



The Indian Engineer

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E. N. Shali

Director, Engineering Council of India

From the Chairman's Desk

Engineers Bill: I along with Vice Chairman, Mr. Mahendra Raj, Lt. Gen. A K Puri (Retd) and Lt Gen AK Agrawal (Retd) met the Hon'ble Minister of HRD on Sept. 11, 2009 and requested for expeditious action on the Bill. Hon'ble Minister gave instructions and fast track action started thereafter. It is understood that a draft Cabinet note on the Bill has been circulated to the concerned ministries and departments of the Government of India for comments. Thereafter, the note will be submitted for Cabinet approval and then tabled for approval by the Parliament. It is expected that after the Act, the registration would be mandatory for practicing engineers.

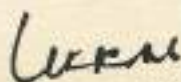


IE(I): ECI had supported the Full Membership of EMF for IE(I) with the clear understanding that this will be passed on to the statutory body when it is set up. I have requested President IE(I), that after ECI's unconditional support at EMF, IE(I) should rejoin ECI without any conditions. Response is awaited.

7th National Conference: The 7th national conference organized on November 30, 2009 at New Delhi with the main objective of taking a critical look at the requirements and expectations from the engineering profession for meeting the challenges in 2020, was a great success. Apart from working engineers, many students and faculty members from the NCR-based engineering institutions participated in the conference, which was appreciated. The Conference was inaugurated by Dr. Narendra Jadhav, Member, Planning Commission. Distinguished keynote speakers included Dr. Baldev Raj, Distinguished Scientist & Director, Indira Gandhi Centre for Atomic Research, Kalpakam, Prof G.K. Suraish Kumar Indian Institute of Technology Madras, Mr. D. G. Roychowdhury, Dr. G. P. Karmakar, Professor, Rajiv Gandhi Institute of Petroleum Technology, Rae Bareilly, and many others. The recommendations would be put together shortly and circulated to the concerned agencies for follow up.

Course on Project Management for Engineers: In order to meet the needs for multiskilling of engineers, this course is being organised from 22nd to 26th Feb 2010 at New Delhi. I would request for support by our member organisations to promote this programme and make it a success.

Let me wish a very Happy New Year to all members of the Engineering Council of India and other readers. I look forward to their continued support and participation.


(Uddesh Kohli)

Facts Relating to EMF Membership

1. In the context of registration of Professional Engineers, the Ministry of HRD has communicated that such registration will be legally valid only if it is done by a statutory body, set up under an Act of Parliament.
2. In the EMF meeting held in June 2009, IE(1), supported by ECI, was given the Full membership of EMF. This support was on clear understanding that this membership will be passed on to the statutory body when it is set up. This is in line with Ministry's view and also to ensure that registration of PEs in India has legal force behind it.
3. Full Membership of EMF does not automatically give mobility to engineers registered as International Professional Engineers (Int PE) in India, to operate in other countries. For that, bilateral agreements will have to be signed between the respective countries/ organizations for reciprocal recognition of educational qualifications and PE status. Such agreements do not exist at present for most countries, and to be legally valid, these have to be signed between governments/ statutory bodies.
4. Therefore, till a statutory body is set up to which the EMF membership is passed on, it takes up registration of Int PEs in accordance with EMF procedures and signs bilateral agreements for mutual recognition, registration as Int PEs by any other body does not give any right to take up practice in other countries.

Obituary

Dr. P. P. Gupta, Past President of CSI and who was a doyen of Indian IT, passed away recently. He contributed vastly to the IT sector by creating and building revolutionary IT systems in the public sector space, creating a great organization and spearheading many policy initiatives. ECI mourns his death and prays for the eternal peace of his noble soul.

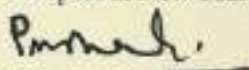
From Editor's Desk



We cannot afford to delay reform of the engineering education

Although India's education system contributes around 8,00,000 engineers annually to India's technical workforce, only around 25 % of them are found employable by the multinationals (Report-McKinsey Global Institute). The L.R. Rao Committee has projected that India needs well over 10,000 engineering PhDs and twice as many M. Tech. degree holders for meeting its huge R&D needs. In contrast, the country produces barely 400 engineering PhDs a year (FICCI). According to the Knowledge Commission, "Most graduates (engineering) do not possess the skills needed to compete in the economy, and industries have been facing a consistent skills deficit". What has gone wrong with our engineering education? Both the industry and the knowledge commission lay the blame for flawed education on the complex network of regulatory bodies - UGC and the AICTE. The commission is of the view that one of the main problems of the Indian education system is that "students are stuffed with information and are tested for their memory"; while as the focus of the education should be on skill development and testing. Reportedly, the commission has inter alia suggested that the industry specialists should also be attracted to teaching. It has also advised greater autonomy for universities in setting curricula and devising tests.

According to Dr. A. K. Singh, Director, Electrical Research & Development Association, Baroda, in the 21st century, India needs engineers of the desired characteristics for meeting the current and future needs of Indian industry including the multinational corporations. These characteristics are: fundamental technical domain knowledge complemented by knowledge from neighbouring technical disciplines, knowledge about the social and ecological implications of technology, economics, statistics, skills such as: system -building and problem-solving, business process, communication, project management and decision-making, English language proficiency, interpersonal, leadership, inter-cultural understanding and cultural empathy (identification and understanding of another's situation, feelings and motives) and skills to deal with various regulations and statutory bodies and last but not the least, capacity and willingness to engage in life-long learning supported by cosmopolitan attitude and global mindset (2nd National Convention on Seamless Engineering Education for Better Employability of Engineers, May, 2007, Baroda). The current engineering education system does not impart these skills in engineers. The national conventions, conferences and workshops organised by the Engineering Council of India in different parts of the country on the reform of engineering education have recommended unanimously like-wise. There is, therefore, an urgent need to reform the engineering education, particularly at the undergraduate level. We cannot delay reform of the engineering education further. We must act now and fast for tackling ~~in resolving~~ this issue of national importance. I wish all a very Happy and Prosperous New Year-2010.


(P.N. Shali)

Eminent Indian Engineer : Shri Mahendra Raj



Shri Mahendra Raj's 63 years service to the building profession has shown an uncommon inventiveness and willingness to experiment with new concepts. He has worked with some of the leading Architects of the world and of the country such as Le-Corbusier, Minoru Yamasaki, Louis Kahn, A P Kanvinde, Charles Correa, B V Doshi, JA Stein and Raj Rewal. He

is a well known structural engineer in India and the world. As a designer, some of the projects he worked on are considered trend setters in the country, these projects include the first large span space frame in reinforced concrete in the world - the Hall of Nations and Halls of Industries in New Delhi, the first skyscraper in Bombay - Usha Kiran, the first large span folded plate structure - Tagore Memorial in Ahmedabad, the first large span space frame with precast concrete members and in situ joints for the Sports Stadium in Srinagar, the first large span industrial structure comprising post tensioned tied arches with pre-cast concrete flooring units to create a 48m x 250m column free space for the Hindon River Mills in Ghaziabad.

As a professional, Shri Mahendra Raj has also made an extensive contribution to the development of consultancy profession in the country in his capacity as the President of the Association of Consulting Engineers, India (ACEI) for a number of years before it merged with the National Association of Consulting Engineers (NACE). After the merger, it became Consulting Engineers Association of India (CEAI). Along with some other organizations, Shri Mahendra Raj, as the President of ACEI, was instrumental in the setting up of the Consultancy Development Centre (CDC) under the patronage of the Government of India for promoting consultancy in the country. He served the CDC as its Vice Chairman for a number of years. Further, Shri Mahendra Raj participated actively and made a significant contribution in the development of Technical Consultancy Development Programme for Asia and Pacific (TCDPAP) under the sponsorship of ESCAP. He was the first country representative to TCDPAP. Shri Mahendra Raj has been very active in the International Federation of Consulting Engineers (FIDIC) since India became its member in 1981. He was a member of the North and South Committee on Needs and Resources (NASCONAR) set up in 1981-82 and later of the Client Consultant Relationship Committee (CCRC) for a number of years. He was member of a "Task Force" constituted by FIDIC to produce a "Standard Agreement" for "Country Representative" of a Multinational Consultancy Organization in a Developing Country. He has attended and participated in the deliberations at a number of FIDIC conferences held in different parts of the world. He was also instrumental in hosting three FIDIC related meetings in Delhi. First, Asia South Pacific Asian countries ASPAC meeting in March 1984, second, FIDIC-Executive Committee meeting in January 1988 - both organized by him as the President of the Association of Consulting Engineers India, ACEI and the third, again a FIDIC Executive Committee meeting in January 2001 organized by Consulting Engineers Association of India which was followed by a very successful International Conference on FIDIC Conditions of Contract in which he was the Chairman of the Technical Committee. He was a member of a high-powered committee set up by the Ministry of Urban Development and Poverty Alleviation of the Government of India to draft a Comprehensive Legislation to Regulate and Control the activities of Builders and Developers. He was also member of a committee constituted by the Ministry of Home Affairs for the development of Model Building Bye laws

for Seismic Zones III, IV & V and the review of the City, Town and Country planning Act and Zoning Regulations. His efforts of the last over fifteen years for this cause eventually won support of all the professional organisations of engineers in India. He has been very active in framing legislation for the regulation of engineering profession in the country. As a result, Engineering Council of India (ECI) was formed in April 2002, under the Patronship of the Deputy Chairman, Planning Commission by coming together of a large number of professional organizations/institutions of engineers to work for (a) the advancement of engineering profession in various disciplines, (b) enhancing the image of engineers in the society by focusing on quality and accountability of engineers, and (c) enabling the recognition of expertise of Indian engineers and their mobility at international level in the emerged WTO/GATS environment. Shri Mahendra Raj was a member of the committee which drafted the Rules and Regulations for this council; and he is currently its Vice Chairman. He is the President of the newly formed "Indian Association of Structural Engineers", an organization created on All India basis to look after the interests of Structural Engineers.

Shri Mahendra Raj, Managing Director of Mahendra Raj Consultants P Ltd, was born in 1924 at Gujranwala, in the Punjab, now in Pakistan. He graduated in science from the Government College, Lahore in 1943 and then he did Civil Engineering in 1946 from the then Punjab College of Engineering and Technology, Lahore, which shifted after partition of the country to Shimla and later to Chandigarh with its new name as the Punjab Engineering College. Presently, it is called PEC Technical University, Chandigarh. Shri Mahendra Raj obtained MS in Structures in 1956 from Minnesota, and CE in Structures from Columbia, New York in 1959. He started his career with the Punjab Public Works Department as an Assistant Engineer in 1946, worked on the Chandigarh project from its inception, and later on the Structural Design of High Court and Secretariat Buildings in Chandigarh Architecturally designed by Le-Corbusier. He was promoted as an Executive Engineer in 1953, went to USA for further studies and work experience from 1955 to 1959. On his return, he resigned from the Government service and started his independent practice as a civil engineer in 1960.

Awards and Honours

In recognition of outstanding contribution to the profession of engineering particularly to structural engineering, Shri Mahendra Raj has received many prestigious awards which include "Architectural Engineering Design Award", 1989-90 of the Institution of Engineers (India), the "ACCE GOURAV Award", 1991 of the Association of Consulting Civil Engineers, "The Chairman's Award 1995" in the series "Architect of the Year Awards" instituted by JK Cement Works, Kanpur, 1996, the "ICI-JI Life Time Achievement Award" 2000-2001 of the Indian Concrete Institute, "Scroll of Honour to Eminent Engineer" for his "significant contribution to the advancement and application of practice of engineering in India 2001" of the Institution of Engineers (India) and the "India Chapter of ACI" Award 2003 "of the American Concrete Institute in appreciation of his contributions of more than five decades of structural engineering practice with outstanding creations, innovative ideas, challenges to create new culture and to upgrade the professional status in India". Consulting Engineers Association of India (CEAI) presented to Shri Mahendra Raj "Certificate of Commendation - Scroll of Honour" in 2005 for his Lifetime Contribution to the Engineering Consultancy Profession.

Aptitude for engineering should be assessed for admission to engineering courses says Umesh. B. Rao, Past President ACCE(I)

We are talking about employability of engineers. There is a certain change in the scenario, working pattern, work schedules, etc. Earlier, a project or engineering work was required to be completed in 4-5 years time is now required to be completed in just 18-25 months time. This in other words means that there is a commitment today to deliver and hence today consultancy has become a production line and is no more an engineering firm. There is a distinct hierarchy in engineering establishments. A draftsman may know to draw a line and what to draw, but he may not know why to draw a line. When we move up to the level of a diploma in civil engineering, they also know what to draw, but not why to draw. When we move further up the ladder of this hierarchy to the level of a graduate civil engineer, the position remains, by and large, the same. Engineers today need to know why to draw as well. That means they need to know all that they have learned during their period of training. This is only possible if they had taken up the study from their choice point of view and because

they had aptitude for it. We all know why we send our children for engineering education; and that too in a particular branch, because it all depends on extraneous reasons; we all need to know what these are. You ask a civil engineer to design a single span beam or a slab, he/she does not know why you need that particular structure. They may be holding a degree in engineering or a postgraduate degree or a PhD from a premier institute, the position will be the same with all of them. This is the issue. Where from this issue gets its form? It is right from the very education process. Engineers when they are being trained they are not told why, they are told how. After they pass out they all forget what they have learnt. They should first become engineers who have concepts of what they have studied and learned clear and retained well in their memory. This is the first step that we need to take for improving the employability of engineers. This will come only if we admit students for engineering after assessing their aptitude for the profession.

News Corner

Empanelment of Structural Engineers for Seismic Assessment & Retrofitting

There is a demand of the Delhi Disaster Management Authority and other Development Authorities in Delhi/NCR for empanelment of competent Structural Engineers who have competency in Seismic Assessment of Masonry and/or Reinforced Concrete multi-storied buildings as well as Retrofitting of buildings deficient in earthquake safety requirements as specified in the IS:4326-1993, IS:1893-2002 and IS:13920-1993. IAStructE would like to submit a list of competent Structural Engineers to the concerned authorities. They may, in turn, bring this to the notice of citizens of NCT/NCR of Delhi to enable them approach the empanelled members for assistance in seismic assessment and/or retrofitting of buildings.

75 percent Indian engineers unemployable: Nasscom

Indian IT firms reject 90 percent of college graduates and 75 percent of engineers who apply for jobs because they are not good enough to be trained: Wipro employs 95,000, Infosys 1,05,000 and TCS 1,43,000. Of the Fortune 500, only Wal-Mart in America adds more people annually than either Infosys or TCS. Last year Infosys hired 28,231 people, including 18,000 graduates paid Rs. 3 lakh a year. This year they will hire 20,000 at Rs 3.25 lakh. Infosys is hiring though there isn't enough business. Currently, 30,000 people at Infosys are 'benched'. Why are they still hiring and raising salaries? Because they cannot find competent people and due to this reason, this year Infosys increased its training of employees to 29 weeks. That's seven months of training. Why do they need so much training? And why is the quality of applicants so poor? Infosys spends twice as much as its American competitors on training, four percent of revenue. Nine half-literates are produced by our colleges, by Nasscom's numbers, for every graduate of passable quality. What is Nasscom's solution to this? It wants government to boost college enrolment from 10 percent of those in secondary school to 25 percent. Nasscom knows that this will only increase the number of job applicants, not the quality, but there's no other solution. India produces three million graduates, but Nasscom says that next year it will see a shortage of 500,000 graduates, because incompetents will swamp the rest.

Nasscom (Siliconindia News Bureau, Friday, 30 October 2009)



A retired Indian engineer, Chewang Norphel has built 12 new glaciers

A retired Indian engineer, Chewang Norphel, 76, has built 12 new glaciers and is racing to create five more. He hopes to train enough new 'icemen' to continue the work he is doing to save the world's 'third icecap' from being transformed into rivers, reports Telegraph. His race against time is shared by Dr. Manmohan Singh, the Prime

Minister, who called on the region's Himalayan nations, including China, Pakistan, Nepal and Bhutan, to constitute a united front to tackle glacial melting. The Himalayan glaciers, including Kashmir's Siachen glacier, feed the region's most important rivers, as they irrigate farm lands in Tibet, Nepal and Bangladesh and throughout the Indian subcontinent. The acceleration in glacial melting has been blamed as the reason for the increase in floods that have destroyed homes and crops. But Chewang Norphel, the "Iceman of Ladakh", believes that he has an answer. By diverting melt water through a network of pipes into artificial lakes in the shaded side of mountain valleys, Norphel states that he has created new glaciers. A dam or embankment is built to keep the water in, which freezes at night and remains frozen in the absence of direct sunlight until March, when the start of summer melts the new glacier and releases the water into the rivers downside. His glaciers have been able to each store up to one million cubic feet of ice, which in turn can irrigate 200 hectares of farm land. This can make the difference between crop failure and a bumper crop of more than 1,000 tons of wheat for the farmers. Norphel says that he has seen the effects of global warming on farmland as snows have become thinner on the ground and ice rivers have melted away. His work has now been recognized by the Indian government and provided financial support to him for to build five new glaciers. But time is his enemy, he told The Hindustan Times. "I'm planning to train villagers with instructe CDs that I have made, so that I can pass on the knowledge before I die," he said.

International Workshop on the Physics of Semiconductor Devices-2009, IWPSD 2009

The 15th international workshop on the physics of semiconductor devices was inaugurated on 15th December, 2009 at Jamia Millia

Contd. on Page 7

News from the Member Associations

Association of Consulting Civil Engineers (India)

ACCE(I), Bangalore Centre, in its constant endeavour to serve the civil engineering fraternity, is conducting its fourth national seminar and "Deminar" (Demonstration + Seminar) - Recent Developments in Design and Construction Technologies (REDECON-2010) with the objective of introducing the participants to the latest advances in the field of civil engineering during January 28-30, 2010 at Convention Hall, Nimbans Campus, Hosur Road, Bangalore. 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. For information on the event e-mail your query to admin@accehq.net.

Broad Cast Engineering Society (India) (BES)

The 16th International Conference with the Theme: Broadcasters & New Media Technologies & Exhibition on Terrestrial & Satellite Broadcasting will be organised during January 29-31, 2010 at the Pragati Maidan, New Delhi. It will be India's biggest Broad Cast Technology Show. The BES Seminar with the Theme: Emerging Trends in Digital Communication will be held on 6th February, 2010 at Aarupadai Veedu Institute of Technology, Rajiv Gandhi Salai (OMR), Palyanor, Chennai.

Consultancy Development Council (CDC)

The future perspective of the CDC has been laid down as: creating a speciality-wise database of consultants in the TCDPAP member countries and other countries of the region, promoting networking among professionals/business delegates from the TCDPAP member countries and the other countries of the region and promoting export of consultancy services by linkages, consortia approach, regional networking. There is tremendous potential for export of consultancy services in the Asia Pacific region particularly in South East Asia, which could be effectively harnessed through TCDPAP. It is proposed to take up training programmes in collaboration with member associations and FIDC in TCDPAP member countries and other countries of the region. It is also proposed to line up collaboration of TCDPAP with ASPAC/FIDC for evolving accreditation and rating system for consultants operating in the region. The perspective also includes publishing and disseminating information on available consultancy opportunities in the Asia Pacific region.



S. Mahalingam
President, CSI

Computer Society of India (CSI)

Shri Ravi Raman has been appointed to the Board of CSI. As an active member, he is well-known for his Mumbai Chapter and National Council affiliations. He has come on Board to play an active part in membership development. It is proposed to enlarge the membership and provide quality service through journals, events and access to information. A number of events have been scheduled for the year 2010. The high profile Annual Convention was organised in October, 2009 at Pune. It was a well attended convention. Work on developing a portal based system for CSI has been taken up with the objective of keeping membership data of the society current and at the same time, it will be an interactive system for attending to members' requirements.

Construction Industry Development Council (CIDC)

CIDC has signed three new Memorandums of Understanding & Cooperation. These include with Naya Raipur Development

Authority (Raipur, Chattisgarh) for training, testing & certification of project affected people of Naya Raipur project in construction sector, Periyar Maniammai University for training, research and education including HRD with special emphasis on emerging technologies and their usage for skill development and Mandal Mahila Samakyhas for orientation/training in construction trades for women sub-committee members of Mandal Mahila Samakyhas and village organizations. In order to provide the required focus on arbitration, specifically on institutional arbitration mechanism, a two-day National Conference on "Arbitration in India: An overview, an analysis of procedural grounds" was organised on December 11-12, 2009, at Scope Complex, New Delhi, by the Construction Industry Arbitration Council (CIAC) - a body set up by the CIDC. The CIDC Vishwakarma Awards for the year 2010 have been announced. These awards are inspired by the spirit of construction and creation patronized by Lord Vishwakarma - the ruling deity of the construction practices in India; and are meant to motivate individuals' and organizations' contribution in construction domain and to promote replicable best practices in the Indian construction industry as continuation of our tradition to honour the super achievers of the construction fraternity. For details send your e-mail to cide@cide.in.

Consulting Engineers Association of India (CEAI)

FIDIC jointly with the CEAI organized in-house training seminars on management of contract claims and resolution disputes during November 13-14, 2009 at Hyderabad, November 16-17, 2009 (open House) at Habitat Centre, New Delhi, November 18-19, 2009 at Dwarka, New Delhi and during November 21-22, 2009 at Mumbai. These training seminars were well attended. A number of such training seminars have also been lined up for 2010.

Indian Association of Structural Engineers (IAStructE)

A prominent thrust area of IAStructE is to ensure that its members have the requisite technical knowledge and experience, updated on a continuing basis, to render professional service of high caliber to the society. A programme of continuing education of practicing structural engineers in the areas of design and practice of structural engineering has been formulated and is being implemented. The Andhra Pradesh State Centre of IAStructE and JNTU College of Engineering, Department of Civil Engineering organized a National Workshop on "Structural Stability & Safety of Buildings", jointly with ACC Ltd. during October 23-24, 2009 at Hyderabad. It was very well attended. The IAStructE Secretariat has been shifted to its permanent original address at Q-24, Jangpura Extension, New Delhi.

International Council of Consultants (ICC)

ICC has conducted national proficiency evaluation test under the aegis of the CIDC Examination Board. Projects have also been taken up with the Municipal Corporation of Gurgaon, Haryana. A quality control laboratory is being set up in the premises provided by the Municipal Corporation, Faridabad, Haryana. At the 48th meeting of the Board of Governor, held in September, 2009 at New Delhi, Shri Ramesh Kumar Panday was admitted to the Council as a fellow.

Indian Geotechnical Society (IGS)

The international conference on Coax 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@ept10.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)

The IndSTT organizing No Dig India Show 2009 on 17th-19th November 2009 At NSIC Exhibition Ground, Okhla Industrial Estate, New Delhi. The details of this programme are available at www.indstt.org, www.indstt.in

The Indian Institute of Metals (IIM)

IIM organized the 47th National Metallurgists Day and 63rd Annual Technical Meeting, an International Symposium on "Emerging Challenges for Metals & Minerals: Engineering & Technology" and the Metals, Minerals and Manufacturing Expo at the Science City Complex, Kolkata during 14-17 November 2009. Hon'ble Shri Virbhadr Singh, Union Minister for Steel inaugurated the event IIM is contemplating to prepare three special vision reports by identified experts, considering the topical relevance to our country. These reports and the project coordinators respectively are: (1) Materials for Power Plants - Dr. Baldev Raj, (2) Recycling of Metallic Materials - Shri Supriya Dasgupta and (3) Non Ferrous Metals Resources - Shri L. Pugazhenthay.

Indian Institute of Chemical Engineers (IICChE)

The Northern Regional Centre of IICChE in association with TIFAC organized a seminar On October 9, 2009 on Bio-Processing Technologies – Emerging Opportunities. Dr. R. Chidambaram, Principal Scientific Adviser, Govt. of India and Chairman, TIFAC was the Chief Guest. The Calcutta Regional Centre of IICChE organized a workshop on December 4, 2009 with the theme: Safety Management and Loss Prevention in Chemical and Allied Industry. As many as 18 experts from consultancy houses, industries, academic institutions, as well as petroleum and explosives safety organizations spoke on different aspects of industrial safety. Some of the issues highlighted in their lectures include Bhopal tragedy. The Mumbai Regional Centre, IICChE arranged a lecture by Ms Stefania Specchia, Asst. Professor, Polytechnic di Torino, Italy on 4th December 2009 at Mumbai on the subject: Research Activities on Hydrogen and Fuel Cells.

Institute of Marine Engineers (India) (IMEI)

The 26th AGM was held on December 26, 2009 at IMEI House, Nerul, Navi Mumbai. The International Conference & Expo on Marine Applications (IWCEM 2010) would be held during Jan 14 – 16 2010 at Pune, India and during March 16 – 18, 2010 at Convention and Exhibition Centre, Hong Kong. Visit for details, www.iwcem.com, info@iwcem.com.

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

IEEE, the world's largest technical professional association, has brought together its security expert members to evaluate the most substantial threats to personal information, and to advise the public on how to best protect against security compromises online. IEEE's vision is to help protect individuals' personal and financial information, as well as help secure the vast amounts of information captured by large organizations. The IEEE Board of Directors has named 309 IEEE Senior Members to Fellow grade effective from January 1, 2010.

Institute of Urban Transport

The Institute has established a library of important books, journals, and studies conducted by urban transport professionals and an urban transport information centre for collection, compilation and dissemination of data/statistics on various aspects of urban transport. The institute has plans to organize programmes for facilitating research, investigation, development and management of good urban transport. At the invitation from the department of town and country planning government of Manipur, Prof. P.K. Sarkar, Hony. Secy., IUT, participated as a key speaker in the World Habitat Day held on 5th, Oct, 2009 at Imphal and delivered a lecture on the theme "A System Approach to Transport Planning- A Future Vision".

The Institution of Electronics and Telecommunication Engineers

56th IETE Foundation Day was celebrated on November 2, 2009 at New Delhi and as a part of the celebrations, a conference was also organized with the theme: Blogging, Tweeting – Bane or Boon. It was very well attended and discussions were very thought provoking. ECI was represented at the foundation day ceremony by P.N. Shali, Director.

The Indian Buildings Congress (IBC)

IBC has set up a number of technical committees to deal with different aspects of built environment and construction industry and to make recommendations on related subjects. Since its inception, the Indian Buildings Congress has been organising seminars on subjects of topical interests, one to coincide with the annual convention and the other on the occasion of mid-term session. Since 1994, when the first seminar on the theme 'Buildings in National Development' was held during October 4-5, 2009 at New Delhi, fifteen more annual conventions along with national seminars and fifteen mid-term seminars were held in different parts of the country. It publishes quarterly magazine "IBC News" and a monthly bulletin "IBC Samachar". It has also instituted awards for the best papers presented in the seminars.

A View Point

Necessity for Seamless Engineering For Employability of Engineers after Graduation - Nippani Rama Prasada Rao

After graduating from the Air Force Technical College in 1953, various facets of life have led me to the field of engineering practice including in private industry, public sector and central government service. Drawing on my personal experiences with graduate engineers as colleagues, and later on in my career while interviewing a good number of graduate engineers, I think knowledge of the basics, or at very least where to find them, is an essential requirement which can not be guaranteed by young engineering graduates of today. I was asked to interview a student who came in carrying a beautifully bound, colourful electronics project and claimed to be the top of his year. Unfortunately, the question "What are the SI of charge?" proved to be a challenge for the young man. The difference is

that years ago, we tried to continuously read and increase our basic knowledge, but engineers today seem to be content to read enough to pass the examination somehow, get a decent job, with less work, less responsibility and with high ambitions, get as much monetary benefit as possible (this may not be true in all cases, but certainly in the majority). Earlier, a civil engineer was responsible for the duties of modern day civil, mechanical and structural engineers in all respects. Today, three people are required to fill the same role. So, who is ultimately responsible for the completion, quality and reliability, time schedules and economics of an engineering project? This leads us to the thought of seamless engineering where the engineer is qualified to lead a team of engineers, pool the resources and take ultimate responsibility. Seamless engineering education at the undergraduate level, therefore, makes sense today.

Awards

Award for Excellence & Outstanding Contribution to Shri S. K. Roongta, Chairman, SAIL

Prime Minister Dr. Manmohan Singh conferred the SCOPE Award for Excellence & Outstanding Contribution to Public Sector Management in the Individual Category for the year 2007-08 upon SAIL Chairman Shri S.K. Roongta at Vigyan Bhawan on October 15, 2009. Shri Roongta also received three other major awards for SAIL-the Gold Trophy of SCOPE Award for Excellence & Outstanding Contribution to Public Sector in the Institutional Category for the year 2007-08 and two MoU Excellence Awards in the Categories Mining & Metals and Listed Companies for the year 2007-08 from Dr. Singh.

Prof. P. Rama Rao, a distinguished metallurgist, educationist and former Secretary, Government of India, Past President, IIM and Member BOG, ECI received the prestigious Life Time Achievement Award at the 47th National Metallurgists Day Celebrations held on November 14, 2009 at Kolkata. At the same function, Honorary Membership of IIM was conferred on Shri L. Pugazhenthly, Immediate Past President, IIM & Executive Director, India Lead Zine Development Association considering his significant contributions over the years to the industry as well as the IIM. On this occasion, a number of young metallurgists and school students were also recognized with various awards.

IEEE Life Fellow Mr. Andrew J. Viterbi, co-founder of Qualcomm Incorporated and developer of wireless technologies that became the international standard for the third-generation cellular phones, has been named the 2010 IEEE Medal of Honor recipient. The Medal of Honor, IEEE's highest award, will be presented on June 26, 2010 at Montreal, Quebec, Canada as a part of IEEE's annual Honors Ceremony.

Our Congratulations to all of them

Appointments

Major General R K Sanan appointed Director General and Secretary, the Institution of Engineers (India)- IE(I)

After his superannuation on 30th of September 2009, Major General R.K. Sanan joined the Institution of Engineers (India), Kolkata. Major General has rendered very valuable advice and support to the IIPE, Delhi and a seminar on the "Design for Maintainability" was held by the IIPE, Delhi under his overall control. ECI congratulates Major General R K Sanan for his appointment as the Director General and Secretary, IE(I). ECI will be looking forward to working with him for the benefit of the engineering profession in India.



Shri A. K. Purwaha, has taken over as Chairman & Managing Director, Engineers India Limited

Shri A. K. Purwaha, has taken over as Chairman & Managing Director, Engineers India Limited on 1st October, 2009. Shri Purwaha is an Electrical Engineer from Delhi University. He has more than 32 years of extensive experience in Oil & Gas Sector. Shri Purwaha started his career with ONGC, almost at the inception of Bombay High in Drilling Business Group and worked in Bombay High. He joined GAIL (India) Limited in 1985 and has served the company in various disciplines like Cross country Pipelines for gas distribution, operation and maintenance of Gas Pipeline systems, project management for gas based LPG recovery plants. Shri Purwaha also functioned as Managing Director of Mahanagar Gas Limited for 5 years. During his tenure, the company increased the supply of natural gas to domestic, commercial, industrial consumers as well as Compressed Natural Gas (CNG) to a large number of vehicles in Mumbai.

Our Congratulations

Contd. from Page 4 (News Corner)

Islamia, New Delhi. after a brief welcome address by Shri Najeeb Jung, Vice Chancellor, Jamia Millia Islamia, by the Hon'ble Minister of State, Science and Technology, Shri Prithviraj Chavan, Over 450 scientists, academicians and engineers from the international and national educational institutes, government laboratories and leading industries including a number of young research students from the various Indian institutions exchanged ideas and shared knowledge at this important biennial event. The Hon'ble Minister, in his inaugural address, stated that electronics find application in the important sectors of our economy such as communication, power generation, transportation, environment, entertainment, medical care, and last but not the least defence and is, therefore, strategically important for all the countries, especially for India.

National Conference on "Public Private Partnership in Housing"

National Real Estate Development Council (NAREDCO) organized its national conference as a part of its 9th National Convention, which was supported on "Public Private Partnership in Housing" on October 9, 2009 at New Delhi by the Planning Commission and the Ministry of Urban Development and Poverty Alleviation, Government of India. For details e-mail your query to: naredco@naredco.org.

Professional Associations of Engineers can play an important role in the reform of engineering education says K. Chidambaram, President, Institute of Marine Engineers

Coming to the role of professional associations of engineers in engineering education for better employability of engineers, I would like to say that a professional association of engineers can play an important role in the reform of engineering education because the membership of these associations is drawn from the industry, academia, administration and engineering students which provides the ideal forum for discussion of all issues involved. The employability is capacity and competence to carry out tasks that need to be done. The tasks to be performed depend at what level these are to be performed in a company or organization. These levels normally are support level, operational level and management level. While chalking out our action plan for reforming the current engineering education for better employability of engineers what we should do is to list the competences needed to perform the different tasks at these levels and list what is needed for each competence. Engineers need knowledge, skills and attitude to perform at these levels. 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. This would be possible through a regular interaction with both the industry and academia.

Summary of the Recommendations of the National Workshop on Reform of Engineering Education held at Madurai in March, 2009

The engineering profession has no legal status at present as is the case with the other professions such as Lawyers, Doctors, Accountants, Architects, etc. The profession should also have this status. It is very necessary; therefore, that the Engineers Bill is enacted as the law and a statutory body of engineers is established. It is recognized that engineering, like other professions, has emerged as the multi-disciplined and multi-directional profession; while as the engineering education and training continues to be in the old mould. It must change. The engineering curricula need to be given industry-orientation. It should be open-ended, constructive, investigative, inventive and innovative. Further, it should be based on a consensus of academics, industry and practising engineers. Developing much needed skills in engineers - such as group and team working abilities, project management, communication, economics, statistics, interpersonal skills, problem solving, critical and lateral thinking, presentation, reflective and objective reasoning, positive attitude to change including understanding of the arena of work, politics and society - should be the central focus of our engineering education for their better employability, apart from developing the urge in engineers to keep learning even after leaving the portals of the institute.

The subjects which are not found in the current engineering curricula include Project Planning & formulation, Feasibility Study & Project Appraisal, Environment Assessment and Management, Construction Methodology Planning & Equipment, Construction Management, Logistics of works and Inventory Management, Human Resources Planning, Development and Management, Project Monitoring with MIS, Finance Engineering, Statutory Regulations for Companies with Labour Involvement, Economics & Managerial Economics, Law, English Language, Statistics, Contract Management inclusive of Legal issues, Logical Reasoning, Communication Skills, Disaster Management, Environmental Sustainability, etc.,. These subjects should be included in the engineering curricula. Fresh graduates lack a strong ethical foundation. Introduction of ethics as a subject in engineering education in universities needs a serious consideration. The engineering courses should be based on practical case studies developed through industry experience of problems solved and accordingly the curricula should be designed by working back with the appropriate material from the engineering & social sciences. The engineering course should be backed up with books which put forth a deeper theoretical basis of various phenomena as have been handled by practising engineers in the industry. It in other words means that the case studies should be included in the reference material and technical books meant for engineering students. There should be a mandatory general training in an industrial unit in the first year of the course followed by training through taking up small projects on industrial problems individually or collectively by a group of students, whatever and this training should be assessed and marks assigned to it which should also be added to the total score. As a matter of policy, UGC should make it mandatory that the students will get engineering degree only after successfully completing a paid internship of six months with an industrial unit after it is assessed as per its laid down criteria. The industry should be compensated

for this via the tax route. The practice of delivery of engineering education should be reformed from its present form to make it do-it-yourself form, as is the case in the western countries. It, in other words means, the learning pedagogy needs to be modified to place more emphasis on self-learning and problem-solving. There is a need to manage and control faculty inputs to course delivery within the confines of what is economically justifiable. Further, there is a clear requirement for a significant staff development initiative so as to cope with the industry challenges. Code of ethics and accountability must be implemented in practice by the engineering community.

Commitment to life-long learning and continuing professional development (CPD) assumes priority over the theoretical contribution to research-focused projects. The CPD should form an important element of the regulatory mechanism of the engineering education. The diploma engineers and engineer technicians trained by the Polytechnic Institutions and Industrial Training Institutes (ITIs) respectively also need to be of multi-skills. Accordingly, their curricula and training format including their English language skills also need to be re-engineered. Indian business with non-English speaking customers is increasing rapidly say with countries like China, Japan, France, Germany, Latin American Countries, Russia, etc, which have different cultures apart from language. Competency to work in a multi-cultural and linguist environment is, therefore, required in the graduate engineers, diploma engineers and engineer technicians. Courses should be added to the engineering curricula on foreign languages and cultural aspects such as of French, German, Japanese, Russian, and Chinese on an optional basis. A special diploma in Professional Engineering (P.E) needs to be introduced, for the working engineers. There should be accountability in the institutions of higher technical education. This needs a policy intervention. Incoming students of engineering should be assessed for their aptitude for engineering profession at the time of their enrolment. As a part of re-engineering engineering education, having one composite degree in engineering and management may also be considered for providing engineer-managers to the industry. Dual degree system could also be considered. The Associate Membership Certificates awarded by the various professional bodies of engineers need to be recognized by some university so that persons having these certificates become equal in the academic sense with that of a degree-holder in engineering from a recognized university. Engineers must be able to understand and have appreciation of the legal and statutory provisions guiding their work, quality assurance needs and requirements, their obligation regarding their accountability, safety and health of the society, codal provisions - IS/BS/NB Code/ISO, etc. 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. The present administrative and regulatory mechanism of the higher technical education - AICTE and UGC - need to be revamped and converted into a single window frame-work.

ENGINEERING COUNCIL OF INDIA

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