training program in Nagpur on Damage Mechanisms and Failure Analysis of Boiler Tubes and its Prevention on 24 August 2012.

Tutorial Program on Short Circuit and Switching Test Duty Requirement of MV and HV Switchgears

High Power Laboratory, CPRI, Bangalore conducted a one-day tutorial program on Short Circuit and Switching Test Duty Requirement of MV and HV Switchgears at CPRI, Bangalore on 24 August 2012.
Exposure Program on Test Facilities

Every year, CPRI conducts a one-week exposure program on test facilities for power utilities. This year, the week-long event was conducted from 3 September 2012 to 7 September 2012 on test facilities at CPRI, specifically for state and central power utilities. Lectures were delivered by senior officers who have a vast experience in their field of work. Laboratory visits were organized every afternoon for delegates to get first-hand information about the facilities and the need for testing and certification of equipment. Lecture notes and presentations were also produced as proceedings of the program. Fifty one engineers from organizations such as HPPTCL, MSPGCL, MSEDCL, MPPGL, KPCL, RRVPNCL, JDS, BEST, EDTCK, IPGCL, EDGKP, AGENCO and RRVPNCL attended and appreciated the exposure program. Certificates were distributed to all the participants at the valedictory session, which was on 7 September 2012.

Residential Training Program for WBSEDCL Engineers

The training division of CPRI, Bangalore organized a four-week residential training program on Vibration Aspects of Transmission Line and its Components for 21 WBSEDCL engineers at CCAR, Bangalore from 23 August 2012 to 20 September 2012.

Tutorial Program on Vibration Aspects of Transmission Line and its Components

The mechanical engineering division of CPRI, Bangalore conducted a tutorial program on Vibration Aspects of Transmission Line and its Components at CCAR, CPRI, Bangalore from 25 September 2012 to 26 September 2012.

Workshop on Reactive Power Compensation in Power Transmission and Distribution Systems

The Power Systems Division organized a two-day workshop on Reactive Power Compensation in Power Transmission and Distribution Systems at CPRI, Bangalore from 13 September 2012 to 14 September 2012. The workshop was coordinated by Mrs J Sreedevi and Mrs K S Meera. Participants of the workshop included engineers from Assam Electricity Grid Corporation Limited, Maharashtra State Electricity Distribution Co. Ltd, Rural Electrification Corporation Ltd, Bharat Heavy Electricals Ltd and Orissa Power Transmission Corporation Ltd; faculty from Bangalore Institute of Technology and VNT – Nagpur and research scholars from Government College of Engineering – Kannur.

Topics related to reactive power such as principles and importance of reactive power in power systems, fixed and dynamic reactive power compensation, reactive power planning, voltage stability and its analysis, harmonic filters, development of FACTS devices, etc. were discussed in detail during the two-day workshop. Practical examples such as capacitor compensation for the North-Indian region was discussed. Application and working of FACTS devices for electric arc furnaces and wind farm applications was demonstrated to the participants on the real-time digital simulator.
Tutorial Program on Best Practices in O&M of Coal-Fired Thermal Power Plants

A tutorial program on the best practices in O & M of coal-fired thermal power plants was conducted from 13 September 2012 to 14 September 2012 by the Energy Efficiency and Renewable Energy Division - CPRI, Bangalore. The program was coordinated by Shri N Rajkumar, EO-4. Deligate candidates from different utilities including NTPC Ltd, Punjab State Power Corporation Ltd, Tata Power Co Ltd, Maharashtra State Power Generation Corporation Ltd and Rajasthan Vidyut Utpadan Nigam Ltd attended the tutorial program.

Consultancy Work with Essar, Hazira

The Power Systems Division (PSD) – CPRI, Bangalore has taken up consultancy work with M/s Essar, Hazira. Senior officers from the division visited Essar to study the effects of connecting a 110 km, 400 kV PGCIL line under construction from Gandhar to M/s Essar, Hazira. The visit also involved studying the effect of evacuating power to the steel plant. Moreover, the visit included studying the effect of connecting the 110 km, 400 kV PGCIL incoming line to M/s Essar, Hazira with the existing 220 kV GETCO incoming lines from Ichapore and Sachin.

Besides Power System Study, the division is also carrying out Relay Coordination Studies. Harmonic measurements were carried out by the Energy Efficiency and Renewable Energy Division (ERED).
Tutorial Program on Short-Circuit & Switching Test Duty Requirements of MV and HV Switchgears

A one-day tutorial program on Short-Circuit and Switching Test Duty Requirements of MV and HV Switchgears was conducted on 24 August 2012. There were about 42 participants from manufacturers, utilities and other organizations. After an interactive session, the participants were taken to the generator building, test control room and test cell. The participants also saw a short-circuit test on a 220 kV/132 kV 100 MVA power transformer.

Conformance Testing for IEC 61850

The Utility Automation Research Centre has established a state-of-the-art protocol testing laboratory, which is the first and only facility of its kind available in the country. The laboratory is equipped with test tools authorized by international agencies. The Substation Automation Laboratory is accredited by Utility Communication Architecture International User Group (UCA IUG), USA as a Level A laboratory (Level A implies independent third party test laboratory). The conformance certificate issued by CPRI carries UCA and CPRI logos, which are accepted worldwide. Tests are carried out as per the latest release of UCA test procedures.

IEC 61850 is an open standard for substation automation. The standard defines rules for realizing interoperability between functions and devices used for protection, monitoring, supervision and control in substations. Conformance testing is a process to verify implementation on IEDs and communication with the external world according to the standard. The laboratory is equipped with tools for conformance testing for IEC 61850 server devices. The laboratory has been functioning since 2008 and it is being utilized by various manufacturers and developers. IEDs of various types including RTU, Protection IEDs and Gateways are being tested in the laboratory. It is also used to provide development assistance to various developers and manufacturers for the development of IEDs as per IEC 61850.

This facility of CPRI is an important contribution to the power sector for promoting substation automation, as it supports interoperability. This standard is identified as a core standard for Smart Grid.
In-house Training

Training Program on Corporate Fineness and Etiquette

A training program on Corporate Fineness and Etiquette was held at CCAR, CPRI, Bangalore by M/s GFORD Institute of Management Pvt Ltd, New Delhi on 4 August 2012 for the benefit of CPRI officers. About 45 officers attended the training program.


An in-house lecture on Government Financial Rules and Delegation of Financial Powers, Preparation of Zero-Based Budgeting and Preparation of EFC/SFC was held at CPRI, Bangalore by M/s Institute of Socio Economic Research and Action, New Delhi from 17 August 2012 to 18 August 2012 for the benefit of the officers and staff. About 80 officers and staff attended the lecture.

In-House Lecture on Models and Paradigms of Professional Excellence

An in-house lecture on Models and Paradigms of Professional Excellence was delivered by Dr B S K Naidu, M/s Great Lakes IEMR, New Delhi and former CPRI Director General at CPRI, Bangalore, on 31 August 2012 for the benefit of the officers and staff. About 150 officers and staff attended the lecture.

In-House Lecture on Communication and Presentation Skills

An in-house lecture on Communication and Presentation Skills by M/s Institute of HRD from 14 September 2012 to 15 September 2012 at CCAR, CPRI, Bangalore for the benefit of the officers of CPRI. About 25 officers attended the lecture.
Laurels & Accolades

**CPRI Receives Indira Gandhi Rajbhasha Award**

CPRI was awarded the prestigious Indira Gandhi Rajbhasha Award for the year 2010-11 for its outstanding work in the Official Language field - Hindi. The award was given away by the Honorable President of India, Shri Pranab Mukherji, on 14 September 2012 on the occasion of Hindi Divas function organized in the Plenary Hall, Vigyan Bhavan, New Delhi. Shri Sushil Kumar Shinde, Honorable Union Minister for Home Affairs and Shri Jitendra Singh, Minister of State for Home Affairs were also present. The award was received by the Shri N Murugesan, Director General of CPRI.

**Director General as Chief Guest at Freshers’ Day Function**

Shri N Murugesan, Director General was invited by Sir M Visvesvaraya Institute of Technology, Bangalore as chief guest for its freshers’ day function. Shri N Murugesan inaugurated the function by lightning the lamp. Shri Anjan Lahiri, President, IT Services, Mindtree Ltd, Bangalore; Shri A S Chinnaswamy Raju, President, Sir Krishnadevaraya Educational Trust; Shri K Narayana Raju, Vice President, SKET, Shri A C Chandrashekar Raju, Treasurer, SKET, Dr M S Indira, Principal and Dr Viresh K Basalalli, Director were present at the event.
New Laboratory under 11th plan

CPRI Marches Ahead

Stone masonry work for the office compound and plastering work of the staff colony compound is in progress.

Construction of an additional floor at the CCAR building has reached the roof casting level.

Construction of a laboratory building for housing an LED test system is in progress.

Building for housing a medium voltage test cell at the High Power Laboratory, CPRI, Bangalore

Construction of a building for the establishment of a comprehensive EMI/EMC test facility has reached plinth level.

Building for Housing Medium Voltage Test Cell

Capacitor Bank at HPL, CPRI, Bangalore

Test facility for no-load and loss measurement at HPL, CPRI, Bangalore
Augmentation of test facilities for optimization of the 800 kV AC and 800 kV DC transmission systems

Construction of Additional Test Bay at Short Circuit Laboratory, CPRI, Bangalore, is in progress

Front view of UHV Indoor Laboratory

Front view of UHV Laboratory under construction at UHVRL-CPRI, Hyderabad
Testing

CPRI Serves Foreign Clients

Outdoor PTC MDB (160 A, 300 A and 630 A) samples tested for a IP Laboratory, CPRI, Bangalore for Kabul, Afghanistan.

At the request of M/s Phelps Dodge International Thailand, a 132 kV, 2500 sq mm XLPE cable was type tested in the power cables laboratory.

A view of the 132kV, 2500 sq mm XLPE power cable undergoing test at the cables lab

Short Circuit Test on 630 A, 300 A and 160 A feeder pillars was carried out from 1 August 2012 to 9 August 2012 for M/s Panel Tech Co, Afghanistan as per IEC_61439-1&2 on behalf of M/s UL India Ltd, Bangalore. Mr. Mohammed Amin and Mr Hashmatullah Azizi witnessed the test.

Test on 275 kV station post insulator for M/s Transystem Continental Sdn Bhd, Puchong, Malaysia was conducted by the mechanical engineering division of CPRI, Bangalore.

The High Power Laboratory of CPRI, Bangalore has tested a 12 kV, 1250A, 31.5 kA, vacuum circuit breaker of M/s Cooper Power Systems, Bangalore for mechanical endurance test of M2 Class as per IEC 62271-100:2008. This is the first vacuum circuit breaker to successfully complete 10,000 mechanical operations as specified for M2 Class in IEC 62271-100.
KIST delegation visits CPRI: A high-level delegation led by Dr Hae Ryong Jeong, President, Indo Korea Science and Technology Centre and senior officials from Korea Institute of Science and Technology (KIST), Seoul visited CPRI, Bangalore on 20 July 2012. The delegation discussed R&D collaboration with CPRI in various areas. The program was coordinated by Dr Ravikumar M V, Director, Indo-Korea Science and Technology Centre, IISc, Bangalore.

CMD, WBSEDCL during his visit to CPRI laboratories: Shri. Rajesh Pandey, Chairman & Managing Director, West Bengal State Electricity Distribution Company Limited, Kolkata visited CPRI, Bangalore on 23rd August 2012 in connection with the inauguration of Training Programme for WBSEDCL Engineers at CPRI. The chairman was later visited to the laboratories of CPRI who evinced keen interest in the activities.

Visit by Principal Consultant - TPS Management Consultants, Dubai

Mr. Ravinder Bhan, Principal Consultant from M/s TPS Management Consultants, Dubai visited CPRI, Bangalore on 9 July 2012 for discussions regarding collaboration with CPRI for offering consultancy and training services in the Middle-East Asian region.

Visit by Technical Advisor - Oman Cables Industry, Sultanate of Oman

Mr V Duggal, Technical Advisor from M/s Oman Cables Industry, Sultanate of Oman visited CPRI, Bangalore on 10 July 2012 for discussions with senior officers regarding opportunities for CPRI in the Middle-East Asian region.

Visit by Officials from Ta Ya Electric Wire & Cable, Taiwan

Foreign nationals Mr Peng-Hui Chen and Mr Eric Chang from M/s Ta Ya Electric Wire & Cable, Taiwan visited the Power Cables Laboratory and had a business discussion with the officers of the laboratory. The credentials of CPRI and laboratory test facilities and services were explained to the representatives.
Visiting Dignitaries

Mr Joshua J Romero, Associate Editor, IEEE Spectrum visited CPRI, Bangalore on 3 August 2012 for discussions on matters regarding IEEE.

Shri Murugan, Managing Director and Shri T Jeyaseelan, Director / Distribution from Tamil Nadu Generation and Distribution Corporation Limited (TANGEDCO), Chennai visited CPRI, Bangalore on 10 August 2012 for discussions regarding testing and certification activities and also visited CPRI facilities.

Mr Christopher William Rowe, Vice President – Self Service Products, M/s Diebold, USA and Mr Srinivasan P, R&D Manager, Global Engineering, M/s Diebold Software Services Pvt Ltd, Mumbai visited CPRI, Bangalore on 28 August 2012 for discussions regarding vibration and shock testing. They also visited various CPRI facilities.
Mr Leong Kee Chan, Managing Director, M/s Transystem Continental Sdn Bhd, Malaysia visited CPRI, Bangalore on 6 September 2012 in connection with the testing of a 275kV solid core post insulator at the mechanical engineering division. Mr Khairul Amri Bin Sanusi, Civil Engineer, Engineering and Mr Ahmad Sabri Bin Rasdi, Manager (Civil-O/L), P&C from Transmission, Tenaga Nasional Berhad, Malaysia witnessed the testing activity.

Short circuit test (ability to withstand dynamic effects of short circuits) was carried out on 315 kVA (33000/400V), 200 kVA (33000/400V) & 50 kVA (33000/400V) distribution transformer from 3 September 2012 to 4 September 2012 for M/s LTL Holdings Pvt Ltd, Sri Lanka as per IEC 60076-65:2006. Electrical engineer, Mr S R M C D Ratnayaka witnessed the test.

Ms Christine Clausse, Vice President, M/s Schneider, France; Mr Rajesh K N, Technical Consultant – Design and Mr Vishnu Nair, Manager - Product Labs - Power Engineering India, M/s Schneider Electric India Pvt Ltd, Bangalore visited CPRI, Bangalore on 30 August 2012 for discussions regarding CPRI certification. They also visited the CPRI laboratories.

Visiting Dignitaries

Vice President, M/s Schneider visits

Visites of Srilankan delegate

Visites of Malaysian team
Visiting Dignitaries

**Chinese Delegate Witness Testing**

Mr Liping Fu, Project Manager, DEKRA Testing Services, China visited Station-2, STDS-CPRI, Bhopal. Mr Fu witnessed the tests on MCB, RCCBs of M/s C&S Electric Ltd, Haridwar from 18 September 2012 to 28 September 2012.

**Iraq Delagation Visits**

Mr Montaser Noori Ahmed, Senior Engineer, Power Transmission - South Iraq; Mr Abdul Moneim Sandal, Senior Engineer, Power Transmission - South Iraq; Mr Rajawy Qassim, Senior Technical Manager, Power Transmission - South Iraq; Ms Maryam Hasan Ghailam, Chief Engineer (Electrical) Basrah Governorate and Mr Abdul Haleem Hussien, Electrical Engineer, Basrah Governorate witnessed the tower testing of a 132kV D/C 2S2 type tower with +6m extension, referred by M/s Aster Pvt Ltd, Hyderabad.

**Nigerian Delegation Visits**

Mr P H Dino, Senior Manager and Mr David E Nwugha, Senior Manager from M/s Transmission Company of Nigeria (TCN) witnessed the tower testing of a 132kV D/C DD30 type tower with +9 m extension referred by M/s Prem Power Construction Pvt Ltd, Gurgaon.
## Forthcoming CPRI Tutorial Programs

<table>
<thead>
<tr>
<th>Sl No</th>
<th>Name of Event</th>
<th>Coordinator, Division/Units, Contact Details</th>
<th>Date</th>
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<tbody>
<tr>
<td>1</td>
<td>Tutorial on measures to reduce energy losses in the boiler</td>
<td>T M Rao, EO Gr 4, TRC <a href="mailto:tmrao@cpri.in">tmrao@cpri.in</a>&lt;br&gt;D M Gourkhede, EO Gr 4, TRC, Koradi, <a href="mailto:gourkhede@yahoo.com">gourkhede@yahoo.com</a>&lt;br&gt;Mob: 09422826022, 09422810247</td>
<td>27 December 2012</td>
</tr>
<tr>
<td>2</td>
<td>4-week residential training program for AEs of M/s WBSEDCL, Kolkata</td>
<td>Dr P V Reddy, JD, Training Division 080-23600942, Mob: 09632392420 <a href="mailto:pvreddy@cpri.in">pvreddy@cpri.in</a></td>
<td>31 December 2012 to 28 January 2013</td>
</tr>
<tr>
<td>3</td>
<td>Testing requirements of power transformers as per national &amp; international standards</td>
<td>V S Nandakumar, JD, HPL Mob: 09449048907 <a href="mailto:nanda@cpri.in">nanda@cpri.in</a>&lt;br&gt;S Sudhakara Reddy, JD, HPL Mob: 09449056941 <a href="mailto:ssreddy@cpri.in">ssreddy@cpri.in</a>&lt;br&gt;M Chandrasehar, EO Gr 2, HPL Mob: 09590884827 <a href="mailto:mchandra@cpri.in">mchandra@cpri.in</a>&lt;br&gt;Rajaram Moahan Rao, Chennu, EO Gr 2, HPL Mob: 09538992738 <a href="mailto:rajaram@cpri.in">rajaram@cpri.in</a></td>
<td>4 January 2013</td>
</tr>
<tr>
<td>4</td>
<td>3-day residential training program on enhancing management skills for BESCOM engineers</td>
<td>Dr P V Reddy, JD, Training Division 080-23600942, Mob: 09632392420 <a href="mailto:pvreddy@cpri.in">pvreddy@cpri.in</a></td>
<td>7 January 2013 to 9 January 2013</td>
</tr>
<tr>
<td>5</td>
<td>Tutorial on liquid dielectrics &amp; their evaluation for use in power transformers</td>
<td>Ramjeet Singh, JD, STDs, Bhopal Mob: 0975864113 <a href="mailto:ramjeet@cpri.in">ramjeet@cpri.in</a></td>
<td>11 January 2013</td>
</tr>
<tr>
<td>6</td>
<td>3-day residential training program on enhancing distribution system management skills for BESCOM engineers</td>
<td>Dr P V Reddy, JD Training Division 080-23600942, Mob: 09632392420 <a href="mailto:pvreddy@cpri.in">pvreddy@cpri.in</a></td>
<td>21 January 2013 to 23 January 2013</td>
</tr>
<tr>
<td>7</td>
<td>Evaluation of distribution transformer performance through testing &amp; analysis</td>
<td>Swaraj Kumar Das, JD, SC Lab S Arjuna Rao, EO Gr 2, SC Lab Mob: 09886643757, 09739445262</td>
<td>25 January 2013</td>
</tr>
<tr>
<td>8</td>
<td>Tutorial on vital aspects of operation &amp; maintenance of high power laboratory equipment</td>
<td>V Ramachandrappa, JD, HPL Mob: 7259506927 <a href="mailto:ramachandrappa@cpri.in">ramachandrappa@cpri.in</a>&lt;br&gt;C L Joseph, EO Gr 3, HPL Mob: 9449045833 <a href="mailto:joseph@cpri.in">joseph@cpri.in</a></td>
<td>8 February 2013</td>
</tr>
<tr>
<td>9</td>
<td>Remnant Life Assessment (RLA) of Steam Turbine</td>
<td>Dr. S. K. Nath, Engineering Officer, TRC, Nagpur Mob: 09423680683 <a href="mailto:sknath@cpri.in">sknath@cpri.in</a>&lt;br&gt;Shri Arvind Kumar, Engineering Officer, TRC, Nagpur Mob: 09561559117 <a href="mailto:arvind@cpri.in">arvind@cpri.in</a></td>
<td>11 February 2013</td>
</tr>
</tbody>
</table>
10  3 days Residential Training Program on “Enhancing Distribution System Management Skills” for BESCOM Engineers
   Dr. P. V. Reddy, JD Training Division
   080-23600942, Mob: 09632392420
   pvreddy@cpri.in
   11-13 February 2013

11  Four Weeks Residential Training programme for AE’s of M/s. WBSEDCL, Kolkata
   Dr. P. V. Reddy, JD Training Division
   080-23600942, Mob: 09632392420
   pvreddy@cpri.in
   11 February to 11 March 2013

12  Tutorial programme on Solar and wind energy solutions for industrial applications-heating, cooling, lighting and motor loads.
   M. Siddhartha Bhatt, AD, EE&RED
   Mob: 09448459587
   msb@cpri.in
   14-15 February 2013

13  Tutorial On Seismic Design And Testing
   R. PanneerSelvam Engineering Officer EVRC
   080-23604683, Mob: 9740359633
   selvam@cpri.in
   15 February 2013

14  Tutorial on “Materials Characterization, Failure Analysis with Case Studies”
   S. Vynatheya, S.O. Gr. 4
   Mob: 09449088791
   vyn@cpri.in
   R.K Kumar, E.O. Gr. 4
   R.R. Shivapakash
   21-22 February 2013

15  Tutorial on Power System Communication Engineering
   V. Shivakumar, E.O. Gr. 3, U.A.R.C.
   Mob: 09945430826
   shiva@cpri.in
   22-23 February 2013

16  One day Tutorial on “Advanced Power System Protection”
   P. Kaliappan, E.O. Gr. 4
   Mob: 9449149924
   kaliappan@cpri.in
   9 March 2013

17  Four Weeks Residential Training programme for AE’s of M/s. WBSEDCL, Kolkata
   Dr. P. V. Reddy, JD Training Division
   080-23600942, Mob: 09632392420
   pvreddy@cpri.in
   25 March to 22 April 2013

Forthcoming CPRI Conference, Workshops and Seminars

<table>
<thead>
<tr>
<th>Sl No</th>
<th>Name of Event</th>
<th>Coordinator, Division/Units, Contact Details</th>
<th>Date</th>
</tr>
</thead>
</table>
| 1     | National workshop on advances in energy storage                             | Dr. M Shekarkumar, JD, MTD
   Mob: 09945484758
   shekar@cpri.in                                      | 20 December 2012 to 21 December 2012                                |
| 2     | National conference on home grown technologies to promote fly ash utilization | Dr. M Shekarkumar, JD, MTD
   Mob: 09945484758
   shekar@cpri.in                                      | 10 January 2013 to 11 January 2013                                 |
| 3     | Workshop on vibration and shock qualification testing of equipment           | V Srinivasa Murthy, JD, EVRC
   080-23604683, Mob: 09449033875
   murthy@cpri.in                                      | 21 January 2013                                                      |
| 4     | National conference on analytical techniques to power sector and other applications | Ann Pamla Cruze, EO Gr 2, DMD
   Mob: 09945761015
   pamla@cpri.in                                      | 24 January 2013 to 25 January 2013                                 |
<table>
<thead>
<tr>
<th>No.</th>
<th>Event Description</th>
<th>Organizer(s)</th>
<th>Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>Workshop on electromagnetic transients in power systems</td>
<td>Meera K S, JD, PS Division, Mob: 99886049424 <a href="mailto:meera@cpri.in">meera@cpri.in</a></td>
<td>24 January 2013 to 25 January 2013</td>
</tr>
<tr>
<td>6</td>
<td>Workshop on partial discharge in HV electrical equipment</td>
<td>Dr H N Nagamanji, Joint Director, Power Capacitors Laboratory</td>
<td>24 January 2013 to 25 January 2013</td>
</tr>
<tr>
<td>7</td>
<td>National conference on CFD applications in the power sector</td>
<td>V Saravanan, EO Gr 4, MTD Mob: 08861098390 <a href="mailto:saran_cpri@cpri.in">saran_cpri@cpri.in</a></td>
<td>29 January 2013 to 30 January 2013</td>
</tr>
<tr>
<td>8</td>
<td>Workshop on Condition Monitoring of power Transformers</td>
<td>Dr. P.K. Maiti, S.O. Gr.4, RTL, Kolkata Mob: 09831124456 <a href="mailto:maiti@cpri.in">maiti@cpri.in</a></td>
<td>01 February 2013</td>
</tr>
<tr>
<td>9</td>
<td>Conference on Verification &amp; Validation of Power System Software &amp; results</td>
<td>Shyamsundar, E.O. Gr.4, PSD Mob: 09901075963 <a href="mailto:shyamsundar@cpri.in">shyamsundar@cpri.in</a></td>
<td>4-5 February 2013</td>
</tr>
<tr>
<td>10</td>
<td>Workshop on Rotating Machines</td>
<td>A.R. Ravi Kumar, JD, EATD Mob: 0948090073 <a href="mailto:arravi@cpri.in">arravi@cpri.in</a></td>
<td>14-15 February 2013</td>
</tr>
<tr>
<td>11</td>
<td>One day Seminar on Insulation design for Coastal/Industrial Pollution</td>
<td>Dr. N. Vasudev, JD, High Volatge Dvn. Mob: 09845379043 <a href="mailto:vasu@cpri.in">vasu@cpri.in</a></td>
<td>15 February 2013</td>
</tr>
<tr>
<td>12</td>
<td>Workshop on Transmission line protection</td>
<td>A. Amruthakala, JD, PSD. Mob: 09449074684 <a href="mailto:amr@cpri.in">amr@cpri.in</a></td>
<td>27-28 February 2013</td>
</tr>
<tr>
<td>13</td>
<td>Communication Technology in Power System Automation</td>
<td>V. Shiva Kumar, Engr Officer Gr.3, UARC Mob: 09945430826 <a href="mailto:shiva@cpri.in">shiva@cpri.in</a></td>
<td>22-23 February 2013</td>
</tr>
<tr>
<td>14</td>
<td>Two Day Workshop On Lightning Performance Of High Voltage Distribution Systems At Guwahati</td>
<td>K. Karunakara, Engineering Office grade -4 Mob: 09902932459, <a href="mailto:karuna@cpri.in">karuna@cpri.in</a>, K.G. Venkatesh, Joint Director, Mob: 09481425587, <a href="mailto:venkateshkg@cpri.in">venkateshkg@cpri.in</a></td>
<td>14-15 March 2013</td>
</tr>
<tr>
<td>15</td>
<td>Workshop on “Indian Standard for APFC Panel”</td>
<td>Dr. H N Nagamanji, Joint Director, T. Bhavana Shanker, V. Vaidhyanathan, Govinda Rao G. DCCD <a href="mailto:hnn@cpri.in">hnn@cpri.in</a>, <a href="mailto:tbs@cpri.in">tbs@cpri.in</a> Mob: 0949023323, 09448141980, TeleFax: +9180 23604435</td>
<td>14-15 March 2013</td>
</tr>
<tr>
<td>16</td>
<td>National workshop on “Advanced NDT Applications for Life Assessment of Power Plant Components”</td>
<td>M. Janardhana, E.O. Gr.4, MTD 080-23602919, Mob: 9480523973 <a href="mailto:janardhana@cpri.in">janardhana@cpri.in</a> R.K. Kumar, E.O. Gr.4 Mob: 09449084546 M.Venkateswara Rao, E.O. Gr.4, MTD 080-23602919, Mob: 09972311859 <a href="mailto:mvrao@cpri.in">mvrao@cpri.in</a></td>
<td>21-22 March 2013</td>
</tr>
</tbody>
</table>