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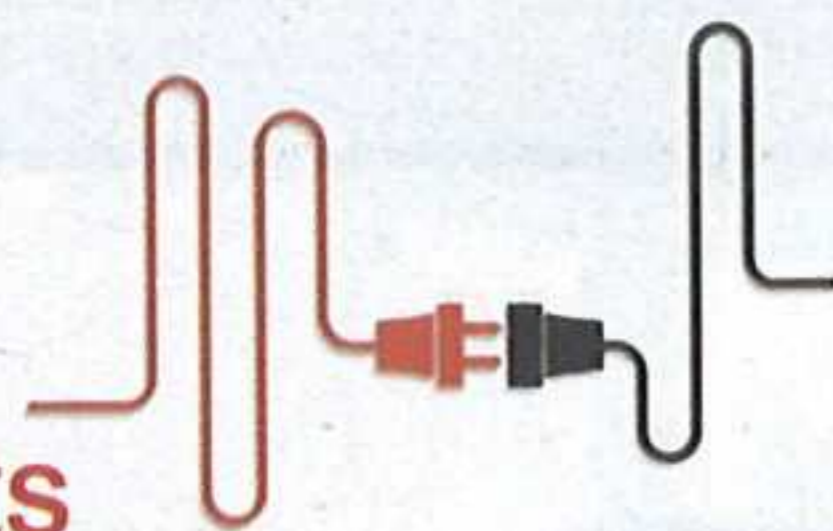
From the President's Desk

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Samvaad

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Appointments

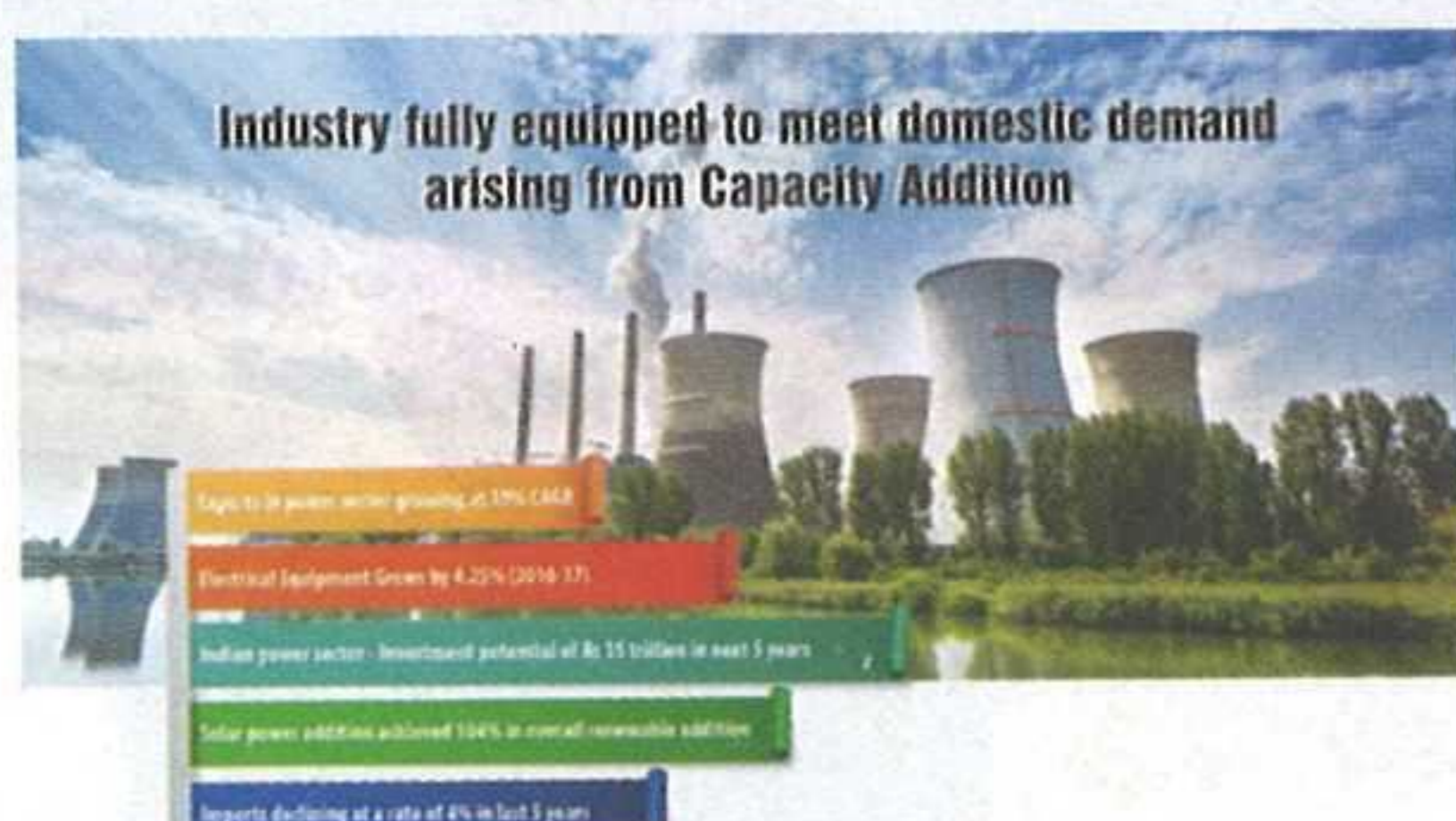


This new space in the IEEMA Journal will incorporate recent important appointments in the power and related sectors

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Cover story

Industry fully equipped to meet domestic demand arising from capacity addition



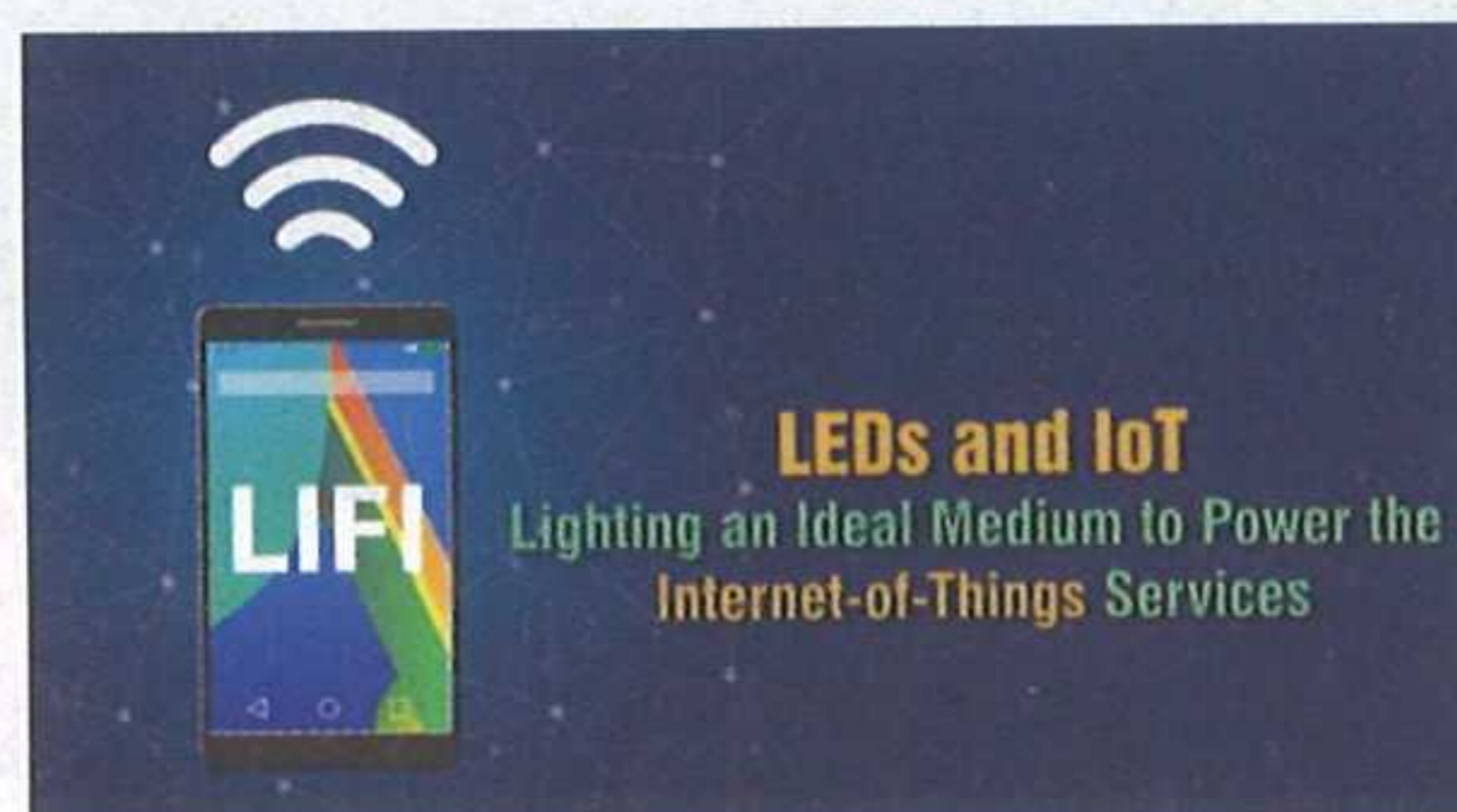
Power sector is one of the most critical components of economic growth and is one of the most diversified and dynamic. The sector constitutes of power generation, transmission and distribution, catering to ever growing demand of electricity. Demand in the country has increased rapidly over years, and shall rise further in years to come. In order to meet increasing demand for electricity in the country, very significant addition to the installed generation capacity is required.



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Guest article

Industry fully equipped to meet domestic demand arising from capacity addition

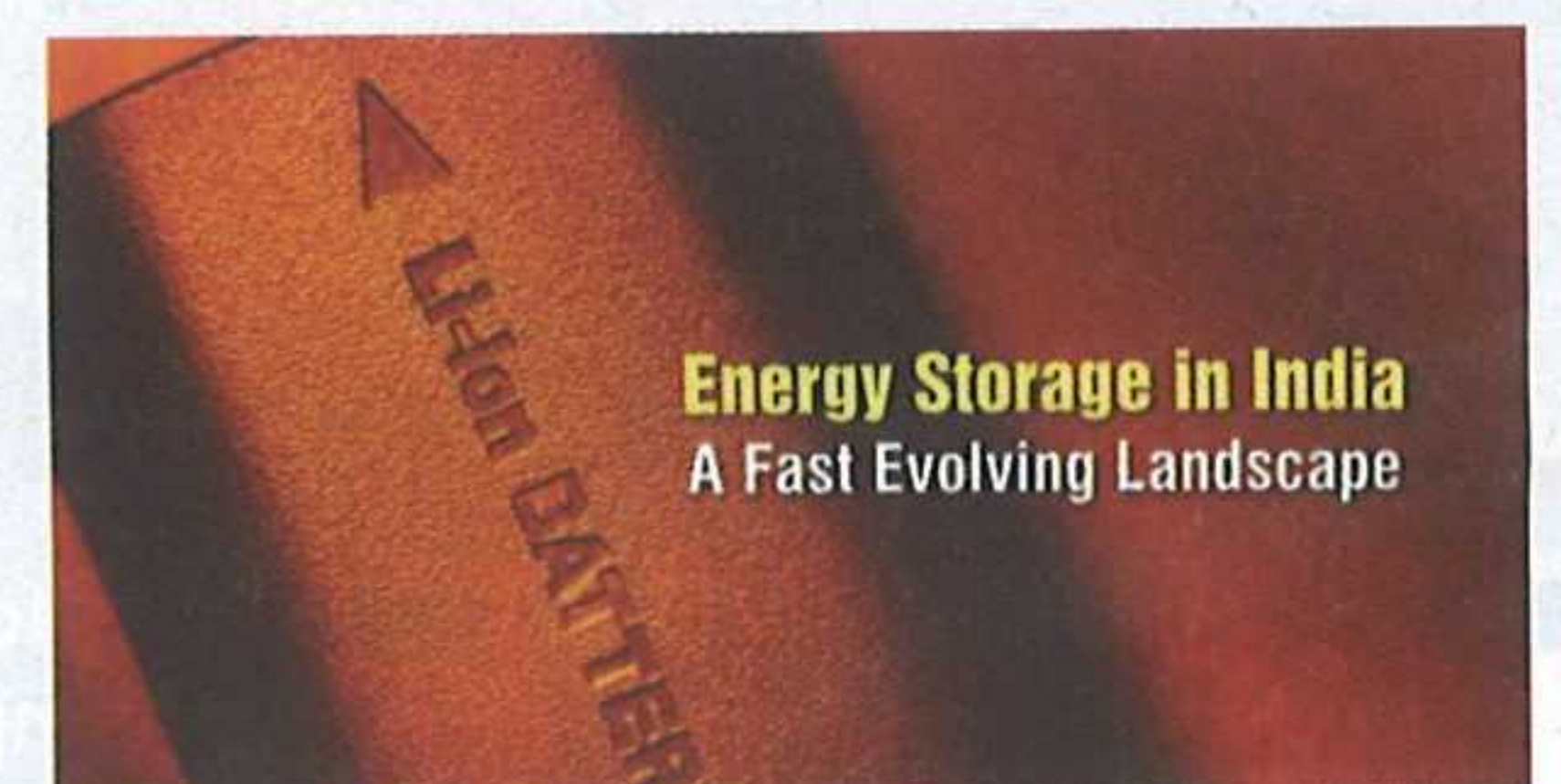


One of the biggest impacts on modern life in recent times has happened through 'convergence'. This has seen various devices and elements come together in offering an amalgamated new product or service that may not have been possible earlier in isolation. To elaborate, in the 20th century, consumers used the radio, television, flashlight, walkman, wristwatch, camera and calculator (to name a few) as individual devices. Today, the smartphone has replaced these devices by offering all the features (and more!) of the individual items within a single gadget.

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In Depth

Energy Storage in India: A Fast Evolving Landscape



The Indian Energy Storage market is gearing up with a multitude of large scale pilot projects. India has long been seen as one of the largest market for lead acid batteries with annual sales of ~\$6 Billion. In 2012, India Energy Storage Alliance was launched with a vision of making India not only a fast adoption market for advanced energy storage technologies but also a global hub for manufacturing.

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Event

17th African Utility Week

IEEMA participated in the 17th annual African Utility Week (AUW), a show dedicated to electricity and water, held from May 16-18, 2017, in the city of Cape Town in South Africa. Organised by Spintelligent – Publishers of ESI Africa and other publications, AUW is Africa’s leading trade exhibition for the power and water sector and provides business opportunities for solution providers, utilities and large power users.

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Insight

SPD’s and Safety

How to find out a safe SPD confirming to IEC 61643-11 : 2011



Surge Protective Devices (SPD) are intended to limit surge voltages and divert surge current and there by protect equipment and the installation from failures. SPD contains at least one non-linear component that is connected in parallel to the lines where the surge voltage needs to be limited. For 230/400 volt power line SPD’s are generally installed inside power distribution boards as well as in electrical and electronic equipment.

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Opinion

Need of Electricity Storage System for reliable renewable energy integration

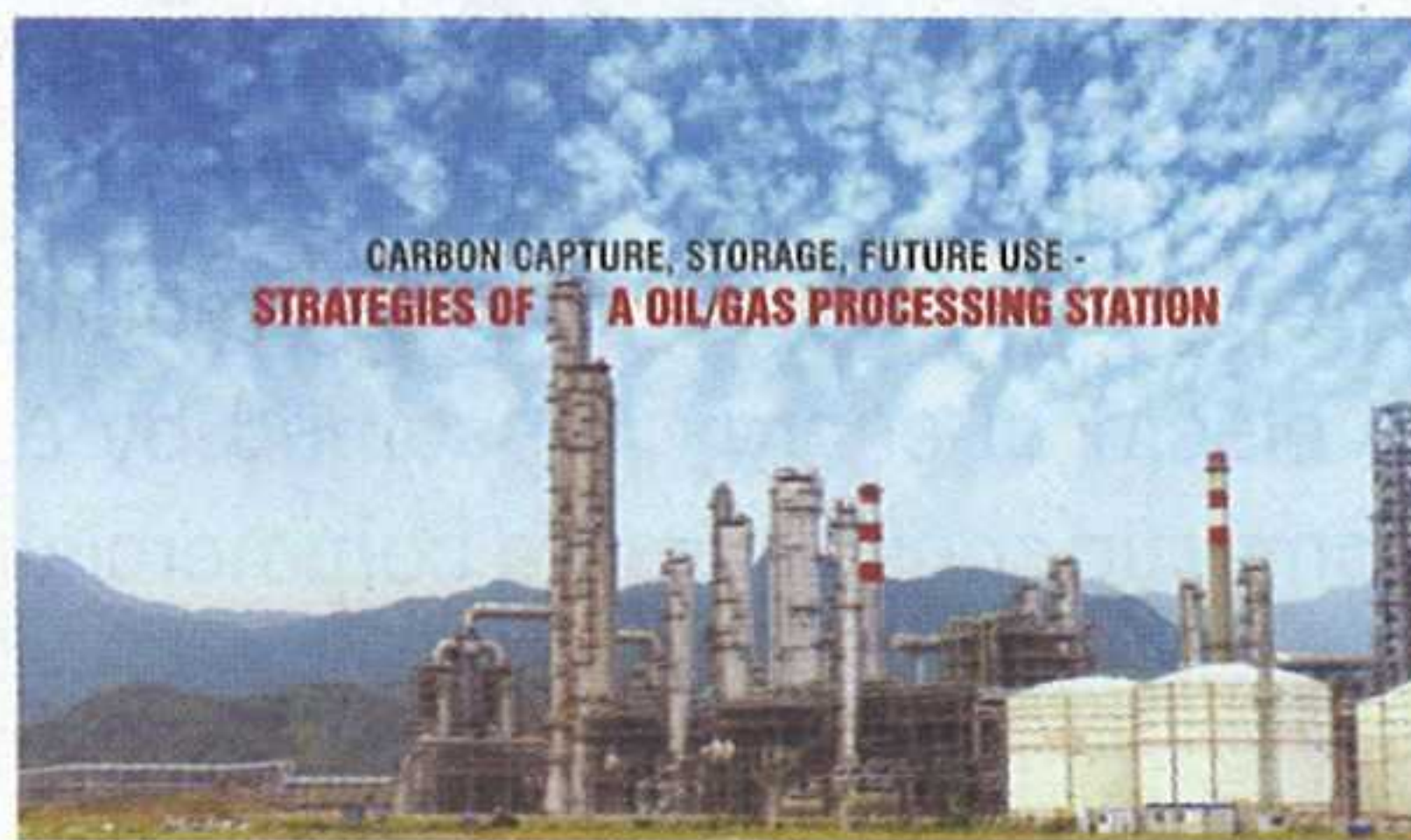
The increasing share of renewable generation in the grid has impacted the traditional approach of balancing power. The renewable sources with un-priced fuel such as Wind, Solar Power are intermittent in nature, and

their output depends on external conditions, such as sunshine or wind. The value and timing of their output are not controllable. The variability of renewable generation is to be taken into account while adjusting output of load in respect of generating stations for the purpose of balancing.

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Expert speak

Carbon capture , storage, future use- strategies of a oil/gas processing station



Avoidance of CO2 generation is one way to capture less CO2 since for coal fired thermal power stations 1kwh≡1.012 kg CO2.the largest emitting sector in the world .It has been estimated that human activity alone can generate 32million MT CO2/yr, Avoidance has also a limit ,ultra supercritical boiler boilers can raise overall thermal efficiency to 42% ,from present level of 28-30% but not more .So carbon dioxide must be recaptured by other economic ways .

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Solutions

Early Streamer Emission and Dissipation Array System

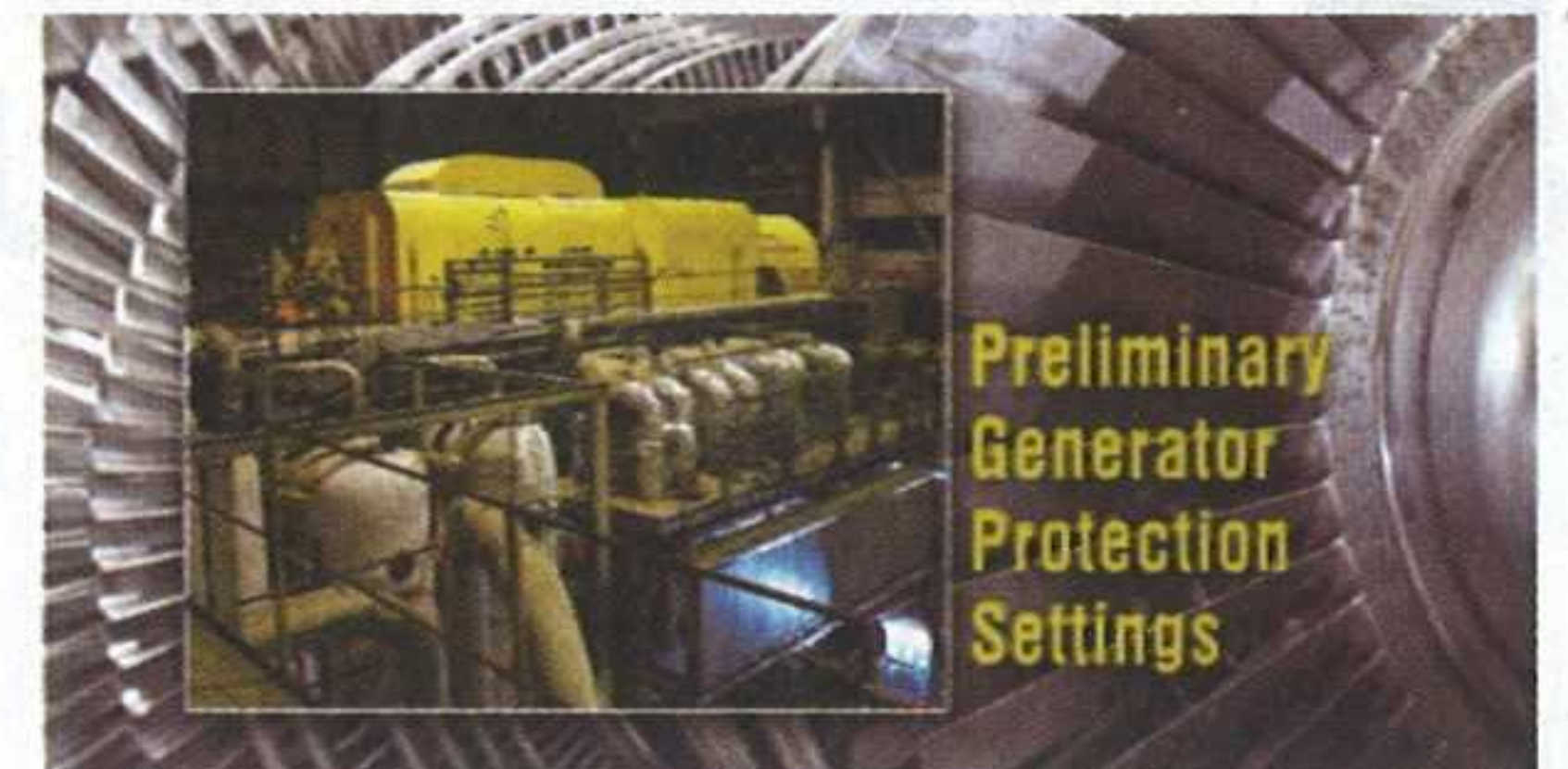
Non-Conventional Air Termination in Lightning Protection

Air Terminal in an external lightning protection systems can be divided into two categories, namely, conventional and non-conventional. The conventional systems use Franklin rods or mesh. Early Streamer Emission (ESE) and Dissipation Arrays (sometimes called Charge Transfer Systems – DAS / CTS) are the non conventional air terminals.

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Tech Space

Preliminary Generator Protection Settings

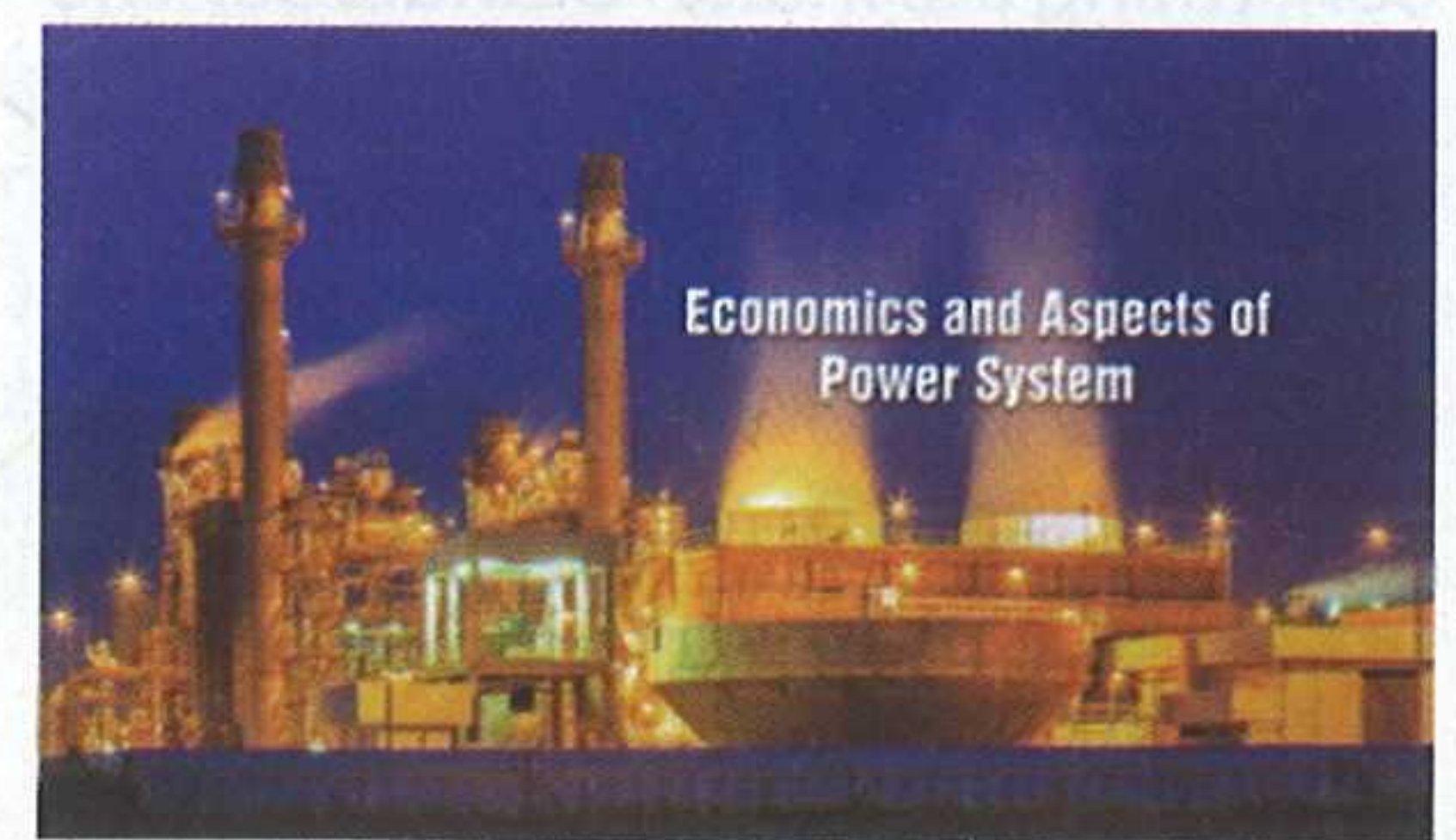


The heart of the electrical power generation [with the exception of fuel cell, wind energy and solar power (Photo Voltaic)] is the alternating current generator. The generator being a rotating machine calls for special protection consideration from both electrical and mechanical faults. Sudden failure (outage) of a generator in a captive power plant (CPP) will result in heavy loss of production in the plant. For an independent power producer (IPP), it will attract huge penalties payable to the grid contractually.

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Tech Space

Economics and Aspects of Power System



The method of optimal generation scheduling for economic operation^[1] with and without considering transmission losses have been described. A load flow program has been developed to calculate the loss coefficients of IEEE 14 bus system. Then the generators of the 14 bus system were economically scheduled. The concept of emission^{[2],[3]} from generating stations has also been described. The constraint of emission consists of CO, SO2, NOX, PM10 and other pollutants.

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IEEMA Activities Seminar on GST

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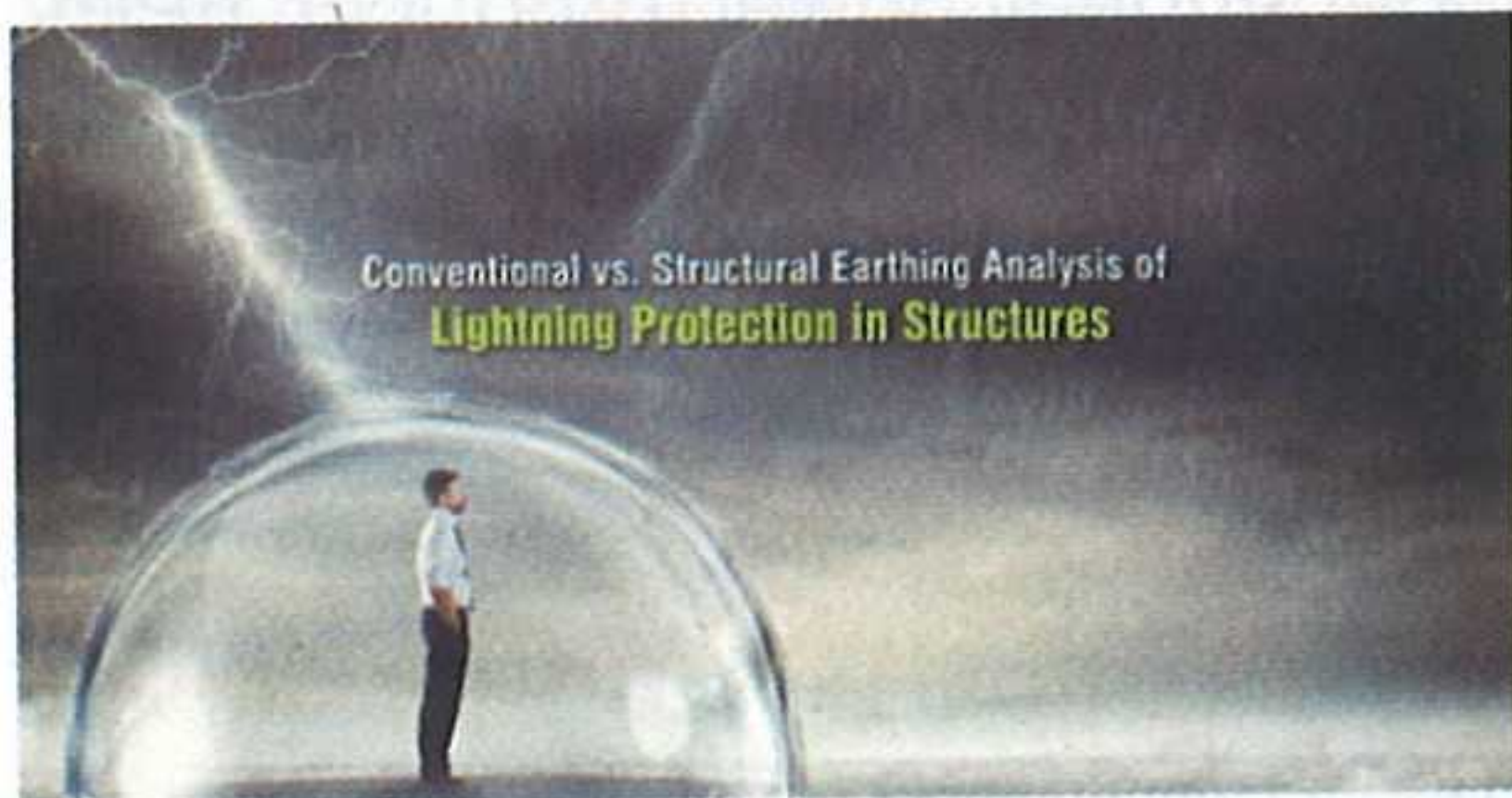
Power Scenario Global Scenario Indian Scenario

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IEEMA Database Basic Prices & Indices Production Statistics

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In Focus Conventional Vs. Structural Earthing Analysis of Lightning Protection in structures



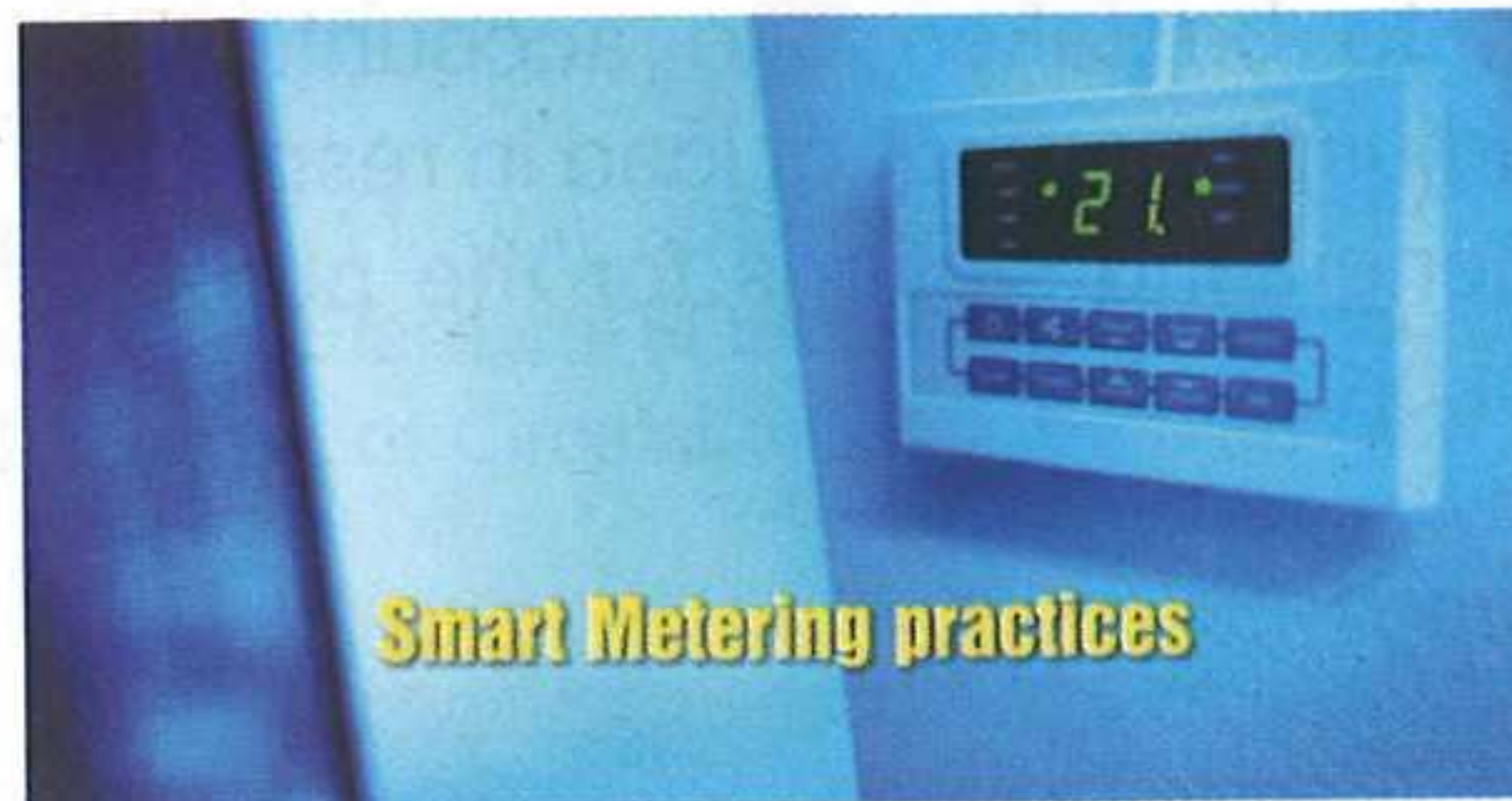
Lightning Protection of structures are being done in 2 ways, both confirming the Indian Standards. The first method is isolated protection (for convenience called as conventional method in this paper) and the second one is to use the naturally available steel in buildings as parts of LPS such as down conductor and earthing (for convenience called as structural earthing in this paper).

CORRIGENDUM

The Figure 1 published in the article RELATIONSHIP BETWEEN HEAT RATE AND WIND VELOCITY IN GAS FIRED GENERATOR by Dr Shivaji Biswas, Ex Director, NPC, DS Cube Energy and Enviro consultant and Sujoy Ghose, Ex-Manager of Electrosteel Castings Limited carried in June issue of IEEMA Journal was improperly printed and there some technical error which was mistakenly printed. We regret for the same.

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Opinion Smart Metering practices



Energy meters are a key component of a power supply system and play a significant role in revenue protection, quality control, compliance with regulatory requirements, consumer satisfaction and image building. Energy meter measures the amount of electrical energy consumed by a domestic consumer or a commercial consumer

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