



The Indian Engineer

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From the Chairman's Desk

ECI is now completing 8 years and during this period it has gradually emerged as the common voice of the professional associations of engineers in the country. It has been interacting with concerned government agencies and organising national conferences, seminars and workshop on issues of common concern and interest.



After submitting the Draft Engineers' Bill to the Ministry of HRD, it has been continuously following it. I understand that the draft Cabinet Note on the Bill has circulated by the Ministry to the concerned Ministries for their comments and after further processing the final Cabinet Note is to be circulated. After cabinet approval, the Bill will be placed before the Parliament.

Once the bill is passed and a statutory body is formed, ECI's role will continue as a Confederation and it will have many important functions, such as interaction with the government, industry and academia on common policy matters relating to engineering profession, effective interface with the statutory body, providing support and inputs for developing systems and procedures for the registration of engineers, CPD, code of ethics, and for seeking authorization to the member associations for registration of engineers. For this purpose, ECI will also assist member associations in developing their internal systems for undertaking registration, CPD, enforcing code of ethics.

The other important issue that the ECI is pursuing is to assist the member associations in interaction with academic institutions and regulatory bodies in regard to get statutory recognition to their Associate Membership examination certificates as University degrees as well as recognition of the diploma courses which the member associations are conducting from time-to-time.

The benefits to member associations include a common forum for taking up of policy issues, development and recognition of the profession, skill development of their member engineers through multi-skills programmes, exchange of information and experiences, and many similar benefits. Over a period of time, ECI should emerge as a confederation similar to CII for the engineering profession. But this will require full involvement and support of the members. It is they who will determine the future role and activities of ECI.


(Uddesh Kohli)

Training Programme on Project Management for Engineers organized from February 22-26, 2010 at New Delhi

As is well known, most projects are very complex, have numerous inter-dependent and inter-related activities, involve heavy investments, require high level of technology and need effective management of voluminous resources. Modern projects have inbuilt risks. Today, engineers working on such projects require technical and management skills for realizing the project objectives, within the specified time, budgeted cost and predefined quality specifications, by leading the project participants, efficiently, effectively and ethically. While our engineers possess technical expertise, they often lack project management skills. To orient the engineers with the project management tools, therefore, Engineering Council of India (ECI), as per its set objectives organized a five-day training programme on this subject in collaboration with the Ministry of Statistics and Programme Implementation. Forty six working engineers participated from both the public sector and private sector companies including NTPC, BHEL, Power Grid Corporation Ltd. Coal India Ltd Mehindra & Mahendra etc. The faculty included Dr. Uddesh Kohli, Chairman, ECI Shri B. S. Bhandari, Director (PAMD), Planning Commission, Lt. Col. K. K. Chitkara, AVSM (Retd.), Standing Consultant, ECI and Eminent Project Management Expert, Shri P. R. Swarup, DG, CIDC, Dr. C.S. Venkatratnam, Director, International Management Institute, Shri Kumar Bijoy, Financial Consultant - Projects and Investment, Prof. D. K. Banwet, Prof. and Group Chairman (O. Pers Mgmt), Department of Management Studies, IIT Delhi Maj. Gen. N. K. Dhir (Retd.), Project management Consultant, Shri J. L. Narayan, Joint Adviser, Ministry of Statistics and Programme Implementation, The case study was presented by Shri A.K. Jha, Executive Director, National Thermal Power Corporation which was very well appreciated by the participants.

Think it over

Education must provide "life-building, man-making, character-making assimilation of ideas".

Swami Vivekananda

From Editor's Desk




Engineering Education in India - A few important issues

It is a well known fact that many graduate engineers after passing out prefer going to non-engineering jobs like software, management, finance, marketing, etc.; most of them are swallowed by the software industry. These fresh engineering graduates could have thought of making a career in these sectors without going first for a four-year grueling and expensive engineering course.

Undoubtedly, there is a need to have competent professionals to work and cope up with ever rising demand of professionals from these sectors of our economy. At the same time, it is not prudent to lose engineers, particularly bright among them to these sectors of our economy. Obviously, employability with a much better value of financial package compared to what the industry offers attracts these engineers to these sectors, away from the engineering profession. We need engineers for applying their knowledge and skills in the working of engineering designs, planning and implementation of engineering projects, in the manufacturing sector and so on. It is, therefore, necessary for the industry to make the value of financial package for engineers more attractive and rewarding vis-a-vis these sectors so that engineers are discouraged from moving out of engineering profession to these sectors. Further, this unwanted drift can also be checked if engineering education develops a sense of pride in engineers for their engineering profession. But, this can only happen if one has aptitude and liking for a profession. So, we also need to reform common entrance test (CET) so that aptitude for engineering profession, apart from skills in mathematics, science and general knowledge, is assessed in a student taking the test for admission to engineering colleges. Both, the industry and academia together can play a major role in this.

Apart from making engineering sector attractive for employment, engineering education should also be such as would ensure upward growth for engineers not only in their branch of engineering but quite widely on the total canvas of the industry. This can be possible, if we reform engineering education and make it multi-skilled engineering education which is what the industry wants today. This could be done by re-engineering the current engineering curricula. A consensus is also taking shape and this is that we should consider, as a matter of reform of engineering education, moving out from the present branch-wise engineering education to sector-specific engineering education like construction, ports and harbours, manufacturing, infrastructure, etc. Today, we need construction engineers and graduate engineers who pass out as civil engineers are not as such knowledge and skills-wise construction engineers. Second, we can as well think of having a common degree of management and engineering and we may call it MBBE (Bachelor of Management and Bachelor of Engineering). This degree course can be of five years. So, with this, we can provide the industry engineer-managers that they need the most. We can as well consider having a general engineering degree comprising of basic courses of all the major branches of engineering with economics, statistics and general courses from management and accountancy. At least six months of mandatory internship with an industrial unit is also desirable addition to the course.

We need to take a collaborative approach to engineering research and development so that it is more relevant to the industry. Ph.D research should focus on applied research with the objective of developing technologies for generating more patents and hence IPR. We need to encourage doing research in industrial establishments, post doctoral fellowships, etc. We need to evaluate, therefore, the current status of our R&D organizations - looking beyond IITs from the point of view of institutional preparedness for pursuing R&D on these lines and take remedial measures where ever required under a concrete and time bound action plan. We need to closely look at whether the objectives set for the faculty development programmes have been realized. General impression is that these programmes are not evaluated as such. We need to consider making evaluation of such programmes mandatory. We also need to evaluate the present institutions delivering engineering education in the country for the quality of their infrastructure, faculty, academic research including whether more emphasis is given to the industry sponsored research, etc, and take remedial measures, as required under a concrete and time bound action plan.


(P.N. Shali)

Choi's slimmed down British three-pin plug wonder

The attraction in the Royal College of Art's graduate show this year was a slimmed down three pin plug designed by a 30-year old Min-Kyu Choi - a Korean in UK! The designer of the plug impressed every passerby with his neat, apparently market-ready plug that folds down to the width of a thin mobile computer. "Many of today's mobile computers have become wafer thin but here in the UK, we still use the world's biggest three-pin plug," says Choi. His plug is just 10mm wide when folded. To unfold it, the two live pins swivel 90 degrees and the plastic surround folds back around the pins so the face of the plug looks the same as a standard UK plug. The idea produced a spin off, too. Choi created a multi-plug adaptor, which is a compact standard plug sized unit with space for three folded plugs to slot in, as well as one that charges USB devices. The multi-plug adaptor has an ultra-compact sandwich design that enables three compatible plugs to cohabit side by side to take up a remarkable small amount of room.

INDIACom - 2010: 04th National Conference on Computing For Nation Development

The Bharati Vidyapeeth's Institute of Computer Applications and Management (BVICAM), New Delhi, in collaboration with Computer Society of India (CSI), Delhi Chapter, Gura Gobind Singh Indraprastha University (GGSIPU), Delhi and Institution of Electronics and Telecommunications Engineers (IETE), Delhi Centre organized 4th National Conference on "Computing For Nation Development" during 25th - 26th February, 2010 followed by 3rd National Students' Convention; NSC - 2010 on 27th February, 2010. Over 450 delegates and around 300 students participated in the conference. The aim of this regularly organised annual event is to provide a launch pad and a platform to researchers and IT professionals all over the country to showcase their innovative ideas and computing concepts in general and uses of Information and Communication Technologies (ICT) in particular.

Letter of Congratulation to Dr. Uddesh Kohli, Chairman, Engineering Council of India by Wing Commander R. Basu (Retd.), Patenting Public Funded Research for Technology Transfer

Dear Sir, Thank you for your December Issue of ECI's News Letter - the Indian Engineer. It is really heartening to learn that future engineers will be registered like doctors and lawyers. It should be proper to ensure that a proper authority should be entrusted with this job. It is expected that experienced engineers will form this august body. Secondly, the subject of making seamless engineers should involve engineers with long experience in the various fields. The big companies should realise that retired engineers may not be employed as workers but their expertise can be tapped as consultants to guide fresh engineers to deliver what and how tasks are completed efficiently. A fresh engineer may be knowledgeable but he does not have the wherewithal to tackle a particular task. This is where an experienced engineer can do a valuable job. Yours, etc.

13th training cum workshop on ETAB / SAFE conducted by the Institute of Engineers (I) Maharashtra State at Mumbai

Most of the practicing engineers have been using STAAD for their day - to - day work for last few years. Engineers have also been working on ETABS and SAFE. With coming up of more & more complicated structure having flat slab, odd shape buildings, raft & shear wall knowledge of ETABS and SAFE can be very useful addition. Keeping this in mind, Institution of Engineers, Maharashtra State Centre organized ETAB / SAFE training programme which was delivered by very well experienced practicing engineers. Syllabus of the programme revolved around practical example consisting of two buildings one of five storeys and the other of 15 storeys. It covered modeling, analysis & design for raft, shear wall, beam, column & flat slab. The second edition of the course was held during April 9-11, 2010 also at Mumbai.



Plight of Engineers - Ranjana Tandon, A concerned spouse

The buck stops here is so heartwarming a statement because we can all heave a collective sigh of relief that somebody has the strength of purpose to accept the ultimate responsibility. Does such a person exist outside the realms of Utopia? Yes, but not because he or she has accepted responsibility but because the buck has been *made to stop* here. There will always be a category of people that serves as a convenient 'fall guy' and for society and their elected representatives and bureaucrats in government the engineer is such a person. Despite being in a profession that is not only the most visible and impacts large segments of society, engineers themselves receive very little respect from the society and government that benefits from their profession. When structures stand the test of time and receive accolades for serving as milestones in a country's progress, no engineer is credited with having played a pivotal role in that development. Conversely, engineering failures of various types including non-completion of projects on time, collapse of a structure or a crack in the facade of a wall are reasons enough to victimize engineers and lay the blame squarely on their unprotected shoulders. Fall-guys and scapegoats by their very definition preclude any strong support or lobby that will battle on their behalf. The government does not take the profession seriously. When the service tax was newly instituted, engineers were lumped with tent-wallahs, masons and plumbers in the category of being a service provider. *The government does not consider engineers as professionals like Doctors, Lawyer or Chartered Accountants are considered as such. Decades of petitioning has apparently fallen on deaf ears because the government has still not deemed the Engineers' Bill worthy enough to be legislated and in its absence engineers have no collective clout that they can avail of to redress the discrimination meted out to them.* It is an established fact that the engineering degree is not so easily obtained because the qualifying examination conducted at a national level is touted to be the most challenging in the country. And yet this degree has been so devalued that notwithstanding his or her education and credentials, in the public perception an engineer is so far down in the pecking order of the agencies responsible for building the infrastructure of a city that were it not for his or her signature required on the completion certificate, he or she could easily be dispensed with. After all he or she has no say in determining the time frame for completion of a project however unrealistic the deadline maybe; he or she has no say in the quantum of fees doled out to him or her in their deferred payments; he or she has no say when delays caused by other agencies are attributed to his or her un-professionalism and incompetence; he or she has no say when the client and contractor use political patronage against him or her. And if there is one brave heart who complains about all the injustices he or she faces, he or she has no say when his or her life is snuffed out! Mr Satyendra Dubey's murder in Bihar for being the whistle-blower on NHAI projects is a poignant example of the helplessness of an engineer facing the awesome might of an unholy nexus of power. More recently, the UP Engineers Association (UPEA) threatened strikes if the state government didn't provide security to engineers on field postings and arrest those responsible for assaulting PWD executive engineer J K Singh in March 2010. Engineers in UP complained that the majority of construction works in most of the departments are being carried out by contractors having political patronage. And despite getting assurances of justice from the state government, in reality there is no security at the ground level.

In the 60 years of Independence, despite the enormous hurdles (some real, some created) engineers have been in the core of implementation of visible success stories of the IT Industry, Space Research, Metros, Highways, Dedicated Freight Corridors, to name a few. Ironically, in areas outside the domain of engineers, where bureaucrats and politicians are directly involved, for instance in

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News from the Member Associations

Association of Consulting Civil Engineers (India) ACCE (I)

Globalization and the extraordinary technological advancements being made in the world today demand that civil engineers keep equal pace - or be left behind. Consequently, civil engineers in the 21st century must constantly upgrade their knowledge and develop the ability, with an integrated approach, to produce useful and economic results. Our civil engineers shoulder a tremendous responsibility in developing the nation in which all the human needs and demands of our people are met most effectively, economically, safely and comfortably. In addition to conventional knowledge at the command of civil engineers, the new age civil engineer must necessarily acquire those extra skills to assimilate, adopt and adapt to suit his needs the advanced design and construction methodologies that are changing the very face and character of modern life. ACCE (I) in its constant endeavour, therefore, to serve the civil engineering fraternity, organized its fourth national seminar and "deminar" (demonstration + seminar) - Recent Developments in Design and Construction Technologies (REDECON-2010) - during January 28-30, 2010 at Bangalore to introduce the participants to the latest advances in the field of civil engineering.

Broad Cast Engineering Society (India) (BES)

One-day Workshop was held with the theme: Graphics and Effects in Video Production on March 20, 2010 at Hotel Maharani Palace, Jaipur, Rajasthan. It was very well attended by both the industry and the academia. The BES EXPO 2011 has been planned to be held during February 24-26, 2011 at Pragati Maidan, New Delhi. The expo is likely to bring in a large contingent of international participants including companies doing business of the high-tech equipments and components.

Consultancy Development Council (CDC)

CDC organized the first of its eight scheduled programmes to be delivered across the country, one day programme on "Capacity Building for effective use of consultants" on February 17, 2010 at New Delhi with the objective to create awareness and understanding of issues relating to effective use of consultants to senior officers dealing with process of selection of consultants of the ministries, departments of the central and state governments and the other government bodies. The programme covered: need and benefits of using consultants, methods of sourcing consultants, engagement of consultants (preparing EOI/RFP, selection process, evaluation criteria, fee structure and issues in consultancy agreement) and how to get best out of consultants. 45 senior officers attended from the Ministry of Commerce and Industry, Northern Railways, Planning Commission, Tariff Commission, DRDO, Gujarat Infrastructure Development Board-Government of Gujarat, Doordarsan-Delhi, Finance Taxes & Establishment Department, Government of NCT Delhi, Central Water Commission, Ministry of Defence, Petroleum Planning and Analysis Cell, Ministry of Petroleum & Natural Gas, Greater Mohali Area Development Authority, Naval Plans (Acquisitions Planning), Indian Metallurgical Dept etc.

Computer Society of India (CSI)

CSI launched its Knowledge Management Portal at a launch ceremony held on February 16, 2010, Taj Mahal Hotel, New Delhi. The ceremony was very well attended. The Networking 2010, which is the 9th event of the series of international workshops and conferences on Networking sponsored by the IFIP Technical Committee on Communication Systems (TC6), is being organized jointly by the CSI and IIT Madras during May 10-14, 2010 at IIT Madras, Chennai. The event includes a workshop on May 10, a conference during May 11-13 and tutorials on May 14, 2010. The main objectives of Networking 2010 are to bring together members of the networking community from both academia and industry, to discuss recent advances in the broad and fast-evolving field of telecommunications, and to highlight key issues, identify trends and develop visions. Researchers from all over the globe are likely to participate and it is a unique event for all those doing advanced work in the area of networking.

Construction Industry Development Council (CIDC)

CIDC has signed an MoU with the Association of Canadian Community Colleges (ACCC). A Canadian Delegation visited New Delhi during 22-26 February, 2010 for exploring collaboration opportunities between Indian Construction Companies, Councils, Training Institutes and ACCC's member colleges. CIDC organizing a round-table on behalf of ACCC on February 23, 2010 at New Delhi to facilitate discussions to bring together representatives from member-construction companies and their respective collaborators in the Canadian delegation for: human Resource training requirements of the sector and understanding Indian Construction Scenario, share recent innovations in construction industry and human resource requirements (both in Canada and India), present Canadian college model and colleges' products and services and identify potential partnership opportunities between the Indian and Canadian organizations. Shri P.N. Shali, Director, Engineering Council of India attended the round table and took an active part in the discussions.

Consulting Engineers Association of India (CEAI)

CEAI is an apex body of consulting engineers in India and represents the majority of consulting engineers. CEAI is the Member Association from India representing the Indian engineering consultancy profession at the International Federation of Consulting Engineers (FIDIC). The Association has behind it over 48 years of accumulated knowledge and experience of the two major consulting engineers associations of India, i.e. The Association of Consulting Engineers (India) (ACE) and National Association of Consulting Engineers (NACE).

Indian Association of Structural Engineers (IAStructE)

IAStructE revalidated their MOU with the Institution of Structural Engineers (UK) at a function held at the India International Centre, New Delhi on March 24, 2010. Mr Norman Train, President & Mr Darren Byrne, Director Membership & Education, the Institution of Structural Engineers (UK) participated. Power point presentations were also made by some of the leading structural engineering firms of India on the occasion. The MoU will further consolidate working together by the IAStructE and the Institution of Structural Engineers (UK). Dr Uddesh Kohli, Chairman and Shri P.N. Shali, Director, ECI attended the function. Continuing with their series of lectures on topics of current interest to Structural Engineers, IAStructE organized a technical lecture on "Ferrocement Structures - Repair & Rehabilitation Techniques" by Mr P.C. Sharma on Thursday, 18th February 2010 at New Delhi. It was very well attended.

International Council of Consultants (ICC)

ICC organized 7 executive development programmes during January-March, 2010 at Chennai, Kochi, Hyderabad, Mumbai and New Delhi. Subjects on which these courses were organized included construction & quality management of roads and bridges, green & intelligent building construction technologies, dispute resolution in construction contracts with special focus on arbitration, application of remote sensing & GSI for construction, contract management-FIDIC and world Bank conditions, construction management concepts and tax management in construction and infrastructure projects.

Indian Geotechnical Society (IGS)

The international conference on Cone Penetration Testing sponsored by the TC-16 of ISSMGE in Collaboration with State Polytechnic University will be held during May 09-11, 2010 in Huntington Beach, California, USA (www.cpt10.com, Abstract to: abstracts@cpt10.com). The 6th International Congress on Environmental Geotechnics (6ICEG 2010) will be held during November 8-12, 2010 at New Delhi. For details e-mail your query to 6icegdelhi@gmail.com and visit Website: www.6iceg.org.

Indian Society for Trenchless Technology (IndSTT)

Ind STT has brought out codes of practice for micro tunneling & project jacking technique suiting Indian conditions, pipe bursting suiting Indian conditions, glass reinforced pipe technique suiting Indian conditions. Ind STT has also published schedule of rates for

construction contracts employing trenchless technology. These codes and the schedule have been very well received by the industry, institutions and other bodies as standards. IITT website, an educational portal for trenchless technology, has also been released.

The Indian Institute of Metals (IIM)

IIM, Pune Chapter organized national workshop with the theme: innovations and challenges in steel technology and products during January 11-12, 2010 at Pune. It was well attended both by the steel industry and academia. The national workshop started on January 11, 2010 with Dr. Dara P. Antia Memorial Lecture which was delivered by Dr. J.J. Irani, Director, Tata Sons on expanding the envelop of corporate responsibility beyond the corporate world. The annual event Mettle 2010 was organised during on 12 and 13 March 2010 by the National Institute of Technology, Tiruchirappalli (NITT) in association with the student chapter of IIM and IIM Tiruchy chapter at the NITT premises. On the occasion of chapter level NMD Celebrations, a talk by Prof Hem Shankar Ray, Emeritus Fellow(AICTE) was organized on the topic "Innovative Problem-Solving" on 18 January 2010 at New Delhi. Prof H S Roy is an Eminent Visiting Professor of IIT Kharagpur, former Director RRL Bhubaneswar, CGCRI Kolkata and author of several books on metallurgy. His lecture was a lively session, where 40 persons actively participated.

Indian Buildings Congress (IBC)

IBC Announces IBCA Awards For Excellence in Built Environment-2009

Details to be submitted : All entries shall be in specified categories only and shall be accompanied by following details: I. A write up of about 500 words on A-4 size paper highlighting the element of excellence/innovativeness etc. and giving salient features of project. II. Five A-3 size drawings in Black on White paper. III. Five 8" x 10" size coloured photographs. IV. Name, Address and Telephone No. of the applicant with a brief note on his contribution to this project. V. List of other agencies involved and the extent of their involvement.

Schedule : (i) **Receipt of Entries :** The entries complete in all respects strictly as per Requirements should reach IBC Secretariat latest by 30th April 2010. Incomplete entries and entries with details not in the prescribed formats may not be considered. (ii) **Evaluation of Entries** All eligible entries will be submitted to a Panel of Judges nominated by the Indian Buildings Congress, whose decision shall be final. (iii) **Announcement & presentation of awards:** Awards will be announced by IBC well before the 16th Annual Convention and winners informed. The same will be presented during the 16th Annual Conventional of IBC to be held in May-June 2010. Entries may be sent to: **Shri Dinesh Kumar, Honorary Secretary, Indian Buildings Congress, Sector VI, R.K. Puram, New Delhi - 110022, Phone No. 26169531, 26170197 Fax : 26196391.**

Indian Institute of Chemical Engineers (IICChE)

A two-day Nataniel Conference with the theme :Embracing Technological advances in Surface Coatings with special focus on Process Improvement and Cost Reduction was jointly organised during March 20-21, 2010 at Kanpur by the IICChE, Kanpur Regional Chapter, Oil Technologies Association of India and the Indian Paint Association. It was supported by the CII, Northern Region (UP), Oil and Paint Technology Department, Harcourt Butler Technological Institute, Kanpur, and the MSME Development Institute, Kanpur. The conference was very well attended both by the industry and academia.

The Institution of Civil Engineers (India) (ICE(I))

Er. S.L. Swamy, Chairman ICE(I) attended the 18th ECM of Asian Civil Engineering Coordinating Council held in Busan, Korea from 21st to 24th February, 2010. ICE (I) is a member of ACECC. The meeting discussed various issues for the promotion of civil engineering internationally.



Er.S.L. Swamy, Chairman, ICE(I) with O'Donnell of Engineers Australia, George Si-Lin of Korean Society of Civil Engineers & Suresh Felix of ACECC.

The Indian Institution of Industrial Engineering (IIIE)

Founded in 1957, the IIIE is a non-profit organization for the profession of Industrial Engineering in India consisting of members specialized in the areas of Work Study, O & M., Production Planning and Control, Materials Management, Value Engineering, PERT/CPM, Operations Research, Computer Sciences, Financial Management, Statistical Quality Control, etc. and other emerging disciplines. It has been espousing and contributing to Productivity, Quality movement and cost competitiveness and other emerging needs of Undertakings in the country during the last five decades. The 14th International CEOs Conference (on the Green Trail) is scheduled to be held during May 20-23, 2010 at the Manu Maharani Hotel, Nanital & Corbett Hideaway Resort Jim Corbett National Park.

Indian Concrete Institute (ICI)

ICI, jointly with the Indian Institute of Technology Madras, organized a workshop with the theme compatibility issues between cement and water reducers in concrete on April 9, 2010 at IIT Madras, Chennai. The workshop was sponsored by the Department of Science and Technology (DST), Government of India. The workshop was very well attended by both the industry and academia. ICI has conducted various Indian and International seminars disseminating knowledge and technology to a large number of people in India. "Asian Conference on Ecstasy in Concrete" (ACECON) is one such conclave that ICI has been conducting since 2000. ACECON 2010, being organized in association with the IIT Madras, Chennai during December 6-8, 2010 at IIT Madras, Chennai, is the 3rd in the series after Bengaluru and Mumbai. The three-day conference will feature all aspects of concrete construction with the theme 'Ecstasy in Concrete'.

Indian Society of Non Destructive Testing (ISNT)

Over the last three decades, ISNT has grown in strength and stature to a level of International organizations. This has been possible largely due to keen commitment of many of its dedicated members and visionary, excellent and dedicated leadership that ISNT got from its past presidents which also included among others Dr Baldev Raj, distinguished national scientist and engineer and Director, IGCAR, Kalpakam. The objective of ISNT is to strive for making the society world class in NDE science and Technology. Shri K. Thambithurai has taken over as the President, ISNT for the term 2101-12. The year 2009 ended on a very high note, with the great success of National Seminar and Exhibition on NDE "NDE2009".

Institute of Marine Engineers (India) (IMEI)

The international conference & expo on marine applications (IWCCEM 2010) was held during Jan 14 - 16, 2010 at Pune, India and during March 16 - 18, 2010 at Hong Kong, China. The ShipTek 2010, international conference on shipping, marine and offshore industry was held during April 18-19, 2010 at Dubai. The 10th international naval engineering conference and exhibition (INEC 2010) is slated to be held during May 11-13, 2010 at Portsmouth, U.K. The 6th international conference on marine pollution and ecotoxicology is slated to be held during May 31 - June 3, 2010 at Hong Kong, China. The seminar on 'Warship Building and Overseeing' is slated to be organized by the Warship Overseeing Team (Mumbai), Indian Navy on August 4, 2010 at Mumbai, India. For details of these programmes contact: events@imarest.org, www.cityu.edu.hk/bch/conf2010, wncwotmb-navy@nic.in

Institution of Mechanical Engineers (India)-(IME India)

IME India is one of the oldest professional establishments in India set up in 1914 to promote, advance and update knowledge, business & practice of mechanical engineering professionals. Among the activities, it conducts biannual examinations known as Technician Engineers Part-I & Part-II, Automobile Technician Engineers examination Part-I & Part-II, Production Technician Engineers Part-I & Part-II, Refrigeration & Air-Conditioning Technician Engineers Examination Part-I & Part-II and Section A & Section B of Associate Membership (also known as Chartered Engineers) Examination in Mechanical Engineering. IME India Technician Engineers examinations are recognized by the Ministry of Human Resource

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A view Point

Professional associations of engineers should be involved fully in the reform of engineering education - P. S. Murthy and Ashok Sehgal, Institute of Marine Engineers, India (IMEI)

Professional association of engineers can play an important role in the reform of engineering education because the membership of these associations comprise of working engineers from the industry, academia, engineers working in the central & state governments, public utilities and engineering students. This provides the ideal forum for discussion of all issues involved in the reform of engineering education for better employability of engineers. Engineers normally work at the support level, operational level and management level in an organisation. Engineers need knowledge, skills and attitude to perform at these levels. Engineers should have both knowledge of engineering and multi-skills for performing at these levels. We need to closely look at what is needed at these levels for an engineer to perform effectively and efficiently and list this requirement in terms of needed engineering knowledge and skills. The depth of these attributes may, however, vary. The professional associations of engineers can act as a bridge between the industry and academia for ensuring need-based or industry-specific engineering curricula and training structure and system through a regular interaction of both the industry and academia. The professional associations are in a better position to identify the training gaps between entry level and exit level, assist the academia in the preparation of course content, validate the training and assess each programme, identify practical training required including from the outside institutions other than in which a student is receiving training and identify and assist in filling the faculty gap. This process can further look at developing and implementing e-learning programmes

for the different levels, developing and conducting value added short term modular courses, establishing continuing professional development programmes that can be used to grade the professionals, if needed and also set up periodical review/upgrading system. There is a lesson for the professional associations of the other branches of engineering in the role that the IMEI is performing for better employability of marine engineers. This role includes inter alia creating training manuals for different levels of marine engineers, creating and periodically reviewing training, assessment record books, conducting training courses for the certificates of competence and delivering these programs through e-learning. It has worked to make the Indian marine engineer the most welcomed professional marine engineer in the world. IMEI will be more than happy to work together with the other professional associations and engineering institutions in this regard.

Do you know

Concrete is the single most important requirement for any infrastructural development. It is the most used man-made material in the world. It accounts for more than all the other building materials put together. As of 2006, about 7.5 cubic kilometers of concrete are made each year. That is more than one cubic metre for every person on Earth. Concrete industry employs many million workers around the world. India is the second largest consumer of concrete in the world. Today the challenges are many on designing concrete structures that are sustainable, safe, green and complex in nature. On the other side, concrete also accounts for about 6% of the total manmade greenhouse gas release. Indian Concrete Institute has been doing great deal of efforts on betterment of structural concrete - Indian Concrete Institute.

Obituary



Shri Subir Raha, Eminent Engineer of India and former CMD, ONGC is no more

Shri Subir Raha, Former Chairman & Managing Director, Oil and Natural Gas Corporation Ltd, Chairman of ONGC Videsh Ltd (OVL) and Mangalore Refinery & Petrochemicals Ltd passed away on February 01, 2010 after a brief illness at New Delhi. Shri Raha transformed the ONGC - a public sector giant- into a global player and one of the India's most profitable companies. During his tenure as Chairman and Managing Director from May 2001-2006, ONGC's market capitalization increased more than 10 times to Rs 200,000 crore, and became the leader among all public and private sector companies in India in terms of net worth. Shri Raha also served the Indian Oil Corporation Ltd, the Indian Oil Board as Director (Human Resources) and the Oil Coordination Committee, Ministry of Petroleum & Natural Gas. He also held important portfolios in many reputed organizations, namely, Petrotech Society, Indian Institute of Petroleum (IIP), CSIR, FICCI, etc. He encouraged and supported the Engineering Council of India (ECI) for taking up its programmes on promoting engineering profession in India. ECI will always remember this valuable support and miss him for a long-long time. ECI mourns the great loss of Shri Raha - an eminent engineer - manager of the country, conveys its heart-felt condolence to his bereaved family and prays for the peace of his noble soul.



Prof P. Ramachandra Rao, Past President, the Indian Institute of Metals, former Vice Chancellor BHU and Director National Metallurgical Laboratory- CSIR passed on January 11, 2010. We will all miss him for a long time. Engineering Council of India mourns the loss of Prof. Ramachandra Rao - an eminent educationist, scientist and metallurgist - conveys its deep

condolences to his bereaved family and prays for the peace of his noble soul.

Shri R.P. Varshney, former Director, Planning Commission, Executive Director, All India Induction Furnaces Association (AIIFA) and former secretary and chairman, IIM, Delhi Chapter passed away on



February 22, 2010 after a brief illness at New Delhi. Sh. Varshney is survived by his wife, 2 sons, 2 daughters, 5 grandsons, 1 grand daughter and a great grand daughter. He was a well know metallurgist and a teacher. He contributed in a great measure in the development of non ferrous metallurgical industry and in establishing the Delhi Chapter of IIM. AIIFA was set up with his initiative. Engineering Council of India mourns the loss of Shri Varshney, conveys its heart-felt condolence to his bereaved family and prays for the peace of his noble soul.

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areas such as the establishment of a casteless society, availability of drinking water, law and order, moral standards, women empowerment, education, etc, there has not been much progress!! These instances serve to reinforce the general perception that an engineer is an expendable entity and so easily replaceable. Till the time technical expertise is held hostage to political expediency, bureaucratic power plays, and monetary manipulations it seems

unlikely that engineers will get their rightful place in social fabric as we know it. Presently, the eyes of the world are trained on the burdensome bonanza that the Commonwealth Games offers India and with the miracle of a squeaky clean city replete with world-class amenities promised by the government, the hierarchy has already been established for the blame to be passed down to every-one's favourite whipping boy... the Engineer. Is anybody listening? Let the buck not stop here!!

Summary of the Recommendations of the 4th National Convention on Seamless Engineering Education for Better Employability of Engineers held at RINL, Visakhapatnam, AP in July 2009

Presently, engineering profession in India is not regulated because there is no Statutory Council of Engineers in position; and as such it has no legal status because of there being no Engineers Act on our statute, unlike other professions such as Lawyers, Doctors, Architects, Dentists, Chartered Accountants etc. The engineering profession also needs to be regulated and legally recognized. For this, Engineers Act should be brought on the statute and the Statutory Council of Engineers set up at the earliest.

Before sanctioning new engineering colleges, demand of engineers should be assessed. Then, before deciding about the curricula, the requirements of the industry should be assessed. These exercises should be a regular feature of the work of the regulatory body. This will check proliferation of engineering colleges of poor quality infrastructure and faculty in the country. Reform of the engineering education should also include reform of the present CET system and procedure for selecting students for engineering courses for ensuring the selection of only those candidates for engineering courses who have not only the knowledge of physics, chemistry, mathematics and general knowledge but also aptitude for engineering.

The current engineering curricula need to be reformed for producing multi-skilled engineers needed by the industry with a full consensus of academics, industry and practising engineers. The practical case studies need to be included in the curricula and in the technical books and other reference materials meant for engineering students. The industrial training during the course, which should be in the format of small projects on industrial problems assigned individually or collectively to a group of students, should be made mandatory. It should also be assessed and marks obtained thereof should be included in the marks obtained from the written examination.

After the theoretical course and during the course training is over, a paid internship of six months with an industrial unit should be made mandatory. It should also be assessed and marks obtained thereof should be added to the total score obtained by writing exams and in-

plant training done during the course. It should be made mandatory that the students will get engineering degree only after successfully completing the training done during the course and six months internship. As a matter of policy, the industry should be compensated for the expenses that it may incur on the internship via the tax route.

The practice of delivery of engineering education should be reformed from its present form by placing more emphasis on self-learning and problem-solving. There is a clear requirement for a regular training of the faculty so as to cope with the ever emerging challenges from the industry. It is recognized that the fresh engineering graduates lack a strong ethical foundation. Introduction of ethics as a subject in engineering education in universities needs a serious consideration.

The continuing professional development (CPD) should form an important element of the regulatory mechanism of engineering education. A working mechanism for facilitating the exchange of professionals for short periods between the academic institutions and the industry needs to be developed for providing an opportunity to them to have a hands-on experience of the "other side of the fence". Industry - Academia partnership in technical education should be institutionalized.

It should be made mandatory to upgrade the engineering curricula once in every four years for keeping it in pace with the market trend. For this, the institutions delivering engineering education in the country should have the freedom for setting and revising the curricula keeping in view the changes in the perspective of industry, R&D, etc. Evaluation of the faculty by the students should be made mandatory for all the engineering colleges in the country as a matter of policy.

The curricula and training format of the Polytechnics and Industrial Training Institutes (ITIs) training diploma engineers and engineer technicians respectively need to be re-engineered for imparting required knowledge and skills to diploma engineers and engineer technicians. Their English language skills also need to be made better by including the language in their curricula.

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Development, Government of India. The Institution is thus helping thousands of younger members of community working in engineering to obtain engineering qualification & also to advance their technical knowledge & enhance their engineering career but, who have been unfortunate in securing admission in regular polytechnics and engineering colleges due to no fault of their through non formal system of education. It has collaborated with many prestigious institutions around the world for excellence in engineering education. Its past Presidents have been engineers of eminence - Shri S.K. Kirloskar, Shri U.V. Modak, Shri Fakirji Bharucha to mention just a few.

Institute of Electrical & Electronics Engineers (IEEE). Inc.

The IEEE Board of Directors has named 309 IEEE Senior Members to Fellow grade effective from January 1, 2010. IETE organized a Seminar on HDTV- Road Map Ahead on February 20, 2010 at New Delhi. Dr S. Y. Qureshi, Election Commissioner was the chief Guest, Mrs Aruna Sharma, DG, Doordarshan was the guest of honour and

Shri R.P. Orasid, Engineer-in- Chief presented the Keynote Address. The seminar was very well attended.

The Institution of Electronics and Telecommunication Engineers (IETE)

Continuing with its various programmes, IETE organized 41st Mid-Term Symposium on Taking Telecom & It Revolution to Rural India - Bridging the Digital Divide on April 9, 2010 at Sri Venkateswara University, Tirupati, Andhra Pradesh. The symposium was inaugurated by Dr. K. Radhakrishnan, Chairman, ISRO & Secretary, Department of Space, Bangalore. Prof. N.Prabhakara Rao, Vice Chancellor, Venkateswara University and Shri IYR Krishna Rao IAS, Executive Director, Tirumala Tirupati Devasthanam, Tirupati were the guests of Honour. 37th Vikram Sarabhai Memorial Lecture was also delivered on the occasion by Shri S. Ramakrishnan, Director (Projects), VSSC, ISRO, Thiruvananthapuram on Access to Space Through India Launch Vehicles-Current Capabilities & Future Perspective. The symposium was very well attended.

ENGINEERING COUNCIL OF INDIA

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