

OCTOBER 2024 Indian E Rs. 50.00

Contrector Kegd. No. MCE/80/2024-26 at Mumbai Patrika Channel, Mumbai GPO on 27th & 28th of Previous month. R.N.I. Date of Publishing 26th of Every Previous at Mumbai Patrika Channel, Mumbai GPO, Mumbai-1, on 27th & 28th of Previous month. R.N.I. No. 11498 / 57 Date of Publishing 26th of Every Previous Month

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Total No. of Pages: 64

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अध्यक्षांच्या कलमातून....



उमेश रेखे अध्यक्ष, इकॅम

प्रिय सभासद बंधूंनो आणि भगिनींनो,

सोलर क्षेत्रात काम करणाऱ्या सभासदांसाठी एक आनंदाची बातमी अशी कि महावितरणने नवीन परिपत्रक काढले असून त्या द्वारे 100 kw पेक्षा जास्त भार असलेल्या वाणिज्यिक, औद्योगिक ग्राहकांना ओपन ऍक्सेस द्वारे ग्रिड मधून भार उपलब्ध करून घेण्याची संधी प्राप्त झाली आहे. पूर्वी 1000 kw पेक्षा जास्त भार असणे आवश्यक होते. सोलर पॉवर क्षेत्र हे आपल्या विदयुत क्षेत्राशी संलग्न असल्यामुळें तसेच सध्याचा काळात या क्षेत्रात काम करण्याच्या मोठ्या संधी उपलब्ध असुन याचा आपल्या बंधूनी फायदा घेणे आवश्यक आहे.

दिनांक १९, २०, २१ सप्टेंबर २०२४ रोजी पुणे येथे "Prakash 24" या नावाने Indian Society of Lighting Engineers तर्फे MIT World Peace विद्यापीठ, कोथरूड येथे LED क्षेत्रातील नवीन बदल या



सोलर क्षेत्रात व्यवसायाच्या मोठ्या संधी

बाबत प्रदर्शन व कार्यशाळेचे आयोजन करण्यात आले होते. त्यामध्ये आपल्या संघटनेचा सहभाग होता.

येत्या दोन महिन्यांत आपल्या संस्थेच्या विविध विभागांच्या ''वार्षिक सभा'' होत असून

(दिनांक १८ सप्टेंबर २०२४ - ठाणे विभाग,

दिनांक २८ सप्टेंबर २०२४ - अहमदनगर विभाग,

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दिनांक २० नोव्हेंबर २०२४ – पश्चिम महाराष्ट्र विभाग, दिनांक

२६ नोव्हेंबर २०२४ - पुणे विभाग) त्यामध्ये विविध कंपन्यांचे प्रदर्शन देखील आयोजित केलेले असून त्यामध्ये सभासदांनी मोठ्या संख्येने सहभाग नोंदवावा. विविध कंपन्यांच्या नवीन तंत्रज्ञानयुक्त वस्तूंची माहिती करून घेऊन आपले ज्ञान अद्ययावत करण्याची संधी उपलब्ध करुन घ्यावी. वार्षिक सभांमध्ये आपले प्रश्न, अडी-अडचणी उपस्थित करावे ज्याद्वारे संघटनेला सदरहू प्रश्न कळतील व ते सोडवण्यासाठी संघटना कायम बांधील आहे असे मी आश्वस्त करतो.

व्यवसाय करताना दिवसेंदिवस स्पर्धात्मक वातावरण निर्माण होताना दिसत आहे. परंतु स्पर्धा ही निकोप असावी. काम मिळेपर्यंत स्पर्धा असावी. त्यानंतर सदरहू काम करणारा आपलाच कोणीतरी बंधू आहे हे लक्षात ठेऊन ''एकमेका सहाय्य करू अवघे धरू सुपंथ'' या उक्तीप्रमाणे वागावे ही विनंती.

ऑक्टोबर महिन्यात देवीचा ''शारदीय नवरात्रौत्सव'' होत असून त्यासाठी सर्वांना हार्दिक शुभेच्छा! तसेच सभासदांचे प्रश्न, अडी– अडचणी सोडवण्यासाठी आम्हाला बळ दे असे देवी आईकडे साकडे घालतो.

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महासचिवांच्या कलमातून.....



देवांग ठाकूर महासचिव, इकॅम

नमस्कार मित्रांनो,

दिनांक ३१.०८.२०२४ रोजी महाराष्ट्र शासनाच्या उद्योग ऊर्जा व कामगार विभागातर्फे विद्युत तारतंत्री प्रमाणपत्र वितरण व विद्युत सुरक्षा जनजागृती कार्यक्रम संस्कार बँकेट हॉल मालेगांव येथे आयोजित करण्यात आला होता. या कार्यक्रमास मा. दादाजी भुसे साहेब. सार्वजनिक बांधकाम, सार्वजनिक उपक्रम तथा पालकमंत्री नाशिक जिल्हा, श्री. बी. के. उगले, विद्युत निरिक्षक नाशिक,

श्री. जगदिश इंगळे अधिक्षक अभियंता मालेगाव मंडळ कार्यालय, श्री. प्रेम सिंग, मालेगाव पॉवर सप्लाय लि. कंपनी तसेच आपल्या संघटनेतर्फे महासचिव श्री. देवांग ठाकुर आणि नाशिक विभागाचे चेअरमन श्री. सचिन फडतरे यांना सन्माननीय प्रमुख पाहुणे म्हणून बोलावण्यात आले होते. मान्यवरांच्या हस्ते सुमारे २०० व्यक्तींना विद्युत तारतंत्री प्रमाणपत्र वितरीत करण्यात आले. हा कार्यक्रम अत्यंत उत्साहात पार पडला.

विद्युत तारतंत्री प्रमाणपत्र वितरण

सार्वजनिक बांधकाम विद्युत खात्यात काम करणाऱ्या ठेकेदारांच्या अडी अडचणीबाबत सार्वजनिक बांधकाम मंत्री श्री. रविंद्रजी चव्हाण साहेब, सार्वजनिक बांधकाम विभाग सचिव तसेच अप्पर सचिव सार्वजनिक बांधकाम विभाग सौ. मनिषा म्हैसकर यांची मंत्रालयात भेट घेऊन सार्वजनिक बांधकाम विद्युत खात्यात काम करणाऱ्या ठेकेदारांच्या विविध अडचणींचे निवेदन देण्यात आले. सदर प्रसंगी आपणास सदर अडचणींबाबत चर्चा विनिमय करण्यासाठी वेळ देण्यात येईल असे सांगण्यात आले.

इकॅम ठाणे विभागाची ५वी वार्षिक सभा दिनांक १८ सप्टेंबर २०२४ रोजी संध्याकाळी ५ वाजता रंगला पंजाब बँकेट हॉल, ग्लॅडी ॲल्वरेस रोड़, हिल गार्डन, कोकणीपाडा ठाणे पश्चिम, ठाणे ४०० ६०७ येथे खेळीमेळीच्या वातावरणात संपन्न झाली. सदर प्रसंगी मे. हॅवेल इंडिया लि. यांचे सेमिनार आयोजित करण्यात आला होता. इकॅमतर्फे प्रभारी अध्यक्ष श्री. उमेश रेखे, महासचिव श्री. देवांग ठाकुर, खजिनदार श्री. रावसाहेब रकिबे तसेच सर्व विभागीय चेअरमन आणि संचालक उपस्थित होते. वार्षिक सभेनंतर भोजनाचा कार्यक्रम आयोजित करण्यात आला होता.

आपल्याला आपला व्यवसाय करताना काही समस्या येत असतात त्या आपण त्वरीत इकॅम मुख्यालयाला कळवाव्यात. आपल्या सभासदांना येणाऱ्या समस्यांचे निराकरण करण्यासाठी सभासदांच्या बाजूने आम्ही कायम कटीबद्ध राहू, असे आम्ही आपणास आश्वासन देतो.

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The Editor's Desk



Satish Sinnarkar Editor, IECT

The Industrial Training Institutes in Maharashtra have always focused on developing employable skills among the youth of the state. It's heartening to note that this year the percentage of students opting for the course of electrician is the highest. Out of total 24000 seats, 21600 are already filled for this course. Similarly, out of 6900 seats for the course of wireman, 5736 are already filled. This is a good news for the electrical industry of Maharashtra. There will be skilled manpower to this ever expanding industry.

Here is very encouraging statistics from IT institutions. There are 417 IT institutions run by the Government of Maharashtra and 549 private IT institutions in Maharashtra. They totally have 151576 seats for the various courses. What a



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ITI students opting for Electricals

huge number!

Students who are unable to continue higher education after 10th exam, have great opportunities through ITIs here. The ITI is treated equivalent to 12th standard and the students can join any college after completing the ITI course. Maharashtra is number one state in the country giving opportunities to students who have passed or failed in 10th exam. There is no age limit to take admission in ITI, although the lower age limit is 14 years of age. ITI, which is known as Maharashtra State Board of Skill, Vocational Education and Training.

The favourite subjects of students are electrical, followed by motor mechanics, electronic mechanics, fitter, welder, computer operator and wireman. The admission process is fully online. It is to be noted that there are a number of students who have secured more than 90% marks in the SSC exam. There are two main sections, namely, Engineering and non engineering. Students are opting for electrical training because they are sure that they will get either a good employment or can start their own start up.

Now it's our responsibility of the electrical fraternity to give opportunities to these aspiring students. We must keep a watch on the results after the completion of one year and take the students as apprentice. Ecam can have a tie up with a few IT institutes and offer campus interviews to the students.

Dear Satishji,

The September 2024 issue of IECT came in my hands at about 5:09 pm on Thursday 5th September 2024. Right from the first day of every month, I am always eagerly looking forward to receive IECT issue. The 72 page issue is a collector's delight. I have been collecting IECT ISSUES for many years now. I have formed the habit of reading it fully, as soon as I receive it. It has very informative Ads and knowledge sharing information and articles. I started reading the latest issue after dinner yesterday and did not realise that it was past midnight by the time I finished it. It is a matter of pride for all ECAMITEs to experience the transformation of IECT magazine into a true professional journal. Congratulations to you and your team. May IECT grow by leaps and bounds. **- Satish Kazi**



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Regd. No. MCE/80/2024-2026 • RN 11498 / 57 • Vol.73 • No. 886 • OCTOBER 2024

CREDITS

INDIAN ELECTRICAL CONTRACTOR & TRADER is edited, printed and published by Mr. Satish P. Sinnarkar on behalf of the Electrical Contractors' Association of Maharashtra at Stock Exchange Tower - 1st Basement, Dalai Street, Fort, Mumbai 400 023, on or about 28th of every month and printed at Shrirang Printers Pvt. Ltd. 302, Wadala Udyog Bhavan, Wadala, Mumbai 400 031.

All information contained and views expressed in the articles published in IECT are solely those of the authors, and may vary with time. **ECAM** and **IECT** do not necessarily subscribe to them, and hence will not be held accountable for the same. Ed.

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Case study of Temperature rise on Transformer with different loading conditions and class of insulating oils

Introduction:

Due to increase in power demand by industries and infrastructure service providers and others, the authorities are rigorously working on optimum utilization of renewable energy for power generations. Solar energy stands leading in place which is having lot of opportunities for technology development; as a result there is a significant technology development in Inverters, Transformers and other power generation associated equipment. Transformer plays dynamic role in solar power generation and a high capital asset to the plant.

The prime responsibility of power utilities is to meet the current demands and forecast future power demands along with considerations of environmental and fire safety requirements. Green energy is a topic of current interest in power sector which contributes less carbon footprints, limiting the pollution risks and safer operations with lesser maintenance involved.

As we all are aware, that mineral oil in Transformers is the most general & conventional material used. In search of alternatives to mineral oil, the bio-degradable, renewable, and high-performance liquid is predominantly explored and reconsidered in design and manufacturing of Transformers. Bio-degradability and renewability with high performance has become the basic requirements for the contemporary power industry sector.

This article presents one of the case studies of Transformer Temperature rise test results with a) mineral oil, b) bio-degradable, natural ester and c) ultra-low viscosity with superior heat transfer bio-based oil.

Experiment measurements:

In order to study the influence on Temperature rise of oil & winding, Temperature rise test was conducted at Hyderabad NABL accredited Testing laboratory as per IEC 60076 / IS 2026. Measurements of oil temperature by thermometer and Winding temperature by winding Resistance measurement method at minimum Tap were taken.

Transformer details:

Copper wound oil cooled Transformer (ONAN)

Insulating oil details:

Temperature rise test is conducted with below three different critical characteristics of oils:

Characteristics	Oil-1	Oil-2	Oil-3 Bio-degradable High performance oil (Nynas Bio 300x) 3.737	
Origin	Non-biodegradable	Bio-degradable		
Class	Mineral oil (uninhibited)	Natural Ester oil (FR3)		
Viscosity at 40°C (mm ² /s)	13.20	34.59		
Density at 20°C (g/ml)	0.8190	0.9212	0.7837	
Flash Point (°C)	156	354	146	



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Loading cycle 1: At 100% continuous load



b. High viscosity & high-density bio-degradable oil





c. Low viscosity & low-density bio-degradable oil





Parameter	Oil Rise (40 °C max)	HV Wdg. Temp. Rise (45 °C max)	LV Wdg. Temp. Rise (45 °C max)	HV Wdg. gradient	LV Wdg. gradient
Mineral oil	38.0	40.5	41.1	12.0	11.8
High viscosity & high-density bio- degradable oil	39.1	41.2	46.1	14.3	18.9
Low viscosity & low-density bio- degradable oil	37.0	39.1	38.1	11.2	10.1

Loading cycle: At 100% continuous load (All are in °C)

Loading cycle 2: At Solar variable load







b. High viscosity & high-density bio-degradable oil





Loading cycle: At Solar variable load as per site data (All are in °C)

Parameter	Oil Rise (40 °C max)	HV Wgd. Rise (45 °C max)	LV Wdg. Rise (45 °C max)	HV Wgd. gradient	LV Wgd. gradient
Mineral oil	33.6	39.1	42.6	14.3	17.9
High viscosity & high- density bio-degradable oil	35.6	40.6	48.1	16.1	23.0
Low viscosity & low-density bio- degradable oil	34.0	39.5	40.8	14.0	15.3

Typical Load cycle at 110% peak: (For reference)



Conclusion: It is clear that using low viscosity & low-density oil will help in reducing the Temperature rise of Transformer and help in increasing the loading capacity of Transformer; both in distribution and solar load cycle.

Contributors Mahesh G, Peddiraju G, Srinivasa Reddy D, M/s Esennar Transformers, Hyderabad

Courtsey : CEEAMA Newsletter March 2024



आपले ईलेक्ट्रिक मिटर आपणच तपासावे – श्रीहरि गोपाळ इंगळे

सर्वप्रथम आपल्या घरातील सर्व इलेक्ट्रिक उपकरणांची एका कागदावर नोंद करुन त्यांचे समोर वॅटेज लिहावे. आता आपल्या मिटरची दररोज नॉद घेऊन मिटर तपासण्याची कृती अमलात आणावी.

१) आपले मेनस्विच बंद करून मीटर चालते का हे तपासावे जर मीटर चालत असेल तर कुठेतरी वीजेची गळती आहे हे निश्चित. जर मीटर चालत नसेल तर पर्यायाने गळती नाही, हे नक्की.

 २) घरातील उपयोगातील सर्व उपकरणांचा वापर करुन २४ तासांचे मिटरचे रिडींग ध्यावे.

३) काही उपकरणांना वीज जास्त लागते उदा. एसी, गिझर, फ्रिज, हॉटप्लेट, ओवन इत्यादींचा एक दिवसाचा वापर पूर्णपणे बंद करुन मीटर रिडिंग घ्यावे म्हणजे वर उल्लेख केलेल्या उपकरणांसाठी वीजेचा किती युनिटचा वापर होतो हे लक्षात येईल.

४) आता प्रत्येक दिवशी क्रमा क्रमाने एसी, गिझर, फ्रिज, हॉटप्लेट, ओवन यांचा वापर बंद करुन मिटरचे रिडींग घेतल्याने कोणते उपकरण दिवसाला किती युनिटची मागणी करते हे लक्षात आल्या नंतर महिन्याला कोणते उपकरण किती युनिट घेते हे कळेल व त्याप्रमाणे कोणत्या उपकरणाचा वापर कमी करावा हे ठरवून वीज बिल आपण कमी करू शकतो आणि मग आवास्तव वाटणारे इलेक्ट्रिक बिल आटोक्यात आणू शकतो.

५) आपल्या हातात असणाऱ्या गोष्टी करायलाच हव्याच. उदा. जुना गिझर बदलणे. जर एसीचे तापमान २२ असेल तर आपण ते २५ वर ठेवावे म्हणजे बिलामध्ये २५% बचत होते. आपण गरजा खूप वाढविल्या आहेत. पूर्वी महिन्याचे बिल रु.५००/- पर्यंत असायचे ते आता २५००/- ते ३०००/-पर्यंत पोहचते. पण नियत्रंण ठेवले तर विजेचे बिल कमी येईलच. परंतु अजूनही खेडयापाडयात १०/१२ तासांचे लोड शेडींग आहे. त्यामुळे तिथला व्यवसाय बराच काळ ठप्प असतो व बिचाऱ्या गोरगरिबांच्या रोजी रोटी वरती गदा येते. औद्योगिक वीजेचा वापर करणाऱ्या ग्राहकांनी इलेक्ट्रिक एनर्जी ऑडीट करणे अत्यंत गरजेचे आहे.

धर्माची व्याख्या शब्दात पकडून सांगता येणे अशक्यच आहे. परंतु सध्याच्या अंधारलेल्या वातावरणात वीजेची बचत करुन चांगल्या मूल्यांचा नंदादीप लावणे हा खऱ्या अर्थाने धर्म आहे. आपणा सर्वांना माहित आहे की एक युनिट वीजेची बचत म्हणजेच ३ युनिट वीजेची निर्मिती कमी, आपण विजेची बचत करुन खेडयापाड्यात अंधारात चाचपडत असणाऱ्या आपल्या बांधवाना प्रकाशाकडे नेण्यास मदत करु या !

वीजेची बचत व पाण्याचा योग्य वापर करुन आपण सर्वांनी राष्ट्राला प्रगती पथावर नेण्यास हातभार लावू या !

आयुष्यातील महत्त्वाची व मेहन्तीचे अर्धशतक



१९७४ ते २०२४

वयाच्या १८ व्या वर्षीच मी नोकरीला लागलो आणि खूप मेहनत केली. कधीतरी स्वतःचा व्यवसाय करायचा हे मनात निश्चित होतेच. वीस वर्षे प्रामाणिकपणे नोकरी केल्यावर कोणताही अनुभव तसेच आर्थिक पाठबळ नसताना

फक्त प्रामाणिकपणा, जिद्द, चिकाटी यांच्या आधारावर जिद्दीने व्यवसाय सुरू केला. एका सामान्य मराठी माणसाने प्रामाणिक मार्गाने स्वतःचा व्यवसाय चालू केला तर महाराष्ट्राची ही माती नक्कीच भरभरून आशीर्वाद देते आणि यश मिळते, हा माझा ३० वर्षांचा अनुभव. अगदी पहिल्या दिवसापासूनच ईश्वराने मला साथ दिली ती आजपर्यंत...

सुरुवातीला साधा 'इलेक्ट्रिकल सामानाचे ट्रेडिंग'चा व्यवसाय सुरू केला होता. नंतर, सोबत काही मित्रांना घेऊन 'इलेक्ट्रिकल सर्व्हिसेस'चा व्यवसाय सुरू केला. त्यात प्रचंड मेहनत घेतली. त्यातूनच उभ्या राहिल्या 'श्रीहरी इलेक्ट्रिक कॉर्पोरेशन' आणि 'प्रिसिजन सर्व्हिस सेंटर' या माझ्या कंपन्या. मी एकट्याने चालू केलेल्या कंपनीत आज ४० व्यक्ति काम करत आहेत. कित्येक लोक काँट्रॅक्टवर काम करत आहेत. १९९३ साली वार्षिक टर्नओव्हर रु. २८०००, ने सुरुवात झालेली कंपनी आता उत्तरोत्तर वाढत आहे. यामागे फक्त आणि फक्त प्रामाणिकपणा आणि मेहनत. व्यवसायात ग्राहकाची विश्वासार्हता सांभाळण्याचे काम मी करतो. वेळोवेळी व्यवसायाच्या उन्नतीसाठी काही गोष्टींचा अभ्यास करणे गरजेचे असते, जो मी नेहमीच करत आलो. त्यामुळेच माझ्या इलेक्ट्रिकल व्यवसायामध्ये

१) इलेक्ट्रिकल क्लास वन कॉन्ट्रॅक्टर

२) एका इंटरनॅशनल कंपनीचा चॅनल पार्टनर (एल. के.)

- ३) सरकारमान्य NABL लॅब
- ४) AVMAC कंपनीचा मुंबईचा डीलर
- ५) फायर फायटिंगचा ऑथराईज्ड वेंडर

अशा पायऱ्या चढत गेलो. या प्रगतीमध्ये माझ्याकडे कार्यरत असलेल्या प्रामाणिक लोकांचाही मोलाचा वाटा आहे.

अजून एक महत्त्वाची गोष्ट मला माझ्या आईकडून शिकायला मिळाली, ती म्हणजे समाजाला आपण काही देणं लागतो. त्यामुळे 'मानव सेवा हीच खरी ईश्वर सेवा'. ईश्वराने व्यवसायात आणि समाजसेवेत संधी दिली. त्याबद्दल मी ईश्वराचे मनापासून आभार मानतो. 'कर्म तेरे अच्छे तो किस्मत तेरी दासी, नियत तेरी अच्छी तो घर मे मथुरा काशी...' याची स्वयंप्रचिती मला मिळाली.

ठेविले अनंते तैसेचि राहावे। चित्ती असो द्यावे समाधान ।। सर्वांना माझा सस्नेह नमस्कार

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An Exclusive Interview of Shri Madan Dodeja, founder, Vashi Integrated Solutions





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Alternate sources of energy, also known as renewable energy, include:

- 1. Solar Energy: Harnessing energy from the sun's rays, either through photovoltaic panels or solar thermal systems.
- **2. Wind Energy :** Generating electricity from wind using wind turbines.
- **3. Hydro Energy :** Producing electricity from the movement of water in rivers, oceans, or tidal currents, using hydroelectric power plants or tidal power turbines.
- **4. Geothermal Energy**: Utilizing heat from the Earth's core to generate electricity or provide heating and cooling.
- Biomass Energy : Converting organic matter (wood, crops, waste) into electricity, heat, or biofuels.
- **6. Hydrogen Energy :** Producing electricity or fuel from hydrogen, typically extracted from water or biomass.
- 7. Tidal Energy : Harnessing energy from ocean tides using tidal barrages or tidal stream generators.
- 8. Wave Energy : Capturing energy from ocean waves using wave energy converters.
- **9. Biofuels :** Producing fuels from organic matter (plants, algae, agricultural waste) for transportation or heating.
- **10.** Landfill Gas Energy : Generating electricity or heat from methane emissions in landfills.
- **11. Small Hydro Energy :** Producing electricity from small-scale hydroelectric projects, typically below 10 MW.
- **12.** Concentrated Solar Power (CSP) : Using mirrors or lenses to focus sunlight, generating heat or electricity.
- **13. Biogas Energy :** Producing electricity or heat from anaerobic digestion of organic matter (food waste, agricultural waste).
- **14. Syngas Energy :** Generating electricity or heat from synthetic gas produced by gasifying biomass or waste.

These subjects are crucial for developing sustainable energy solutions and reducing our reliance on fossil fuels.

Current Developments

India has been making significant strides in renewable energy, with a goal of achieving 175 gigawatts (GW) of renewable energy by 2022¹. The country has made substantial progress in solar and wind energy, with solar energy contributing 34% and wind energy contributing 47% of the total renewable energy installed capacity.

Key Developments:

Solar Energy : India has set an ambitious target of achieving 100 GW of solar power by 2022, with the current installed capacity standing at 25,212.26 MW.

Wind Energy : Wind energy is the leading source of renewable energy in India, with an installed capacity of 35,138.15 MW.

Government Initiatives : The Indian government has implemented various policies and initiatives to promote renewable energy, including the National Solar Mission and the Wind Power Program.

Private Sector Participation : The private sector has played a significant role in India's renewable energy growth, with companies like Tata Power Solar, Suzlon, and ReNew Power leading the way.

State-wise Progress : Karnataka, Tamil Nadu, Maharashtra, Gujarat, and Rajasthan are the top five states in terms of installed renewable energy capacity, accounting for almost 67% of the total capacity.

Future Prospects:

Increased Focus on Solar Energy : India is expected to continue its focus on solar energy, with plans to achieve 40% of its total energy production from non-fossil fuels by 2030.

Growing Demand for Renewable Energy:

The demand for renewable energy in India is expected to grow, driven by government initiatives, private sector participation, and increasing energy demand.

Challenges and Opportunities : India's renewable energy sector faces challenges like energy storage, grid integration, and financing, but also offers opportunities for innovation, job creation, and sustainable development



Special Interview

"Saving Lives, Assets & Businesses globally worth Billions of Dollars"

> Mr. Nalin Doshi Chairman and Managing Director Vimal Fire Controls

Mr. Nalin Doshi, CMD, is the driving force behind Vimal Fire Controls, is a testament to the adage, 'There is no replacement for hard work.' His journey from a youthful spark to leading a global fire safety powerhouse is a story of unwavering determination and innovation.

Starting as a small enterprise over four decades ago, Mr. Doshi's vision extended far beyond domestic boundaries. His entrepreneurial spirit led to the establishment of Vimal Fire Controls Pvt. Ltd. in 1996, marking a significant milestone in their journey to becoming a global leader.

Beyond business acumen, Mr. Doshi is a passionate innovator. His relentless pursuit of technological advancements has resulted in award-winning products that have earned recognition at the highest levels. For him, fire safety is more than a business; it's a mission to protect lives and property. This commitment is reflected not only in his professional endeavors but also in his philanthropic work. We had an opportunity to meet him and discuss with him in detail. I am happy

to share a part of the discussion with the readers of IECT. – Satish Sinnarkar, Editor.

Q As a leading manufacturer in the fire & safety industry, what is your opinion as regards R&D?

The fire and safety industry operates in a dynamic environment characterized by evolving threats and increasing complexity. Continuous innovation is imperative to address these challenges. Research and Development (R&D) serves as the bedrock of this progress, driving the development of cutting-edge solutions that safeguard lives and property.

At Vimal Fire Controls Pvt. Ltd., we emphasize that R&D is the lifeblood of not only the fire and safety industry but also of our organization. We are **the only \$30 million annual turnover Indian company** that delivers on its promise of **integrated R&D**,

manufacturing, testing, and live demo facilities. By fostering innovation, addressing emerging challenges, and improving product performance, this empowers us to protect lives and property more effectively.

Q Fire accidents require emergency services. How does Vimal fire handle such situations?

A Vimal Fire Controls distinguishes itself as Asia's sole provider of emergency response services for catastrophic fires, both domestically and internationally. The company deploys chartered cargo flights and a highly skilled workforce to combat these crises, aligning with its core mission of safeguarding lives, assets, and businesses on a global scale.

Q How do you evaluate the journey of progress done by Vimal Fire Controls?

Founded in 1982 and boasting ISO 9001, 14001, and 45001 certifications, Vimal Fire Controls has grown from a small operation into a major industry player. From humble beginnings as a small-scale operation with just four employees and an annual revenue of ₹15 lakhs, focused on refilling and maintaining fire extinguishers, Vimal Fire Controls has evolved into a leading provider of comprehensive fire safety solutions.

Our passionate team of over 250 professionals drives the development of its **SHOOTFIRE**brand, manufactured at a stateof-the-art facility and backed by Asia's largest R&D centre in Vadodara, India.

Q What is your vision while doing business? And how is the response?

Research, innovation, and development are the cornerstones of my business. This commitment has fueled the growth of SHOOTFIRE, Vimal Fire's flagship brand, into a globally recognized leader in fire safety solutions. With a track record spanning four decades, SHOOTFIRE offers products and services to a diverse clientele, including oil and gas, power, pharmaceuticals, and numerous other industries. Vimal Fire Controls' influence extends across seven continents, solidifying its position as a global force in fire protection.

Q What are your plans for the near future?

We are launching a next generation firefighting robot capable of tackling fires in the most challenging environment.

Q Please tell me about your brand SHOOTFIRE.

SHOOTFIRE, Vimal Fire Controls' flagship brand, has earned its reputation as the industry's leading fire safety expert. The company's mission aims to conquer fire entirely.

Q You talk about a Holistic Approach.

Yes. We recognize that true fire safety extends beyond extinguishing flames. The company offers a comprehensive approach that encompasses prevention, preparedness, and response. We help clients identify potential hazards and implement proactive measures. Additionally, we conduct fire safety training programs, empowering individuals with the knowledge to prevent and respond to fires effectively.

Q Who are your main clients?

Vimal Fire Controls has emerged as a global leader in fire safety. We have been at the forefront of combating major fire disasters, including those at ONGC, Ceylon Petroleum Corporation, HPCL, IOCL, and ENOC.

Q How are you utilising AI technology?

Embracing the potential of artificial intelligence and machine learning, Vimal Fire Controls is developing new products to protect uninhabited areas.

Efficiency Goals: Key initiatives to promote energy savings

Energy efficiency is a crucial element of energy policy, facilitating a reduction in energy onsumption, lowering greenhouse gas emissions and yielding economic benefits. The Bureau of Energy Efficiency (BEE) in India has been a leading force in promoting energy efficiency through various programmes and initiatives. This involves using less energy to deliver the same service by leveraging technological advancements, encouraging behavioural changes and implementing policy interventions. The dvantages of energy efficiency are broad and impactful. Economically, it results in reduced energy bills for households and businesses. Environmentally, it decreases greenhouse gas emissions, contributing to climate change mitigation. Furthermore, it enhances energy security by reducing demand, thereby easing the pressure on energy resources and infrastructure.

Trends in energy savings According to BEE, the cumulative electricity consumption by all sectors (industrial, domestic, agriculture and commercial) stood at 1,296,300 GWh during 2022-23. Of the total consumption, the industrial sector accounted for the largest share (41.16 per cent), followed by the domestic (25.77 per cent), agricultural (17.67 per cent) and commercial (8.29 per cent) sectors.

In 2022-23, the adoption of energy efficiency schemes/programmes reduced the overall electricity consumption by 249.89 BUs, leading to a 19.28 per cent reduction in electrical energy requirement across various sectors of the economy. The domestic sector had the highest contribution, accounting for 80.12 per cent of the total electrical energy savings from all energy efficiency interventions during 2022-23.

The adoption of energy efficiency

schemes/programmes resulted in overall energy savings of 50.81 million tonnes of oil equivalent (mtoe) in 2022-23. Various energy efficiency measures led to overall thermal energy savings of 25.28 mtoe, while overall electricity savings stood at 307.33 BUs. These energy savings translated into monetary savings worth Rs 1,883.12 billion per annum. The equivalent reduction in CO2 emissions was around 306.57 million tonnes (mt) annually. Energy efficiency schemes at both national and state levels, carried out by BEE and other agencies, led to a reduction of 33.35 mtoe in demand-side energy consumption. The industrial sector accounted for 61 per cent of the total energy savings while the domestic sector accounted for 30 per cent. The remaining sectors contributed around 8.13 per cent of total energy savings during 2022-23.

Key programmes and initiatives

India has committed to reducing its emissions intensity by 45 per cent by 2030 from the 2005 levels. This ambitious target, part of the Nationally Determined Contributions under the Paris Agreement, requires limiting absolute emissions to around 4,584 mt of CO2 equivalent (MtCO2e). To achieve this, the overall emissions should be reduced by 3,753 MtCO2e compared to the baseline scenario. Energy efficiency, particularly in buildings and appliances, will be crucial in meeting this goal.

Energy efficiency in buildings and appliances

India's building sector is poised for significant growth, with over 50 per cent of the 2030 building stock yet to be constructed. This offers a unique opportunity to incorporate energy efficiency from the ground up, unlike developed countries where most infrastructure is already in place. At present, about 33 per cent of the country's total electricity consumption is attributed to commercial and residential buildings, and this is expected to grow to approximately 40 per cent by 2031-32.

To address this, India has implemented several initiatives as given below.

Energy Conservation Building Code: This code sets minimum energy performance standards for commercial buildings, promoting energy efficiency right from the design phase.

Voluntary Star Rating Programme: Existing commercial buildings can opt for this programme, which rates them based on their energy performance.

Shunya Labelling Programme: This programme recognises and promotes net zero energy buildings and net positive energy buildings, encouraging the develop-

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ment of buildings that produce as much or more energy than they consume.

Standards and Labelling (S&L) Programme: The programme was introduced to inform consumers about the energy and cost-saving potential of various appliances and equipment. According to the 2022-23 Impact Assessment report by BEE, this programme has saved 81 billion units of electricity.

Key initiatives include: Star-rated ACs: High-efficiency air conditioners (ACs) are promoted through a star rating system, with incentives for consumers to replace older models with 5-star rated ones.

Market Transformation Programme: This incentivebased programme encourages consumers to switch to energy-efficient appliances, significantly reducing energy consumption.

LiFE Initiative

Launched by the Indian Prime Minister at COP26 in November 2021, the Lifestyle for Environment (LiFE) initiative aims to foster sustainable lifestyles to combat environmental degradation and climate change. The initiative is integrated into India's broader energy transition strategy and promotes the following.

Energy-efficient practices: Encouraging households to adopt energy-efficient appliances and sustainable mobility.

Behavioural changes: Promoting mindful consumption through campaigns like setting ACs at 24 °C to optimise energy use.

Industrial and government policies Energy efficiency in the industrial sector is driven by the Perform, Achieve and Trade (PAT) scheme. This scheme targets energyintensive industries, assessing specific energy consumption and setting reduction targets. Eight cycles of the PAT scheme have been launched, and the Ministry of Power has introduced the Carbon Credit Trading Scheme as a next-level action.

Transport sector and EVs

India has implemented fuel consumption standards for cars and heavy-duty vehicles. With the increasing number of electric vehicles (EVs), the government has also established guidelines and standards for charging infrastructure, promoting the development of a supportive ecosystem.

DSM

Demand-side management (DSM) interventions are critical for reducing energy demand and deferring investments in generation, transmission and distribution networks. In India, DSM measures have led to significant energy savings and efficiency gains. Key interventions include: Energy-efficient pump sets in agriculture: Improves the efficiency of irrigation systems.

Efficient water pumping systems: Enhances the efficiency of drinking and sewage water pumping systems in local bodies.

Distribution transformer network: Improves the efficiency of the electrical distribution network.

Star rating of appliances : Promotes energy-efficient appliances and white goods.

These measures have resulted in total annual energy savings of around 51 mtoe, which is 6.6 per cent of the country's total primary energy supply. This also equates to annual cost savings of approximately Rs. 1,943.2 billion and a reduction of around 306 MtCO2e.

Challenges and the way ahead

Despite the significant achievements in energy efficiency, several challenges remain that need to be addressed to ensure continued progress. One of the primary challenges is increasing awareness and adoption of energy-efficient practices and technologies across all sectors of society.

Another significant challenge is the development and enforcement of effective policy frameworks and regulations. Strengthening these frameworks and ensuring their stringent enforcement will be essential for maintaining momentum in energy efficiency efforts. Well-designed policies can drive substantial progress by setting clear standards and incentivising the adoption of energyefficient solutions.

Conclusion

Energy efficiency is a cornerstone of sustainable development, offering economic, environmental and social benefits. BEE's comprehensive programmes and initiatives demonstrate the potential for substantial energy savings and emission reductions. Continued efforts in policy implementation, technological innovation and stakeholder engagement will be key to achieving long-term energy efficiency goals and combating climate change.

- Akanksha Chandrakar

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Catalysing Change: Key reforms for improving ease of doing business in the transmission sector

Prompted by the ambitious goals set out in the National Electricity Plan, a revolutionary transformation is taking place in India's energy sector. The Central Electricity Authority (CEA) introduced the plan in September 2023 to tackle the rising electricity demands through the expansion of generation and transmission infrastructure. The CEA proposal will add 129,000 ckt km of lines and 710,000 MVA of capacity using HVDC-bipole systems. This will improve grid reliability, in turn, providing consistent power, and reducing fluctuations and blackouts. With this, private developers will be drawn in by cost-effective choices and increased return on investment. However, regulatory hurdles and land acquisition issues may delay projects and increase financial risks for private entities. Overcoming these obstacles is crucial for facilitating ease of doing business, safeguarding the power grid and ensuring continued private sector involvement.

Key areas and solutions for ease of doing business by enhancing capital efficiency Compliance with rules due to change in law: When changes in law (CIL) affect expenses, these costs are recovered through appropriate judicial orders. Until these orders are finalised, funding comes from high-interest sources, thereby emphasising the need for prompt resolution of CIL disputes. However, several challenges hinder this process. One such hindrance arises during the petition-filing process.In cases of CIL being established due to prevailing judicial precedents, all claims are validated within 60 days of the petition being filed. Non-compliance with the timeline leads to high carrying costs which affects customers.

The recent decision by the Central Electricity Regulatory Commission (CERC) to adjudicate all contract claims (for the entire construction period) into one petition complicates timely verification within the 60-day timeline and improperly places CIL and other contractual claims on the same pedestal. Transmission projects are phased according to the transmission service agreement (TSA) specifications for tariff recovery. In such cases, CIL claims should not be disqualified from compliance with the 60-day verification timeline simply because all elements of the project or the overall project commercial operation date (COD) have/has not been achieved. Therefore, to ensure efficiency and clarity in implementing CIL rules, the Ministry of Power (MoP) may issue appropriate directions with clarifications to simplify the verification and resolution process.

Second amendment to CERC's sharing regulations: The second amendment to the Sharing Regulations By Arun Sharma, Chief Executive Officer, Infrastructure Business, Sterlite Power

conflicts with the MoP's directions under the Electricity Act and the TSA. The TSA ensures fair compensation for

transmission licensees, even if the CODs of transmission systems and associated generation facilities don't align. The MoP directions imply that full transmission charges are to be paid to the transmission licensee upon completion of an ISTS element, regardless of the readiness of associated upstream/downstream elements. Current regulations impose extra payments on the transmission licensee for delays beyond COD, despite provisions in the TSA, which the MoP directions uphold. The amendment also fails to address bilateral payments if a transmission element achieves deemed COD, but the power generator does not.

To resolve these discrepancies, transmission licensees should recover 100 per cent of the full tariff for the first six months after achieving deemed COD. Defaulting parties should face only liquidated damages specified in the TSA, with no additional penalties. Also, tariff recovery due to mismatches should be handled via a pool account instead of the current bilateral system to ensure timely payment.

Right-of-way (RoW) portal: Securing RoW clearances is complex and lengthy, often delaying projects. Revised financial RoW compensation guidelines also impact projects significantly. Therefore, it is recommended that the MoP should develop an online RoW management portal jointly with the Department of Telecommunications. Any increase in capital costs due to the introduction of such RoW guidelines should be treated as a deemed CIL event, and relief given accordingly.

Acquisition of substation lands: Substation land for transmission projects should also be eligible for the same benefits given to private renewable energy developers in Gujarat and Rajasthan, such as the deemed NA status. Gujarat categorises renewable energy projects as "bonafide industrial purpose" under Section 65B of the Gujarat Land Revenue Code, 1879, granting 30-year non-cultivation permission for leasehold land.

To conclude, as India's energy sector advances towards sustainability and improved transmission networks, addressing regulatory uncertainties, streamlining RoW clearances and ensuring smooth land acquisitions are crucial. These measures are vital for grid reliability, achieving national climate goals, ease of doing business and economic growth – ultimately benefiting all stakeholders, including end consumers.

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Cabinet approves Modification of the scheme of Budgetary Support for the cost of Enabling Infrastructure for Hydro Electric Projects

An outlay of Rs.12461 crore to be implemented from FY 2024-25 to FY 2031-32 Posted On: 11 SEP 2024 8:10PM by PIB Delhi The Union Cabinet chaired by the Prime Minister Shri Narendra Modi has approved the proposal of the Ministry of Power for modification of the scheme of budgetary support for the cost of Enabling Infrastructure for Hydro Electric Projects (HEP) with a total outlay of Rs.12461 crore. The scheme would be implemented from FY 2024-25 to FY 2031-32.

The Government of India has been taking several policy initiatives to address the issues impeding Hydro Power development, viz., remote locations, hilly areas, lack of infrastructure etc. To promote the hydro power sector and to make it more viable, the Cabinet in March, 2019, approved measures, namely declaring large hydro power projects as Renewable Energy sources, Hydro Power Purchase Obligations (HPOs), tariff rationalization measures through escalating tariff, budgetary support for flood moderation in storage HEP and budgetary support for the cost of enabling infrastructure, i.e., construction of roads and bridges.

For the faster development of Hydro Electric Projects and improvement of infrastructure in the remote project locations, the following modifications have been made in the earlier scheme:

a) To widen the ambit of the Budgetary Support for cost of Enabling Infrastructure by including four more items apart from construction of roads and bridges i.e., the cost incurred for the construction of: (i) transmission line from power house to the nearest pooling point including upgradation of pooling substation of State /Central Transmission Utility (ii) ropeways (iii) railway siding, and (iv) communication infrastructure. The strengthening of existing roads/bridges leading to the project will also be eligible for central assistance under this scheme.

b) The scheme has a total outlay of Rs.12,461 crore for cumulative generation capacity of about 31350 MW to be implemented from FY 2024-25 to FY 2031-32.

c) The scheme will be applicable to all Hydro Power Projects of more than 25 MW capacity including the private sector projects which have been allotted on a transparent basis. This scheme will also be

Hydro Electric Projects

applicable to all Pumped Storage Projects (PSPs) including Captive/Merchant PSPs, provided that the project has been allotted on a transparent basis. A cumulative PSP capacity of about 15,000 MW would be supported under the scheme.

d) The projects whose Letter of Award of first major package is issued upto 30.06.2028 would be considered under this scheme.

e) The limit of Budgetary Support for the cost of Enabling Infrastructure has been rationalized to Rs.1.0 crore/MW for projects up to 200 MW and Rs. 200 crore plus Rs.0.75 crore per MW exceeding 200 MW, for projects above 200 MW. For exceptional cases the limit of budgetary support may go upto Rs.1.5 Crore/MW provided sufficient justification exists.

f) The Budgetary Support for cost of Enabling Infrastructure will be provided after appraisal of the cost of Enabling Infrastructure by the DIB/PIB and approval of the Competent Authority as per extant guidelines.

Benefits:

This revised scheme would help in faster development of hydro electric projects, improve infrastructure in the remote and hilly project locations and would provide large number of direct employment to the local people along with indirect employment / entrepreneurial opportunities through transportation, tourism, small-scale business. It would encourage fresh investments into hydro power sector and incentivize timely completion of new projects.

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सौरऊर्जेसाठी महावितरणचा विद्युतवेग

देशातील सर्वाधिक वीजग्राहक असलेल्या कंपनीपैकी एक असलेल्या महावितरणकडून सौरऊर्जा खरेदीसाठी विद्युतवेगाने धावपळ सुरू आहे. कंपनीने मागील आठवड्यातील ५,४०० मेगावॉटच्या कंत्राटदार नियुक्तीनंतर आता पुन्हा ७,०४३ मेगावॉट सौरऊर्जेसाठी कंपनीला आयोगाकडून हिरवा कंदील मिळाला आहे. पुढील काळातील हरित ऊर्जेचे लक्ष्य पूर्ण करण्यासाठी तसेच राज्यातील पावणेतीन कोटी ग्राहकांच्या वीजमागणीच्या पूर्ततेसाठी कंपनीकडून हे युद्धपातळीवर प्रयत्न सुरू आहेत.

महावितरण ही राज्यातील २.७३ कोटी ग्राहकांना वीज देणारी सरकारी कंपनी आहे. राज्यभरात मुंबई शहर व उपनगर वगळता सर्वत्र महावितरणकडूनच वीज दिली जाते.

या ग्राहकांना कंपनीने यंदाच्या उन्हाळ्यात विक्रमी २५ हजार ३०० मेगावॉट वीज पुरवली होती. आता येत्या काळात वीजमागणी २८ हजार मेगावॉटपर्यंत जाण्याची शक्यता आहे. त्या तुलनेत कंपनीचे वीजखरेदी करार २७ हजार ७०० मेगावॉटचे आहेत. यामध्ये औष्णिक, सौर, पवन, जलविद्युत अशा सर्व प्रकारच्या विजेचा समावेश आहे. या स्थितीत मागणीइतका वीजपुरवठा होऊ न शकल्यास खुल्या बाजारातून महागड्या दराने वीज खरेदीची वेळ कंपनीवर येते. त्या महागड्या विजेचा खर्च पुढे ग्राहकांकडून इंधन समायोजन शुल्काच्या (साधारण २० पैसे ते १.३० रुपये प्रति युनिट) माध्यमातून वसूल केला जातो. हा सर्व भार टाळण्यासाठी कंपनीने अधिकाधिक वीज खरेदी करारासाठी शीघ्रगतीने हालचाली सुरू केल्या आहेत. याअंतर्गतच दोन महत्त्वाच्या वीज खरेदी निविदांसाठी महाराष्ट्र वीज नियामक आयोगाकडून महावितरणने हिरवा कंदील मिळवला आहे. यापैकी ५,९९१ मेगावॉट वीज ही मुख्यमंत्री कृषी सौरपंप योजनेसाठी असेल. तर, १,०५२ मेगावॉट सौरऊर्जा ही उपसा सिंचनासाठी असेल. याचा थेट ग्राहकांवर परिणाम होणार नसला तरीही, इतकी वीज सौर माध्यमातून या योजनांना मिळाल्यास निवासी, व्यावसायिक व उद्योगांसाठीच्या विजेचा तेवढा भार हलका होणार आहे. या दोन्ही वीज पुरवठ्यासाठी निविदा प्रक्रिया राबविण्याला आयोगाने मंजुरी दिली आहे.

दरांची मर्यादा

या दोन करारांची वीज ही २.८० रुपये ते ३.१० रुपये प्रति युनिट, या दरम्यानच खरेदी करण्याचे निर्देश आयोगाने महावितरणला दिले आहेत. त्याचबरोबर आगामी काळातील सौरऊर्जा करारदेखील याच दरांदरम्यान असावा, असे संकेतही आयोगाकडून देण्यात आले आहेत. अदानी समूहाकडील ५ हजार मेगावॉट सौरऊर्जा ही २.७० रुपये प्रति युनिट दराने खरेदी होत आहे.

हरित उर्जेचे लक्ष्य पूर्ण करण्यासाठी हालचाली वीज वितरण कंपन्यांना एकूण वीज खरेदीपैकी किमान २५ टक्के वीज ही हरित (सौर, पवन व जल) स्रोतांकडून खरेदी करणे अत्यावश्यक असते. महावितरणकडील सध्याच्या २७ हजार ७०० मेगावॉटच्या वीज खरेदीच्या करारापैकी फक्त १२ टक्के वीज या हरित स्रोतांमधील आहे. सन २०२८पर्यंतच्या वाढत्या वीज मागणीत कंपनीला हरित उर्जेचे प्रमाण ३२ टक्क्यांवर न्यावे लागणार आहे. तर, २०२८-२९पर्यंत हे प्रमाण ४१.३६ आणि २०२९-३०पर्यंत ४३.३३ टक्क्यांवर न्यावे लागणार आहे. हे लक्ष्य पूर्ण करण्यासाठीच महावितरणने सौरऊर्जा खरेदीचे करार व त्यासंबंधी निविदा काढण्यासाठी आयोगाच्या परवानग्यांचा सपाटा लावला आहे.

'इलेक्ट्रिशियन'कडे कल

विद्यार्थ्यांमधील व्यवसायाभिमुख कौशल्ये विकसित करण्यात मोलाचा वाटा असलेल्या राज्यातील आयटीआय म्हणजेच औद्योगिक प्रशिक्षण संस्थांमध्ये यंदाही इलेक्ट्रिशियनच्या अभ्यासक्रमांना विद्यार्थ्यांनी पसंती दिली आहे. इलेक्ट्रिशियनच्या खालोखाल फिटर, मोटार मेकॅनिक, कम्प्युटर ऑपरेटर या कौशल्यांकडे विद्यार्थ्यांचा ओढा असल्याचे समोर आले आहे. यंदा आयटीआय प्रवेशासाठी दहावीत ९० टक्क्यांपेक्षा अधिक गुण मिळवणाऱ्या विद्यार्थ्यांची संख्या लक्षणीय आहे. पहिल्या यादीतील उपलब्ध एक लाख २८ हजार २९१ जागांपैकी ८२ हजार ४१६ विद्यार्थ्यांना अलॉटमेंट मिळाली असून, त्यांना सोमवारपर्यंत आपले प्रवेश निश्चित करायचे आहेत.

राज्यातील आयटीआयच्या ऑनलाइन प्रवेश प्रक्रियेत यंदा

एक लाख ९६ हजार ०४८ विद्यार्थ्यांनी केलेले अर्ज अंतिम म्हणून नोंदवून घेण्यात आले. प्रवेशाच्या चार फेऱ्यांनंतर गुणवंत विद्यार्थ्यांनी यंदा इलेक्ट्रिशियन, फिटर, वेल्डर, मेकॅनिक डिझेल, कम्प्युटर ऑपरेटर, वायरमन आदी अभ्यासक्रमांना पसंती नोंदवली आहे. या विद्यार्थ्यांमध्ये दहावीत ९० टक्क्यांपेक्षा जास्त गुण मिळवणाऱ्या विद्यार्थ्यांचा टक्का जास्त असल्याचे तंत्रशिक्षण सांगण्यात आले. संचालनालयाकडून राज्यातील एक लाख २१ हजार विद्यार्थ्यांनी यंदा इंजिनिओरेंगच्या एक वर्ष सर्टिफिकेट, दोन वर्ष कालावधी आणि बिगर-इंजिनिओरेंगच्या एक वर्षाच्या अभ्यासक्रमांना प्रवेश घेतला आहे. या अभ्यासक्रमांमध्ये वरील अभ्यासक्रम अधिक लोकप्रिय आहेत. या अभ्यासक्रमांचा अभ्यास केल्यानंतर उद्योगक्षेत्रात नोकरीची हमी असल्याने हेच ट्रेड गुणवंत विद्यार्थी निवडत असल्याचे स्पष्ट होत आहे.

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Current rating refers to the maximum amount of current that can pass through a device without causing damage:

The current rating of a fuse is the maximum amount of current that can pass through the fuse without melting the wire or breaking the circuit. Fuses are electrical safety devices that protect appliances from damage caused by overcurrent. Power switching transistors These transistors can have current ratings of several hundred amperes and voltage ratings of over 1000V. Power supplies The rated output current of a power supply is the amount of current that the supply can provide. When a load draws more current than the rated output current, the power supply can become unstable and components may degrade.

The standard metric unit for current is the ampere, which is often abbreviated as Amp or A. One ampere is equal to one coulomb of charge passing through a wire's cross section every second.

A fuse's current rating is the maximum amount of current that can pass through it without melting. It's usually indicated on the fuse itself as a number followed by the letter "A" for amps. For example, a fuse with a 5A rating will melt if the current flowing through it exceeds 5 amps.

Fuses are safety devices that prevent damage to electrical appliances and fires. They're made from materials with a low melting point, like copper or an alloy of lead, acid, and tin. When a high current flows through a circuit, the fuse's wires heat up and melt, breaking the circuit and stopping the flow of current.

A cable's current rating is the maximum amount of amperage it can carry before the conductor or insulation melts. The current rating is determined by several factors, including:

Temperature rating: The cable's temperature rating is a key factor in its current rating.

Conductor size: Larger conductors have a higher current rating. Installation method: The way a wire is installed can affect its current flow capacity. Environmental conditions: The ambient temperature and airflow around the cable can affect its current rating. Solar radiation: Exposure to direct sunlight can increase a cable's operating temperature and reduce its current rating.

Material: Copper is generally better able to handle higher current loads than other materials. Backfill thermal resistivity: A lower thermal resistivity of the backfill can improve a cable's current rating.

You can use an ampacity chart to determine a wire's maximum rated current for different operating conditions.

The current rating of a transformer is the maximum amount of current it can handle while still operating properly. A transformer's rating is usually indicated on its nameplate and is measured in kilovolt-amperes (kVA). The rating of a transformer is determined by the manufacturer based on its design and intended use. It's important for businesses to understand the power capacity of their transformers so they can use them effectively. The rated current of a transformer can be calculated using the formula: *Rated Current = Transformer VA / (Transformer Voltage and 1.732). In this formula, VA is the transformer's rated volt-ampere capacity, 1.732 is the square root of 3, and I is the rated current. A current transformer (CT) is a type of transformer that lowers current signals for measurement purposes. The rating factor of a CT is the number of times the rated current it can handle while remaining accurate. Typical rating factors for CTs are 1, 1.5, 2, 3, and 4.

The current rating of a molded case circuit breaker (MCCB) can range from 10 amps to 2,500 amps. The current rating is the maximum current that the circuit should draw. MCCBs are often used in heavy-duty industrial applications, as well as low and medium-voltage applications. They can handle higher levels of current than miniature circuit breakers (MCBs). MCCBs have several advantages, including:

Ground fault protection: MCCBs can detect ground faults and quickly interrupt the flow of current to prevent injury or damage. Selective coordination: MCCBs can selectively trip only the device that is closest to the fault, while leaving other devices intact. Remote operation: Unlike MCBs, MCCBs can be remotely operated by shunt wires.

Published By Campaign IIuminate Your Path to Success with our Electrical Expertise DAMODAR M TIWARI Narrendra Electricals Land Scape Panel Work **Govt. Licensed Contractor & Engineer** 28, 9th Floor, Bldg. No. 3, Navjeevan Comm. Prem. Society, Lamington Road, Tardeo, Mumbai - 400 008. Office Residential damodar@narrendraelectricals.com 1. Understanding Electrical Standards 6. Commitment to Safety narendraelectricals1971@gmail.com 2. Application of Works Principles 7. Critical Thinking 3. Blueprint Interpretation 8. Logical Problem Solving 022 2309 8331/4014 0443 4. Precision and Coordination 9. Customer Service Skills 90048 63750/9323282007 5. Time Management and Coordinatiion www.narrendraelectricals.com What We Do SERVING TO THE SOCIETY FOR THE PAST 34 YEAR'S

Selecting a Power Cable

Current carrying capacity: This is based on the cable's thermal heating. Short circuit rating: The cable's ability to withstand short circuits and thermal damage is checked.

Voltage regulation: This is one of the main factors that determine cable size.

Load current: The most suitable cable will have a current rating that's closest to the calculated load current.

Voltage drop: The permissible voltage drop limits are generally 3% to 5% of normal voltage at full load. Mechanical durability: The cable's mechanical durability is important.

Electrical performance: The cable's electrical performance is important.

Flexibility: The cable's flexibility is important.

Heat, flame, and cold resistance : The cable's resistance to heat, flame, and cold is important.

Corrosion resistance: The cable's resistance to corrosion is important.

You can also consider the installation conditions, environmental conditions, cable length, and circuit conditions.

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National Green Hydrogen Mission

India is making significant strides towards a clean energy future with its National Green Hydrogen Mission, which is projected to attract investments worth ₹10.6 lakh crore (\$129 billion) by 2030. The mission aims to produce 5 million tonnes of green hydrogen annually and add 135 GW of renewable energy capacity, primarily from solar and wind

power.

Key states such as Gujarat, Tamil Nadu, Maharashtra, and Andhra Pradesh will be central to this renewable energy expansion, with Gujarat contributing 43% of the required capacity and Tamil Nadu 24%. The mission is expected to increase India's peak electricity demand by 67 GW, bringing total

demand to 409 GW by 2030. Electrolysers, a crucial component in green hydrogen production, will need 74 GW of capacity. This will ensure the decarbonizationof industries like fertilizers, refineries, and methanol production, while also reducing India's dependence on fossil fuels.

In addition, the mission will reduce the need for battery storage systems by 6 GW, resulting in substantial

cost savings for the power system. As renewable energy's share in the generation mix grows, it is projected to account for 40% of India's electricity by 2030.

With these ambitious targets, India is positioning itself as a global leader in the green hydrogen market, contributing significantly to its goal of net-zero emissions by 2070.

Stay tuned for more updates as we continue to track the progress of this groundbreaking initiative. Together, we are powering a brighter, greener future.

Infinite Light

With changing times customer requirements change as do preferences and choices. The reason Prolite is a market leader today, is precisely because it has always been at pace with changes and its R&D has been its defining hallmark over three odd decades. Exigency and emergency signs too have adapted to the new age.

It has been a custom to have different light fittings installed in any enclosed space. Conventional lights are installed and emergency lights installed separately to light up when power fails. However, Prolite has now come up with a single elongated light fitting which can extend up to 30 feet across a ceiling which combines both conventional and emergency lights in one rectangular straight line. It can be in one rectangular straight line and also combined in different ways to shape a 'T' or an 'L' or even an 'N'. In normal conditions, the light will appear as a

rectangular tube light homogenously illuminated end to end. However, if power fails, sections of the light will fail but sections which are actually battery-backed emergency lights will still burn bright.

Locating Cable Fault

There are a few ways to locate a cable fault, including using a cable fault locator, cable tester, or time domain reflectometer (TDR):

Cable fault locator An electronic device that detects faults in underground cables by responding to the electric fields surrounding them. Cable fault locators can help save time and money by quickly identifying the location of a fault. Cable tester Also known as a line tester, this tool verifies if a signal is transmitted by a cable. Cable testers can help diagnose connectivity issues.

Time domain reflectometer (TDR) A tool that can find cable faults, such as opens, shorts, and bad cable splices. The TDR is connected to one end of the line and shows the distance to the fault. Surge generator Used in conjunction with pre-location and pinpoint location equipment to locate faults in power cable networks. Surge generators are available in a variety of models for low voltage to very high voltages.

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Dry Type Transformer : Uses and Maintenance

A dry-type transformer is a type of transformer that uses air or gas as the cooling medium instead of oil. Uses:

1. Indoor applications: Dry-type transformers are suitable for indoor installations due to their minimal fire risk and low noise levels.

2. Low-voltage applications : They are often used in low-voltage applications such as residential, commercial, and industrial power distribution.

3. High-reliability applications : Dry-type transformers are used in critical systems like hospitals, data centers, and emergency power systems.

4. Explosion-proof applications: They are used in hazardous environments like chemical plants, oil rigs, and mines.

Maintenance:

1. Regular inspections : Check for signs of overheating, corrosion, or physical damage.

2. Cleaning : Clean the transformer and surrounding area regularly to prevent dust buildup.

3. Tightening connections : Ensure all electrical connections are tight and secure.

4. Thermometer checks :

Monitor temperature levels to ensure they are within the recommended range. **5. Dielectric tests :**

Perform dielectric tests : ensure the transformer's insulation is intact.

6. Load management : Ensure the transformer is not overloaded, as this can lead to overheating and premature failure.

7. Replacement of aging components : Replace aging components like fans, gaskets, and bushings as needed. Remember to always follow the manufacturer's instructions and safety guidelines when performing maintenance on a dry-type transformer. If you're unsure about any aspect of maintenance or repair, consult a qualified electrician or transformer specialist.

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Pune, India, 20th Sept 2024 – The highly anticipated EPS Expo 2024 will take place from 15th to 17th November at Mahalaxmi Lawns (near Rajaram Bridge, Karve Nagar), Pune. This event will bring together industry leaders, innovators, and policymakers to explore the future of energy solutions and sustainable development. Organized by A and A Media Group (Industrial Outlook®), the Expo will focus on the theme "Linking the Ecosystem of Electrical, Power, Solar, and EV."

With over 100 exhibitors showcasing the latest innovations in electrical systems, power generation, solar energy technologies, and electric vehicle (EV) infrastructure, EPS Expo 2024 promises to be a key platform for driving innovation and collaboration in these vital sectors.

Why Pune?

Pune, as a growing industrial hub, is fast becoming a center of innovation in renewable energy and electrical infrastructure. With its forward-thinking approach and commitment to sustainability, the city is a perfect venue for the EPS Expo, offering easy access to Western India's energy and industrial sectors.

Register Now!

Registration for the event is now open, and interested participants can sign up on the official EPS Expo website: www.epsexpo.com. We are offering free entry for visitors. For exhibitors and sponsors, limited spots are available to showcase your brand in front of key industry players.

EPS Expo 2024 to Drive Innovation in Electrical, Power, Solar and EV

Pradeep 'Amit' Kumar

Head- BD & Editorial A and A Media Group(Industrial Outlook[®]) Events President- International Federation of Electric Vehicle Association (IFEVA)

About EPS Expo

The EPS Expo, organized by A and A Media Group (Industrial Outlook®), is India's leading event dedicated to the Electrical, Power,Solar and EV sectors. The Expo serves as a platform for professionals and organizations to collaborate, innovate, and drive the transition to a more sustainable future. With past editions of our conferences cum mini expos garnering tremendous success across the country, EPS continues to set new benchmarks in promoting renewable energy and smart power solutions.

Key Aspects of Industrial Outlook:

 Industry-Focused Publications: The platform publishes sector-specific magazines like *Industrial Electrical* and *IO-Construction Chronicle*, offering expert analysis and market intelligence.

• Conferences and Exhibitions: It organizes business conferences, expos, and networking events across India, including the renowned EPS Expo, where industry leaders gather to discuss advancements in energy, power, and sustainability.

• Thought Leadership: Industrial Outlook provides a platform for thought leaders, innovators, and experts to share insights, helping industries navigate challenges and seize opportunities in the fast-evolving market landscape.

For press inquiries, please contact: Swati Tomar, A and A Media Group Phone: 8588957350 Email: info@industrialoutlook.in

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Government is committed to provide Energy and Food Security : Union MoS Shri Bhagwanth Khuba

"India is marching ahead in the Renewable Energy Sector"

The Union Minister of State for Chemicals & Fertilizers, and New and Renewable Energy, Shri Bhagwanth Khuba, graced and addressed the first anniversary of the National Portal for Rooftop Solar and the Foundation Day of the All India Renewable Energy Associations (AIREA). The event was celebrated as the Renewable Energy Festival of India, highlighting the nation's commitment to achieving energy security and sustainability. Goa Chief Minister Dr Pramod Sawant and Minister of Power Shri Sudin Dhavalikar were also present on this occasion.

Addressing the gathering, Minister Bhagwanth Khuba emphasized government's unwavering dedication to providing energy and food security to all citizens. He noted that India's visionary target of achieving 175 GW of renewable energy (fossil fuel) by 2022, as declared at the COP 2015 conference, was accomplished even before the set deadline and that this remarkable achievement was recognized by the global community. Building on this success, at the COP 26 conference, the Prime Minister unveiled India's ambitious new target of reaching 500 GW of renewable energy by 2030, with the ultimate aim of achieving net zero emissions by 2070, Minister Bhagwanth Khuba said. He added that India stands proudly as the only country to have realized the goal set at COP-15, but there is still much work ahead to attain the net zero target.

The Minister also highlighted the recent successful visits of the Prime Minister Narendra Modi to America and France, showcasing India's unwavering commitment to realizing its ambitious goals and dreams across all sectors.

He explained that one of the significant steps taken by the Government of India is the launch of Production Linked Incentive (PLI) schemes for renewable energy, aimed at promoting self-sufficiency and indigenous production in the energy sector. Under this scheme, a PLI of Rs. 1500 crore has been initiated, enabling the installation of 65 GW capacity through an investment of Rs. 19500 crore. By 2030, India aims to achieve a total of 500 GW, with 280 GW of it coming from solar energy.

In line with India's dedication to harnessing clean energy sources, the government is also implementing a PLI scheme of Rs. 17500 crore for the National Hydrogen Mission. Regulations are currently being formulated to support the hydrogen scheme, further propelling India's rapid advancement in the energy sector.

Chief Minister of Goa Dr Pramod Sawant highlighted initiatives by State government in the field of green and clean energy. Goa will contribute positively in achieving Net Zero target, said Chief Minister.

National Portal for Rooftop Solar was launched by Prime Minister Narendra Modi on 30/07/2022.

The Government of Maharashtra has several policies for hydropower projects, including :

Pumped Storage Projects (PSPs) The state government has a policy to develop megawatt-level energy storage systems in the form of PSPs. The policy's objectives include :

Promoting co-located pumped hydro-solar hybrid power projects Promoting PSP-cum-large LIS for inter basin transfer of water Attracting private sector investment

Sale of Power

The Generation Policy-2020 sets a target of 380 MW to be achieved through SHPs by 2025. The state will purchase power from SHPs directly through Energy Purchase Agreements.

Lease of state's hydroelectric projects The state government will lease out hydroelectric projects through a bidding process. The lease term will be 25 years from the commercial operation date.

State Hydel Policy The state government has a policy for the development of small hydropower projects. The policy includes provisions for:

* Taxes, duties, and other levies

* Exemption from electricity duty and tax on sale of electricity for captive power plants

* Transfer of ownership of generating units

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इंडियन सोसायटी ऑफ लायटिंग इंजिनीअर्स तर्फे राष्ट्रीय पातळीवरील ''प्रकाश २०२४'' चे आयोजन

दिनांक १९,२०,२१ सप्टेंबर २०२४ ला पुण्यातील एम.आय.टी. वर्ल्ड पीस विद्यापीठ कोथरूड येथे सकाळी ९.३० वाजता करण्यात आले. या प्रसंगी बिल्डिंग क्षेत्रातील तज्ज्ञ आणि मान्यवर उपस्थित होते, विविध कार्यशाळेचे आणि परिसंवादाचे आयोजन करण्यात आले होते. कार्यक्रमाचे प्रमुख पाहुणे भारताचे हवाई उड्डाण राज्य मंत्री श्री मुरलीधर मोहोळ, एम आय टी चे संस्थापक श्री विश्वनाथ कराड सर, पुणे विभागीय आयुक्त श्री चंद्रकांत पुलकुंडवार (आयएएस), पुणे जिल्हा परिषदचे सीइओ श्री संतोष पाटील (आयएएस), पुणे मेट्रो रेल कॉर्पोरेशन चे व्यवस्थापकीय संचालक श्री श्रवण हर्डीकर (आयएएस), महाराष्ट्र राज्य औद्योगिक विभागाचे जॉइंट डायरेक्टर श्री शैलेश राजपूत,

संचालक इलेक्ट्रिकल कॉन्ट्रॅक्टर्स असोसिएशन ऑफ महाराष्ट्र (ECAM) यांनी या प्रदर्शनासाठी मेहनत घेतली. इकॅम अध्यक्ष श्री उमेश रेखे व श्री शिंदेकर यांचा यथोचित सन्मान करण्यात आला.

श्री राहुल कराड, डॉ मिलिंद पांडे (प्रोचान्सलर - एम आय टी विद्यापीठ), तसेच प्रमुख उपस्थितीत आय एस एल ई चे राष्ट्रीय अध्यक्ष श्री आर एस सक्सेना, श्री विरेंद्र बोराडे (संयोजक), डॉ प्रकाश बरजातिया, श्री सुधीर पाटील (पुणे ISLE अध्यक्ष),

श्री पराग शिरोळे (पुणे ISLE उपाध्यक्ष), श्री अभिजित साळुंके, आर्किटेक्ट श्री विकास अचलकर (पुणे IIA अध्यक्ष) आर्किटेक्ट महेश बांगड (चेअरमन AESA पुणे), डॉ पूर्वा केसकर (पुणे IGBC अध्यक्ष), श्री अजय पंचमतीया (पुणे IIID अध्यक्ष), श्री रणजीत नाईकनवरे(पुणे क्रेडाई अध्यक्ष), श्री उमेश रेखे (अध्यक्ष ECAM) श्री देवांग ठाकूर (महासचिव ECAM) श्री सुनील माटे (पुणे बिल्डर्स असोसिएशन ऑफ इंडिया अध्यक्ष), श्री अतुल गाडगीळ (महा मेट्रो डायरेक्टर वर्क्स), श्री विनोद कुमार अग्रवाल (महा मेट्रो डायरेक्टर ऑपरेशन), श्री हर्ष जोशी(राष्ट्रीय उपाध्यक्ष ISLE), डॉ अनिल कश्यप (NICMAR पुणे डायरेक्टर), श्री संदीप बेलसरे (अध्यक्ष -पीसीएमसी स्मॉल इंडस्ट्री असोसिएशन), श्री मनदीप वास् (डायरेक्टर INFHRA) श्री राहल पाबलकर (अध्यक्ष AWESOME), श्री अरुण धरम (अध्यक्ष MEPA), श्री आशुतोष जोशी

(अध्यक्ष ISHRAE पुणे) होते, कार्यक्रमासाठी आयोजकांनी विशेष रजिस्ट्रेशन लिंक प्रसारित केली होती. कार्यक्रमासाठी विनामूल्य प्रवेश इकॅमच्पा सभासदांना होता. श्री नरेन्द्र शिंदेकर

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इकॅम ठाणे विभागाची वार्षिक सभा १८ सप्टेंबर रोजी संपन्न

डॉ. विश्वनाथ कराड 'विश्वशांती प्रकाश दीप पुरस्कार' ने सन्मानीत

• qu) •

भारतात प्रथमच लाइटिंग टेक्नॉलॉजी आणि मॅनेजमेंटमध्ये इंडस्ट्री ओरिएंटेड टेक्निकल मॅनेजरियल पीजी प्रोग्रॅम सुरू केल्या बहल इंडियन सोसायटी ऑफ लाइटिंग इंजिनिअर्स (आयएसएलई), पुणे लोकल सेंटर यांच्या वतीने एमआयटी वर्ल्ड पीस युनिव्हर्सिटीचे संस्थापक अध्यक्ष विश्वयमी प्रा.डॉ. विश्वनाथ दा. कराड यांना 'विश्वशांती प्रकाश दीप पुरस्काराने' सन्मानीत करण्यात आले. कोथरूड येथील एमआयटी डब्ल्यूपीयूच्या परिसरात इंडियन सोसायटी ऑफ लाइटिंग इंजिनिअर्स (आयएसएलई), पुणे लोकल सेंटर आणि महा मेट्रो यांच्या सहकायनि आयोजित तीन दिवसीय 'प्रकाश २०२४' या कार्यकमात डॉ. विश्वनाथ दा. कराड यांना मान्यवरांच्या

हस्ते पुरस्कार ने सन्मानीत करण्यात आले. यावेळी व्हॉसकॉमचे सीएमडी वासुदेवन, पुणे मेट्रोचे संचालक विनोद

अग्रवाल, अतुल गाडगीळ, प्रकाश बडजात्ये, जयंत इनामदार, हर्षा जोशी आणि विरेन्द बोराडे उपस्थित होते. सत्काराला उत्तर

देताना विश्वधर्मी प्रा.डॉ. विश्वनाथ दा. कराड म्हणाले. "जगाला योग्य प्रकाश देण्यासाठी शांती ही अत्यंत महत्वाची

आहे. 'वसुधेव कुटुम्बकम्' आणि 'सत् चित आंनद' या दोन गोष्टींनी सष्टीवरील प्रत्येक व्यक्ती आनंदी आणि सुखी राहु शकतो. वर्तमान काळात विज्ञान आणि अध्यात्म यांचा समन्वय महत्वाचा आहे. स्वामी विवेकानंद यांच्या नुसार २१ व्या शतकात भारत विश्वगुरू होईल व ज्ञानाचे दालन म्हणून उदयास येईल." व्हॉसकॉमचे सीएमडी वासुदेवन म्हणाले, प्रकाश हे आपले शहरी जीवनमान आकारण्याचे महत्वपूर्ण साधन आहे. या मुळे नागरिक जीवन प्रभावित होते. नवीनतम प्रकाश तंत्रज्ञान शहरांच्या अधोसंरचनेला कसे परिवर्तीत करू शकतात हे महत्वाचे आहे. नागरिकांच्या सहभागातन ऊर्जा कार्यक्षम आणि सुरक्षित सार्वजनिक क्षेत्रे कशी निर्माण केली जाऊ शकतात यावर लक्ष देणे गरजेचे आहे." यावेळी एमआयटी डब्ल्यूपीयूचे प्र कुलगुरू डॉ. मिलिंद पांडे यांनी स्वागत पर भाषण केले.

AERB Greenlights RAPP Unit 7

AERB's permission for RAPP-7 paves the way for the subsequent phases of reactor commissioning leading to its commercial electricity generation.

India's nuclear regulator, the Atomic Energy Regulatory Board (AERB), has given its nod for initiation of controlled nuclear fission reaction in the Rajasthan Atomic Power Project (RAPP) Unit 7.

According to theb AERB, the permission for commencing nuclear fission was given after a satisfactory outcome of necessary safety reviews.

"AERB's permission follows an extensive regulatory oversight process ensuring compliance to all relevant safety and regulatory requirements through systemic and structured safety reviews complemented with regulatory inspections," says AERB Chairman D K Shukla.

"AERB's resident site observer team at the site will continue to monitor the commissioning activities," Shukla added.

The AERB permission issued is for addition of heavy water to the moderator system and initiation of a controlled nuclear fission reaction, technically termed as First Approach to Criticality and subsequent conduct of low power physics experiments.

The permission is granted after a comprehensive safety review of the reactor's design, construction and operational preparedness followed by deliberations by the AERB board.

The green signal was given on September 9, 2024, AERB added.

"AERB's resident site observer team at the site will continue to monitor the commissioning activities," Shukla added.

The AERB permission issued is for addition of heavy water to the moderator system and initiation of a controlled nuclear fission reaction, technically termed as First Approach to Criticality and subsequent conduct of low power physics experiments. COMMITTED TO SUPPORT YOU IN YOUR GROWTH STORY

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A view of India's first indigenously developed 700-megawatt electric nuclear power reactor that has been established at the Kakrapar Atomic Power Station.

The permission is granted after a comprehensive safety review of the reactor's design, construction and operational preparedness followed by deliberations by the AERB board.

The green signal was given on September 9, 2024, AERB added.

RAPP-7 is located in the Rawatbhata district of Rajasthan and is the third unit of the indigenously designed and built 700 MW Pressurised Heavy Water Reactor (PHWR).

The other two units of the same design are the Kakrapar Atomic Power Project (KAPP) units 3 and 4 located in Gujarat, which are currently operational.

AERB's permission for RAPP-7 paves the way for the subsequent phases of reactor commissioning leading to its commercial electricity generation.

Nuclear fuel began to be loaded into the reactor on August 1, 2024.

Nuclear Power Corporation of India Ltd (NPCIL), India's atomic power plant operator, said commercial production of power by Unit 7 will happen this year.

The atomic power major also said the other 700 MW plant (Unit 8) is expected to come on line next year.

RAPP 7 is the part of the 16 PHWRs with 700 MW

capacity being built in the country.

In July, the 220 MW Unit 3 at the Rajasthan Atomic Power Station was connected to the grid after undergoing major renovation and modernisation -- replacement of coolant channel, feeder and other upgrades.

Unit 3 or RAPS 3 has now enhanced safety measures and 30 years of extended life, NPCIL said.

Commercial power generation began at RAPS 3 in June 2000 and was in operation for 22 years when it was taken up for renovation and modernisation in 2022.

The other nuclear fuel related development is the starting of making fuel for the 1,000 MW Units 3 and 4 being built at Kudankulam in Tamil Nadu by the Russian company TVEL Fuel Company.

According to Russia's integrated nuclear power major Rosatom, the fuel supply contract with India embraces the entire lifetime of the VVER-1000 model power units from the starting loading of the reactor cores.

Already two 1,000 MW plants -- Units 1 and 2 -- are functioning at Kudankulam. During the operation of the two units, Russian and Indian specialists have accomplished a large amount of work to improve their efficiency by introducing advanced nuclear fuel and extended fuel cycles.

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MNRE releases draft guidelines for financial assistance and payment security under PM-Surya Ghar: Muft Bijli Yojana

The Ministry of New and Renewable Energy (MNRE) has released draft guidelines for financial assistance and payment security under the 'PM Surya Ghar-Muft Bijli Yojana' rooftop solar scheme.

These guidelines pertain to the implementation of the component central financial assistance to residential consumers for eligible consumer categories only through renewable energy services company (RESCO) models and utility led aggregation (ULA) models and for the component payment security mechanism. The implementation period of the scheme shall be till March 31, 2027. Under the RESCO model, a third-party

IREDA signs MoU with SJVN and GMR Energy for 900 MW upper Karnali hydro project in Nepal

Indian Renewable Energy Development Agency Limited (IREDA) has signed a memorandum of understanding (MoU) with SJVN Limited, GMR Energy Limited, and their associated companies for the

renewable energy company is responsible for procuring, installing, and maintaining the rooftop solar system for a minimum of five years. Consumers pay for the electricity generated based on a tariff to the RESCO operator. Additionally, the operator may compensate the consumer for roof utilisation rights. Ownership of the plant can be transferred to the consumer after at least five years. Under the ULA model proposals, the utility can utilise payment security mechanisms to ensure payment security for projects involving RESCO partners. This is achieved through an open and transparent bidding process for tariff discovery.

development and implementation of the 900 MW Upper Karnali hydro-electric project in Nepal.

The initiative seeks to enhance regional energy security through the development of renewable energy infrastructure. The project, provisionally approved by IREDA's Board of Directors in July 2024, aims to tap into Nepal's hydropower potential, fostering regional energy cooperation and promoting sustainability.

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Architectural Lighting

K-LITE INDUSTRIES an ISO company, manufacturing indoor and outdoor luminaires have launched a new series of LED Architectural Lighting. Being the trend setters in outdoor lighting and inspired by the "Make in India" vision, K-LITE, through their innovative outlook, have showcased an all new product portfolio under Architectural Lighting. The application includes Facade Lighting, Pathway Lighting, In-ground Luminaire, Updown Lighting, Billboard Lighting, Vertical Light Bars, Wall Washers, Area Lighting poles and above all popular sleek polar lighting solutions.

The solutions offered are backed by extensive understanding of illumination in urban spaces and the expertise gained over a period of three decades. The fixture are designed to provide value technology, ideally suited to Indian Conditions. The LEDs used comply to LM 80 testing requirements and from Internationally reputed makes such as Nichia / CREE. The luminaires are RoHS, LM 79 and CE certification compliant. The luminaire efficacy (lumens/ per watt) is much above 100 for all luminaires. Varied optical options for lighting distribution and correlated colour temperature (CCT) for cool white, neutral white or warm white are available to suit specific requirements.

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The Growing Despair of Accounting Frauds and Audit Failures!

Accounting firms coming under the hammer of the regulators and being fined bigger and bigger sums for failing to do their principal duty of reporting to the shareholders the frauds and fissures in the financial statements is ceasing to cause any greater alarm than the routine reporting of road accidents in the media in different cities!

Almost every other week, if not more often, is news flashed from across the globe about the fines levied on audit firms for issuing defective and false audit reports.

The only differentiation is whether the fine is accompanied by a ban of the entire firm for a period of

(billion)!

China Securities Regulatory Commission' investigation centred on PwC's audit of the property developer's annual results in 2019 and 2020.

At its earnest best, the words of the global chair of PwC sound like a regret that his favourite baseball team of the Chicago White Sox failed to make the semifinal in the National League Championship.

And less like the global head of an organisation taking due responsibility for a monumental failure of one of its arms!

time, or just a ban of a few audit partners and staff who worked on the tainted assignment.

The latest one to hit the 'headlines for this dubious reason is the PwCs China practice, for its audit of the collapsed property giant, Evergrande.

Evergrande's collapse more than in a small measure, contributed to the bust in the property boom in China, impacting its economy, and resulting in significant loan losses to the lenders.

Evergrande in 2019 and 2020 had inflated its revenue by just US\$78bn

All member firms of global audit firms like the PwC contribute financially to the main global firm for technical and quality-related support.

Auditing Evergrande, with US\$300bn debt on its book (Enron's US\$13.5bn debt looks a pigmy) a figure greater than the GDP of Finland or New Zealand, must have deserved the most critical attention of the global leadership and constant oversight!

The inescapable question is: How much attention the global quality team gave to the affiliate in China that audited Evergrande.

The recent fining of PwC outstrips the fine levied on Deloitte in 2023 for its failure to audit an asset management company.

Deloitte's failure in this case was eerily similar to its failure in the IL&FS case in India which resulted in huge holes in the balance sheet not getting picked up!

In the UK, the financial reporting council (FRC) has been having a bumper harvest in 2023-24 with a record £48.2mn levied in fines, greatly assisted by KPMG in Carillion plc, surpassing the previous two years' £40.5mn and £46.5mn!

Recently, the SEC in the US has, despite the strong opposition of the big-4 firms, approved a new regulation of the PCAOB that requires firms that audit a significant number of public issuers to have an oversight board with independent outsiders.

The consequences of shoddy audits leading to loss for the investors, and shaking their confidence in the capital market, are way more worrying in an ecosystem that depends on market mechanics to raise capital and seeks sufficient inbuilt checks & balances to boost the investors' confidence.

A recent research report of a think tank attached to one of the universities in the UK has brought out many aspects of the imperfections and oddities in the audit market and a few of the highlights of the same are given below.

A few months back, theFinancial Times, UK had carried a detailed article stressing the significant increase in audit fees in recent years and the lack of a commensurate quality improvement. Some excerpts -

The system in India to investigate and punish the erring audit firms is tardy and often gets stuck in the courts, which have little understanding of such technical matters.

The Institute of Chartered Accountants of India

(ICAI), which historically wielded the powers to try cases of audit lapses under the professional misconduct rules, was rarely earnest in the task given that it is a mutual association of the professionals it is expected to check!

The advent of the National Financial Reporting Authority (NFRA), much resisted by the ICAI, may have slightly altered the pitch in pulling up the errant firms but it is still significantly lagging its international peers in the speed and substance of its actions.

Cases like the levy of a Rs10 crore fine on an Indian affiliate of KPMG in the audit failure at Café Coffee Day are noteworthy exceptions.

The ministry of corporate affairs (MCA), anxious to demonstrate action, may be barking up the wrong tree in believing that by banning audit firms from doing nonaudit services, the ills plaguing the audit profession in India would be redressed.

A proposal as reported in the Mint, is another attempt to amend the company law in this regard.

The key issue is the expanse of this ban. As the provisions of the law presently stand, the rendering of non audit services are impacted only if rendered by the audit firm itself or by another firm controlled by the audit firm's partners or by a firm that uses the trademark or the brand used by the audit firm.

If the company that renders the non-audit services has a name or a brand that is outwardly different, and the partners of the audit firm do not directly exercise any control, yet both operate under some common international network, affiliation or alliance and work in tandem, then the ban proposed may not make a big dent.

It is neither rash nor unreasonable to feel that audit in the traditional form is in its hour of deep crisis. It is difficult to visualise possible reformatory actions to change course as most such initiatives seem exhausted.

This article will continue to argue why the situation looks bleaker than before in the Indian context!

(Ranganathan V is a CA and CS. He has over 43 years of experience in the corporate sector and in consultancy. For 17 years, he worked as Director and Partner in Ernst & Young LLP and three years as senior advisor post-retirement handling the task of building the Chennai and Hyderabad practice of E&Y in tax and regulatory space. Currently, he serves as an independent director on the board of four companies.)

JSW Neo Energy receives LoA for 600 MW wind-solar hybrid project from MSEDCL

JSW Neo Energy Limited, a subsidiary of JSW Energy Limited, has received letter of award (LoA) for setting up a 600 MW wind-solar hybrid power project including 400 MW allotted under green shoe option from Maharashtra State Electricity Distribution Company Limited (MSEDCL) against MSEDCL – Phase IV.

Following this capacity award, the company's total locked-in generation capacity has risen to 18.2 GW, which includes a total locked-in hybrid capacity of 3.8 GW

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TP Solar commences solar cell and module manufacturing at Tamil Nadu

TP Solar Limited, a subsidiary of Tata Power Renewable Energy Limited, has begun commercial production at its 2 GW solar cell manufacturing facility in Tirunelveli, Tamil Nadu.

Tata Power has invested nearly Rs 43 billion in establishing this facility, which will enhance its ability to

meet growing demand for locally produced solar components. The facility is equipped with advanced TOPCon and Mono Perc technology and a total manufacturing capacity of 4.3 GW for solar cells and modules. The solar cells and modules will initially support the company's ongoing projects.

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