

the leading electrical & electronics monthly

ieema journal

Volume 14 Issue No. 09 May 2023 CIN U99999MH1970GAP014629
Official Organ of Indian Electrical & Electronics Manufacturers' Association
Member: The Indian Newspaper Society

7

From the President's Desk

10

Samvaad

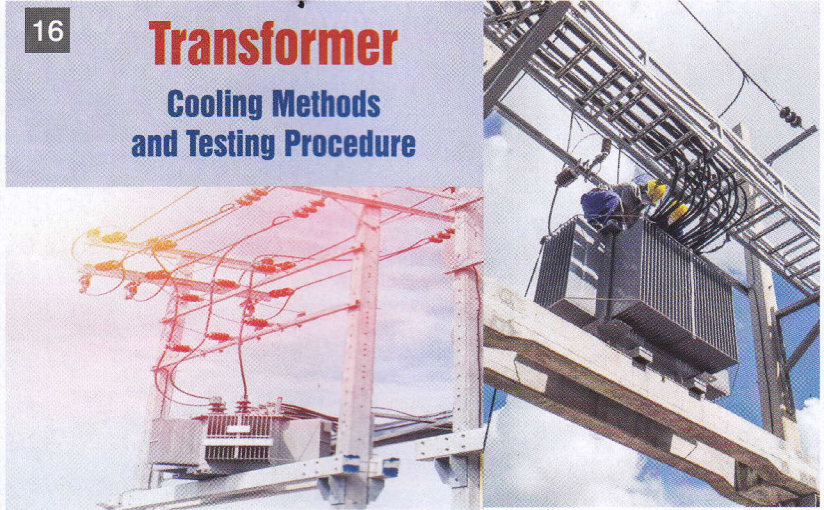
16

Cover Story Transformer Cooling Methods and Testing Procedure

Now in modern society use of electricity through different devices is growing in multiple times annually. So load at the incoming point is growing along with transformer. Ultimately load on the transformer is growing continuously. So globally loss limit fixed by considering different parameter/matrix by most of the countries to maintain MEPS norms. It may be with reference either in guidance of IEC or IEEE Standards. We supposed to comply the Paris Agreement/Global warming/conservation of energy/energy efficiencies/loss minimisation/standard formation & implementation in all level of energy utilities & devices including distribution transformer for sustainability of our energy resources. In India, BIS as the Govt. authority modified its specification for loss minimisation along with temperature reduction in its specification IS-1180 (part-1) 2014 Amendment 4.

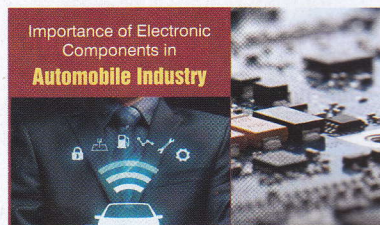
16

Transformer Cooling Methods and Testing Procedure



26

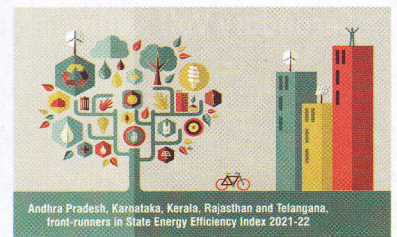
Guest Article Adaptive Environmental Friendly Ester Fluids Technology and Usage for Transformer Applications



Transformers are one of the most important equipments in power system network. Transformer failures can be broadly categorized due to electrical and/or mechanical faults. Preventive diagnosis and maintenance of transformer have become more and more popular in recent time in order to improve the reliability of electric power system.

34

Ministry Update Andhra Pradesh, Karnataka, Kerala, Rajasthan and Telangana, front-runners in State Energy Efficiency Index 2021-22



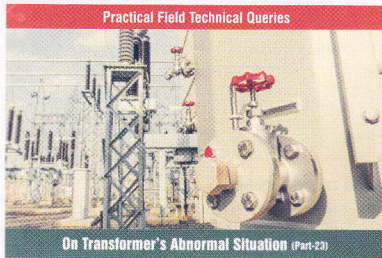
Union Minister of Power and New & Renewable Energy, Shri R. K. Singh released the report of State Energy Efficiency Index (SEEI) 2021-22. The SEEI was released during the RPM (Review, Planning and Monitoring) meeting of States and State Utilities in New Delhi. The index developed by the Bureau of Energy Efficiency (BEE), a statutory body under the Ministry of Power.

For suggestions and feedback please write to us on shalini.singh@ieema.org

36

Events and Eventualities

Practical field technical queries on transformer's abnormal situation (Part-23)



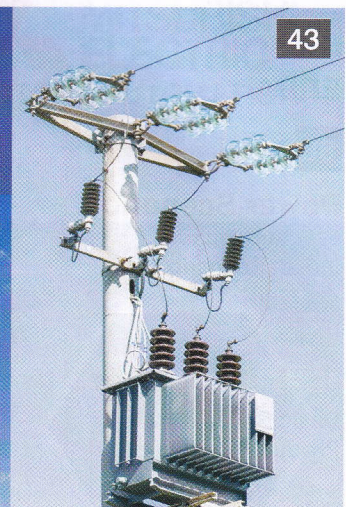
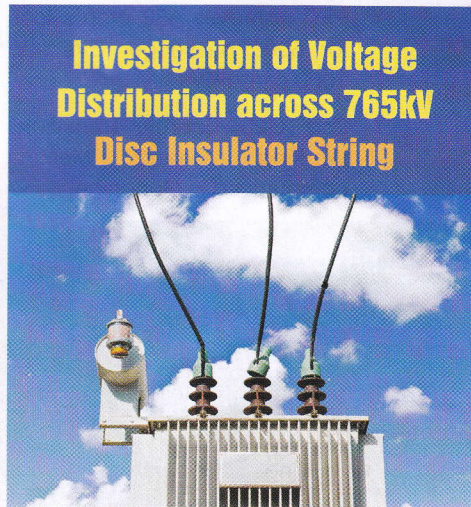
Last few months, the case studies on Transformer's Abnormal situation was getting published under the section of Event and Eventualities series. Readers especially from field units on accepting this series.

43

Tech Space

Investigation of Voltage Distribution across 765kV Disc Insulator String

Insulators are the most important components for overhead transmission lines, because of the transmission line insulation requirement and weight carrying capability of the line conductors. Porcelain suspensions type string insulators are traditionally used in high voltage overhead transmission lines.



43

50

Insight

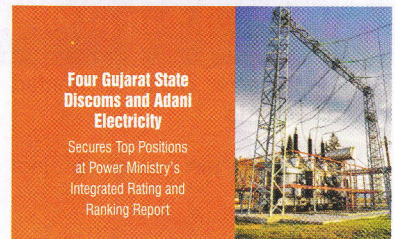
Industrial Electronics Manufacturing Industry: Exploring The Opportunities

The industrial electronics manufacturing industry encompasses the production of electronic components and systems that are specifically designed for use in industrial applications. This includes a wide range of products such as sensors, control systems, power electronics, communication devices, and instrumentation equipment. The industrial electronics manufacturing industry is essential for the automation and optimization of industrial processes, helping to improve efficiency and safety.

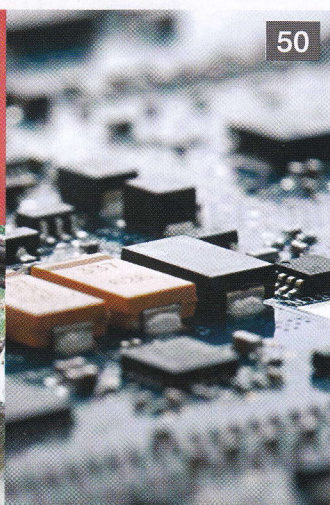
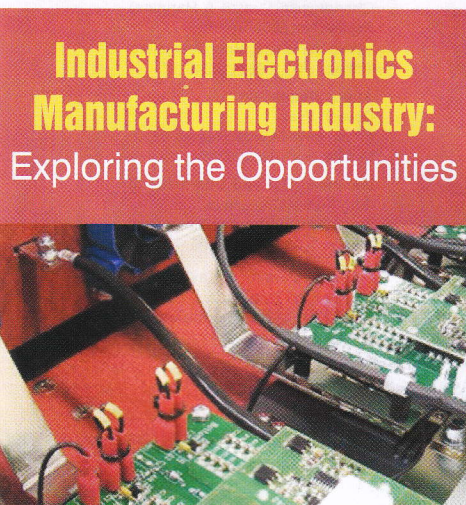
56

Special Feature

Four Gujarat State Discoms and Adani Electricity Secures Top Positions at Power Ministry's Integrated Rating and Ranking Report



The Union power ministry's integrated rating and ranking report, for which Power Finance Corporation is the nodal agency, was released on April 10, 2023.



50

All the four Gujarat state discoms — Uttar Gujarat Vij Company Ltd (UGVCL), Madhya Gujarat Vij Company Ltd (MGVCL), Paschim Gujarat Vij Company Ltd (PGVCL), and Dakshin Gujarat Vij Company Ltd (DGVCL) – have earned the highest integrated rating of "A+". These discoms ranked second, third, fifth, and sixth, respectively, in the overall rank table.

Adani Electricity Mumbai Ltd (AEML) ranked first with an overall score of 99.6 (out of 100). In the preceding (10th) rating report, AEML was ranked sixth while Gujarat utility DGVCL had earned the top rank.

86

ERDA

88

Power Scenario

Global Scenario
Indian Scenario

90

IEEMA Database

Basic Prices & Indices
Production Statistics

92

International News

- Mitsubishi Power begins commercial operation of the first M701JAC gas turbine at Rayong plant in Thailand
- European battery storage markets to attract over € 70bn investment by 2050
- bp and Shell break ground on 112MW solar plant in Trinidad and Tobago
- Israel's largest solar project launched
- G7 Ministers welcome key IEA work on energy security and clean energy transitions

94

National News

- Union Minister of Commerce & Industry, Consumer Affairs, Food & Public Distribution and Textiles Piyush Goyal addressed India – France Business Summit and CEOs Roundtable
- REC's subsidiary RECPDCL hands over 'KPS1 Transmission Ltd' to M/s Megha Engineering & Infrastructures Ltd

- PFC approves 633 crores loan for 5000 passenger EVs and 1000 cargo EVs
- 2nd G20 Energy Transitions Working Group Meeting commenced in Gandhinagar

96

Corporate News

- Airtel Partners with Secure Meters for NB-IoT Smart Meters in Bihar
- Sterling Generators Wins Rs.510 Crore Orders in FY23
- Larsen & Toubro Wins RDSS Orders in Rajasthan
- Adani Transmission Completes Four TBCB Projects in FY23
- WRSS XXI (A) Transco Ltd
- Siemens-RVNL Consortium Emerges L1 For Mumbai Metro Electrification

98

Product Showcase

102

Advt Index

104

Sparks Sans Shocks

Editorial Board

Advisory Committee

Founder Chairman RG Keswani	Chairman Sunil Singhani
Members Rohit Pathak A Naveen Kumar R Krishnakumar Mustafa Wajid Atul Arya Imteyaz Siddiqui	Editor Ms Charu Mathur
Circulation Incharge Ms Chitra Tamhankar	Sub Editor Ms Shalini Singh
Statistics & Data Incharge Mr Ninad Ranade	Advertisement Incharge Ms Pooja Tawte
	Designed by: Reflections Processed at: India Printing Works

Regd Office - Mumbai
501, Kakad Chambers, 132, Dr A Besant Road, Worli, Mumbai 400 018.
Phones: +91(0) 22 24930532 / 6528
Fax: +91(0) 22 2493 2705
Email: pooja.tawte@ieema.org

Corporate Office - New Delhi
Rishyamook Building, First floor, 85 A, Panchkuian Road, New Delhi 110001. Phones: +91 (0) 11-23363013, 14, 16
Fax: +91 (0) 11-23363015
Email: delhi@ieema.org

Branch Office - Bengaluru
204, Swiss Complex, 33, Race Course Road, Bengaluru 560 001.
Phones: +91 (0) 80 2220 1316 / 1318
Fax: +91 (0) 80 220 1317
Email: bangalore@ieema.org

Branch Office - Kolkata
503 A, Oswal Chambers, 2, Church Lane, Kolkata 700 001.
Phones: +91 (0) 33 2213 1326
Fax: +91 (0) 33 2213 1326
Email: kolkata@ieema.org

Website: www.ieema.org

Articles: Technical data presented and views expressed by authors of articles are their own and IEEMA does not assume any responsibility for the same. IEEMA Journal owns copyright for original articles published in IEEMA Journal.

Representatives:

Guwahati (Assam) - Nilankha Chaliha
Email: nilankha.chaliha@ieema.org
Mobile: +91 9706389965

Chandigarh (Punjab & Haryana)
Rajnish Kaushik
Email: rajnish.kaushik@ieema.org
Mobile: +91 9 991110246

Jaipur (Rajasthan)
Devesh Vyas
Email: devesh.vyas@ieema.org
Mobile: +91 8955093854

Lucknow (U.P. and Uttarakhnad) -
Anuj Kumar Chaturvedi
Email: anuj.chaturvedi@ieema.org
Mobile: +91 9839603195

Srinagar (Jammu & Kashmir)
Mohammad Irfan Parray
Email: irfan.parray@ieema.org
Mobile: +91 9858455509

For subscription queries write to:
chitra.tamhankar@ieema.org

Edited, Printed and published by Ms. Charu Mathur on behalf of Indian Electrical and Electronics Manufacturers' Association, and Printed at India Printing Works, India Printing House, 42, G. D. Ambekar Road, Wadala, Mumbai 400 031 and Published at 501, Kakad Chambers, 132, Dr. Annie Besant Road, Worli, Mumbai 400 018.