

Lab tests transmission tower for Bangladesh

This is no tall tale. But it does involve very tall towers.

Did you know that a city-based laboratory on Wednesday successfully tested a prototype of a power transmission tower - one of the tallest at 65m (213ft) in height - for strength and serviceability bang opposite the airport? Or that it has in the past tested similar transmission towers for SAARC countries and Iran, Chile and Peru?

Scientists from CSIR-Structural Engineering Research Centre (SERC) conducted a full-scale test with simulations on the tower, which is to be installed in Bangladesh, with a capacity of extra high voltage of 230kV for Power Grid Company of Bangladesh (PGCB), at the laboratory's Tower Testing and Research Station near or on the hills of Tirusoolam. The testing parameters included wind load specific to conditions prevailing in Bangladesh.



The four-circuit tower, designed in Kolkata, with a leg uplift force - the force that tends to raise the structure and its foundation - of 650tonnes, is the largest ever tested at the facility. The scientists also suggested ways to strengthen the structure and the probable causes of failure.

Transmission towers are tall structures that usually support an overhead power line. They come in a variety of shapes and sizes. Scientists said testing for such tall structures, holding high voltage cables transmitting electricity from the source to the end user, for its stability was vital, as otherwise they can be prone to a lot of natural disturbances.

CSIR-SERC director prof Santosh Kapuria said they had been testing the tower weighing about 70 tonnes for three days. "We test them for cyclonic conditions apart from others. This is to ensure safety of the transmission lines, as damages are expensive," he said.

The tests were done on structure based on 12 different parameters (load cases) in varying percentages as recommended by the International Electrical Standards (IEC) and are appropriate to the weather conditions in Bangladesh.

The parameters tested through simulations include snap through or broken wire condition when a conductor or earth wire is broken. A wind load of 1,200 tonnes at 250kmph and dead load of insulators with a capacity of 500 tonnes were also tested. They were all tested simultaneously in three orthogonal directions- longitudinal, transverse and vertical.

Bangladesh officials said they test their towers for its strength to withstand the climactic conditions as their country is cyclone-prone and there had been several cases of damages to towers reported earlier. "We have been to other testing facilities in India. Here, the application of load is unique. Unlike other facilities, the different loads are tested simultaneously," said Md Delowar Hossain, executive engineer, PGCB. The tower we have tested is standard. We can use it in any project."

SERC, which has a facility to test towers up to a height of 80m, up to 700tonnes uplift force and apply as many as 44 loads simultaneously.

times of india. indiatimes. com/city/chennai/Lab-tests-transmission-tower-for-Bangladesh/articleshow/52664312. cms

TNN | Jun 9, 2016

Produced by Unit for Science Dissemination, CSIR, Anusandhan Bhawan, 2 Rafi Marg, New Delhi



CFTRI working on designer foods to check cancer

The premier Central Food Technological Research Institute (CFTRI), a constituent laboratory of the Council for Scientific and Industrial Research (CSIR), is working on human epigenetics to gain a deeper understanding of epigenomic changes that would help food scientists design foods which help reduce lifestyle disorders like cancer and diabetes.

The CFTRI is seeking inputs from other research institutes in the country for this new initiative. A one-day brainstorming meet on Nutri-epigenomics was organized on Friday under the aegis of Department of Biotechnology, New Delhi where scientists deliberated on the role of diet in defining human epigenetics.

Epigenetics is the understanding of how changes in heritable characteristics happen. Usually heritable changes are associated with change in the sequence of chemicals in DNA which carries hereditary information from parents to offspring. But at times even when the DNA sequence is intact, changes are seen which are called epigenomic changes. Methylation of DNA, leads to changes in the histone proteins linked to DNA or in micro RNAs that activate a gene. Interestingly, scientists believe such epigenetic changes might be responsible for some individuals falling easy prey to lifestyle disorders like cancers, diabetes and ulcers.





Prof. Ram Rajasekharan, director, CSIR-CFTRI, said the workshop was held to collate the knowledge available and establish linkages between diet and epigenomic changes. The prime objective is to develop foods to cater to specific disease conditions, and help people get personalized and healthy nutrition. The scientists felt dietary factors may be among the many causes responsible for epigenomic changes. However, in India this area of research is still in early stages. The scientists also discussed issues related to identification of epigenomic modifications in various lifestyle diseases.

http://archives.deccanchronicle.com/130608/news-current-affairs/article/cftri-working-designer-foods-check-cancer

DC | S.V. Krishna Chaitanya |TNN | Jun 10, 2016

Produced by Unit for Science Dissemination, CSIR, Anusandhan Bhawan, 2 Rafi Marg, New Delhi



Mapping of ecological sensitive index of Goa beaches begins

Following frequent oil spills during the monsoon season, an exercise to map the Ecological Sensitive Index (ESI) of the beaches has been started in the coastal state.

"The study (exercise) has been initiated by the National Institute of Oceanography (NIO) and the Goa State Pollution Control Board (GSPCB) which will try to understand the kind of coastal resources that would be at risk due to perennial oil spills across Goa's shoreline," as per the annual report for 2015-16 fiscal released by GSPCB.

"The mapping would be done up to a distance of 40 kilometres from the shore," it added.

The report mentions that Goa Coastal Zone Management Authority will also be assisting both the organisations in this "historical study".

"The Goa coast is rich in diverse eco-systems and accordingly, its preservation and protection is a prerequisite for sustainable development," the GSPCB said.

The coastal state has witnessed severe oil spills in the past due to the ships navigating off the Goa coast.

"The Goa coast faces an increasing threat from oil spill from passing ships, port activities, petro-chemical exploration and exploration activities, navigational accidents and others," the report stated. .



The state government fears that such spills can have a serious economic impact on activities like tourism, fisheries and aquaculture.

Goa's eco-system comprises of bays, estuaries, rocky headlands, sandy beaches, creeks, cliffs, salt-pans and 'khazan' lands.

The estuarine ecology constitutes swamps, mangroves, mudflats, river terraces and islands.

The study would be conducted along the beaches of Miramar, Bambolim, Bogmalo, Velsao, Mormugao, Cab-de-Ram, Agonda, Palolem, Talpona and Gagibaga, it added.

The pollution control board has said the mapping would provide a concise summary of coastal resources that are at risk if an oil spill occurs in its surrounding.

 $business-standard.com/article/pti-stories/mapping-of-ecological-sensitive-index-of-goa-beaches-begins-116060900612_1.html$

Press Trust of India | Panaji | June 9, 2016



CITY OF NAWABS TO CITY OF NOISE

In the 1950s, Hazratganj attracted college-goers for a relaxing walk. Times changed and cars replaced cycles and two-wheelers in the 1990s. Circa 2016, more cars than people are seen on city roads and honking is the order of the day. Better pay and higher disposable income is adding more than 1.5 lakh vehicles on city roads per year. The noise made by these cars has stolen the leisure Lucknow was equated with.

An assessment by the Indian Institute of Toxicology Research on noise monitoring over the past five years proves that noise levels are steadily going up. "A five-year comparison indicated that noise levels have gone up in both residential and commercial areas. The levels are significantly above National Ambient Air Quality Assessment Standard permissible limits," said SC Barman, scientist at IITR's environment division which annually conducts the noise survey.

Experts collated noise levels in Indiranagar, Gomtinagar, Charbagh and Chowk and found that noise levels have gone up both during day and at night. "During day time, noise generated in the city was 63.1 units which was higher than standards for both residential (55 decibel) and commercial (65 decibel). Similarly, noise levels recorded at night were found to be 74 units against permissible levels for residential (45 decibel) and commercial (55 decibels)," he explained.



Expert otolaryngologists (ENT specialists) say that sustained exposure to noise levels above 60 decibels could damage internal ear and cause hearing disorders. "Researches indicate that high decibel exposure damages hair cells inside the ear which are responsible for differentiating high and low pitch sounds with clarity," said Dr Pankaj Srivastava, consultant at Shyama Prasad Mukherjee Civil Hospital.

Scientists at IITR believe that humans have somehow adjusted to noise during the day. But disturbance at night wasn't in the interest of health and rising noise level at night should be seen as a serious health hazard. The head of respiratory medicine department at King George's Medical University, Prof Suryakant, said, "Noise pollution was responsible for an array of sleep disorders. In fact, it is one of the main reasons for turning India into a sleepless society."

Researchers blamed the spiralling graph of vehicular traffic on city roads for a noisier Lucknow, a fact which can be verified from the Regional Transport Office data. There are more than 18.6 lakh vehicles in the city including about three lakh cars. The number is constantly on the rise. At least 1.5 lakh new vehicles are added annually while the number of cars is going up at a rate of 8% per annum.

Environmentalist Venketesh Dutta added that increase in commercial and construction activities in the city has also made it noisier at nights. "Honking is the main cause of noise pollution. Increase in population, rise in apartment culture and denser population are also to be blamed," he said.

times of india. indiatimes. com/city/lucknow/CITY-OF-NAWABS-TO-CITY-OF-NOISE/articleshow/52663453. cms

TNN | Jun 9, 2016

Produced by Unit for Science Dissemination, CSIR, Anusandhan Bhawan, 2 Rafi Marg, New Delhi



अब पेंट के भ्रम से रुकेंगे सड़क हादसे

रुमू बनर्जी, नई दिल्ली दुनियाभर में सड़क दुर्घटना में मारे जाने वाले लोगों में अकेले 11 फीसदी भारत के होते हैं। इसे देखते हुए सड़क दुर्घटनाएं कम करने की ओर कदम बढ़ाया जाना जरूरी है। हाल में सड़क परिवहन पर राजमार्ग मंत्रालय ने CSIR-CRRI से शहर में 3डी जेबरा क्रॉसिंग के प्रभाव का अध्ययन करने को कहा था। खुशी की बात यह है कि 3डी जेबरा क्रॉसिंग के बेहद अच्छे नतीजे सामने आए।



हेवी कमर्शल वीइकल्स, जैसे ट्रक व बस आदि के लिए इसके बेहतर नतीजे मिले, हालांकि छोटी कारों के मामले में कोई खास नतीजे नहीं मिले।

इस स्टडी के बाद CSIR-CRRI ने सभी नैशनल राजमार्गों के एंट्री व एग्जिट पॉइंट्स पर एक साल के भीतर 3डी पेंट के इस्तेमाल की सिफारिश की ताकि इन पॉइंट्स पर गाड़ियों की रफ्तार धीमी हो सके। CSIR-CRRI डायरेक्टर सतीश चंद्रा की सुपरविजन में इस स्टडी को अंजाम देने वाले डॉ. कायथा रवींद्र ने कहा, 'यह पता लगाने की कोशिश की गई कि स्कूलों, कॉलेजों और दुर्घटना संभावित क्षेत्रों में इनका इस्तेमाल किया जा सकता है या नहीं।'



स्टडी टीम के सदस्य डॉ. एस वेलमुरुगन ने कहा, 'अलग-अलग कैटिगरी की गाड़ियों का स्पॉट स्पीड टेस्ट किया गया, जिसमें पाया गया कि क्रॉसिंग से पहले और बाद में स्पीड में काफी कमी आई। दोनों वक्त स्पीड में 1.6% से 20.3% की कमी देखने को मिली।'

वेलमुरुगन ने आगे बताया, 'रफ्तार में 1.6 फीसदी की कमी 1400 सीसी तक की छोटी कारों के मामलों में दर्ज की गई जबकि हेवी कमर्शल वीइकलों के मामले में यह आंकड़ा 20.3 फीसदी का रहा। इसका कारण है ट्रकों और बसों की हाइट, जिससे एक भ्रम की स्थिति पैदा होता है और स्पीड रहती है।'

navbharattimes.indiatimes.com/metro/delhi/other-news/illusion-that-works-3d-way-to-curb-accidents/articleshow/52666433.cms

Times News Network | June 9, 2016



Scientists moot IPR inclusion in educational curriculum

Since the last seven years, a proposal to set up an Intellectual Property Rights (IPR) Academy in Kerala remains only on paper. Now, the IPR experts and scientists have submitted a representation to the new Kerala government to include IPR in the educational curriculum and to set up an IPR Academy .

"A representation had been submitted to the new state government and in particular to Education Minister Prof C Ravindranath," CSIR- National Institute of Interdisciplinary Science and Technology (NIIST) senior scientist- Tech transfer and IP management Praveen Raj told TOI. The 21st century belongs to the age of intellectual wealth which comprises of innovations, IPRs play a key role in encouraging industrial development and economic growth, and hence there is a growing need for generating awareness regarding IPRs. A large section of our scientific personnel are yet to be fully aware of the necessity of harnessing a strong IPR system to their best advantage, he said.

As a first step in this direction, IPR should be made a compulsory paper in degree courses as per the proposed curriculum revision, he said. IPR is already an optional subject for Law students in Kerala. Also the people should be made aware of the need to protect traditional knowledge from private appropriation. Research institutions and Universities should be trained to secure legal rights on their creations, he said.





Responding to that, Kerala State Council for Science, Technology & Environment (KSCSTE) executive vice-president and Science & Technology principal secretary Dr Suresh Das told TOI that including IPR in curriculum could help youngsters in becoming aware of the need for getting patents and IPR for innovations and its legalities. It would open up new job prospects for youngsters and the scientists too need to be trained on patents and IPR to protect their innovations better, he said. Responding to that, Kerala State Council for Science, Technology & Environment (KSCSTE) executive vice-president and Science & Technology principal secretary Dr Suresh Das told TOI that including IPR in curriculum could help youngsters in becoming aware of the need for getting patents and IPR for innovations and its legalities. It would open up new job prospects to need to be trained on patents and IPR in curriculum could help youngsters in becoming aware of the need for getting patents and IPR for innovations and its legalities. It would open up new job prospects for youngsters and the scientists too need to be trained on patents and IPR for innovations and its legalities. It would open up new job prospects for youngsters and the scientists too need to be trained on patents and IPR to protect their innovations better, he said.

CSIR- NIIST former director AD Damodaran told TOI that IP issues form a set of very rigorous Science & Technology data supported by Legal Claims to protect IP property rights in favour of the inventor for a period of 20 years. IP literacy is still very low even after two decades since we signed the Trade Related Intellectual Property Rights (TRIPS) at World Trade Organisation.

"Introducing IP subject as part of the curricula in graduate or post graduate levels will certainly help to reduce the illiteracy. I strongly recommend it and I believe that in the State, S&T Department must handle this as a dedicated activity complimentary to the central agency. There is no need for a separate agency in the State," he said.

While, Praveen Raj said purpose of an IPR Academy will be to train all including school and college students, farmers, scientists, startup innovators, small entrepreneurs and other stakeholders in the basics and legalities of IPR to practically protect their innovations and intellectual property. Existing Inter-University Centre for Intellectual Property Studies (IUCIPS) at Cochin University for Science & Technology is for higher studies and research in IPR that can churn out IPR experts and examiners, he said.

Former Law Minister and CPM state and central committee member M Vijayakumar told TOI that the proposal is expected to be taken forward by the new government. "The proposal to include it in educational curriculum and to set up an IPR Academy will be taken forward by the new government and a clear picture on its modalities will emerge soon," he said.

timesofindia.indiatimes.com/city/thiruvananthapuram/Scientists-moot-IPR-inclusion-in-educational-curriculum/articleshow/52676593.cms

Laxmi Prasanna | Jun 9, 2016

