



REGIONAL CONFERENCE ON STANDARDS, DESIGN, CERTIFICATION, TESTING OF DISTRIBUTION TRANSFORMERS AND OTHER RELATED ISSUES ON 24TH JULY 2018 AT HOTEL AMBASSADOR PALLAVA, CHENNAI.

Indian Transformer Manufacturer's Association (ITMA) in association with International Copper Association of India (ICA India) and Bureau of India Standards (BIS) organized a seminar on "Standards, Design, Certification, Testing of Distribution Transformers and other related issues" in Chennai. The objective of the seminar was to promote sustainable development in India by spreading awareness among power utilities and transformer manufacturers to adopt higher standards level and uniformity of technical specifications of their transformers. This creates a platform to establish dialogue between end user and supplier besides other key stakeholders like National Test Houses, National Standard making body BIS etc.

Distribution Transformers (DTs) are key assets for any distribution network. Their reliable and efficient operation can result in long-term benefits for the power distribution utilities. Tamil Nadu Generation & Distribution Corporation Limited (TANGEDCO), the State Power Distribution Utility & service provider, supplies quality & reliable power to over 279 lakh consumers of electricity spread over the State of Tamil Nadu. TANGEDCO has approximate 3 lakh DT population catering to peak demand of 15000 MW. Tamil Nadu has per capita consumption of electricity 1340 units higher than national average.

However, there are high technical losses due to inadequate investments in system improvement as well as unplanned extensions of the distribution system. One of the reasons of increasing trend of these losses in DTs is poor efficiency due to unbalanced loading conditions. The DT failure rate in India is high in the order of 12-15% (in State Utilities), as against a global average of less than 1% and the total financial loss to utilities in terms of repairs and replacement cost of failed DT's is estimated at INR 1,200 crores each year. There are no proactive measures for DT repair as only failed DTs are sent for repair. National bodies like BIS, CEA have been working for last few years to improve upon the energy efficiency and reliability of DTs through upgradation of standards and policies. The Quality control order issued by Department of Heavy Industries under advice of BIS paves the way to improved manufacturing and ISI certification thereof.

ICA India, to address legacy DTs already in service, has explored the feasibility of reducing technical losses in Distribution Transformers (DT) through Active Repair over the currently prevailing Reactive repair methods. This proposed DT active repair enables the Utility Organization to bring down no-load and load losses proactively. The no-load losses can be reduced by 75% and load losses by 40% by using Copper windings in place of Aluminium windings. This is a first-of-its-kind concept in the Country and there is a strong business case for Indian DISCOMs to consider this approach.

Mr. Manas Kundu, Director, ICA India, said, "Roughly 10,800 Cr to 14,500 Cr can be attributed to technical losses inside the Distribution Transformers. There is a significant potential to reduce these losses. There is a need to adopt energy efficient standards for distribution transformers, as it will save total cost to consumers and reducing energy consumption. We at ICA India are working towards a common national goal of providing continuous quality power supply to the consumers. Through such seminars, we aim at helping the industry to gain awareness and adopt new technology advancements thereby increasing skill

Knowledge. At the same time, we hope that such platforms aid to dialogue between users like Utilities, OEMs, Testing agencies, Standard making bodies so that issues can be resolved amicably towards the betterment of DT ecosystem in the Country for quality and reliability in supply."

Mr Ashok Kaul - Deputy Director General from ITMA, "In India, 6-8 Lakhs DTs fail every year resulting in high financial losses. DT failure can be due to varieties of reason since there are various parameters involved. There could be reasons of poor installation, restricted O&M practices or even electrical fault. Controlling parameters is just one element for getting best out of important assets like DT. With our efforts towards building an environment to eliminate the energy loss, such seminars provide platforms to help spread awareness on distribution network assets."

Spokesperson from BIS, "Awareness of DT National Standard is crucial in reducing the massive technical losses which leads to enormous monetary losses and failures. We are simultaneously working with ICA India and ITMA to attain the key assets and adhering to active repairs by following Standards and policies to reduce these losses."

The speakers at the event were representatives from BIS, TANGEDCO, OEM, ITMA and Testing agencies. The event was well received by consultants, transformer manufacturers, power utilities, and general industries utilizing the Distribution Transformers (DT). International Copper Association India has taken up this project to improve the situation by advocating for better technological options (EE distribution transformers). ICA India is promoting the use of low-loss, high-grade materials for the core and winding to result high-efficiency and Energy Efficient Distribution Transformers (EE DTs).