



Consulting Engineers Association of India

NEWSLETTER

SEPTEMBER 2019

www.ceai.org.in

FROM THE

PRESIDENT'S DESK



IN THIS

ISSUE

Dear Members,

September has been a busy month for CEAI, with a GC meeting, a FIDIC training at Vadodara, and the publication of the September issue of View Point.

In the GC meeting, members were presented with the first report card on progress of various objectives enumerated in the "Strategic Plan", a document that is designed to take CEAI forward as an organization and make it widely known and respected.

FIDIC had its annual meeting at Mexico in the second week of September. A report on the event is included in the following pages. It is a matter of great happiness for CEAI, that it is getting increasingly recognized and respected in this International forum of Consulting Engineers.

CEAI is getting invited more often for imparting FIDIC training to various authorities across the country as the use of FIDIC based contracts are becoming mandatory for Internationally funded projects. This augurs well for CEAI.

Wishing you all a happy and prosperous Festival time.

Thanks and Regards,

Amitabha Ghoshal

FIDIC IN-HOUSE TRAINING PROGRAMS HELD IN SEPTEMBER 2019

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FIDIC TRAINING PROGRAMS

CEAI organised **in-house** training programme on the Module **Understanding of FIDIC Conditions of Contract for Construction (Red Book), Plant & Design-Build (Yellow Book), and Multi-lateral Development Banks' 2010 Harmonised Conditions of Contract**, for the employees of **National High Speed Rail Corporation Limited**. The training was held on 27-28 September 2019 at Vadodara.



Welcome address by Mr Rajiv Maini, Director
CEAI



Training is in progress



View of Participants

About the Training Course : The FIDIC Conditions of Contract are being increasingly used by the international Construction Industry throughout the World. The Multi-Lateral Development Banks, including the World Bank, the African Development Bank, the Asian Development Bank & others have adopted the 1999 FIDIC Conditions of Contract for Construction with modifications known as Harmonised Conditions Contract.

This program has been designed to offer a complete up-to-date overview of the effective understanding and use of the 1999 FIDIC Conditions of Contracts and 2010 Harmonised edition being used by Multi-Lateral Development Banks. Those intending to adopt and work with these conditions of contract will develop adequate understating for its practical use.

Trainer: Dr. Dhaval Parikh, FIDIC accredited trainer, was conducted the trainings. Dr Parikh has more than 28 years of professional experience with a doctoral degree in Civil Engineering; a Master's degree in Civil Engineering from U.S.A. and bachelor's degree in Civil Engineering from India.

He has professional experience in the procurement, administration and supervision of FIDIC construction projects around the world and has worked on overseas projects for more than 10 years

on a variety of major infrastructure works, particularly IFI supported projects in Asia, Africa and Pacific. He has a substantial experience and skills in dispute resolution, institutional strengthening (training and development), project management and contract procurement / administration - particularly the preparation, use and interpretation of contract document for consultancy services and construction works.

FIRTHCOMING FIDIC TRAINING PROGRAM

CEAI is organizing the next open Training Course on the module “*Practical Use of the FIDIC Conditions of Contract*” on 14 - 15 October 2019 at Royal Plaza, New Delhi.



The training will be imparted by **Mr. Bogdan Oprea**, FIDIC Accredited Trainer from Romania. Mr. Bogdan received degrees in civil engineering from the Institute of Civil Engineering, Bucharest, Romania, and from L'Institute Nationale de Science Appliques, Lyon, France where he was awarded a Diplome d'Etudes Aprofondies (DEA).

Mr. Bogdan is a Member of the Dispute Resolution Board Foundation, of the Romanian Association of Consulting Engineers and other organizations. His name is also listed on the DRBF President List of Dispute Boards Member, Romanian national list of adjudicators, and he is an accredited mediator.

Course Fee

Members - Rs. 28,000/- + GST @ 18%

Non-members - Rs. 30,000/- + GST @ 18%

- It is a Non- Residential Course.
- 5% Discount would be extended if there are 4 or more participants from one organization.
- FIDIC Certificate will be issued by CEAI to those who attend and complete the two-day training programme.

For more details, please contact CEAI Secretariat.

FIDIC TRAINING FOR DFCCIL

CEAI is organising in-house training program for DFCCIL on the following modules at Delhi:

- a) “Practical Use of the FIDIC Conditions of Contract” on 16-17 September
- b) “Management of Claims and Disputes Resolution” on 18-19 September 2019

FIDIC TRAINING PROGRAM AT KOLKATA

Mr. Bogdan Oprea will also be conducting a two-day training program at Kolkata on October 21 & 22 for more than 50 officials from Government of West Bengal. The program is being coordinated by Deptt. Of Urban Development and Municipal Affairs.

REPORT ON FIDIC “2019 INTERNATIONAL INFRASTRUCTURE CONFERENCE” 8-10 SEPTEMBER 2019, MEXICO CITY

Dr. S Chatterjee

Dr. Ajay Pradhan

‘2019 International Infrastructure Conference’ the annual conference of FIDIC was held in Presidente Intercontinental, Mexico City from 8th to 10th September 2019. The official delegation of CEAI was led by **Dr. S. Chatterjee** accompanied by **Dr. Ajay Pradhan**. Other CEAI Members who joined the conference were, **Mr. K. K. Kapila**, **Mr. Prashant Kapila**, **Dr. Dhaval Parikh** and **Mr. Jitendra Kumar Singh**, (YP Member). The conference was very well attended with over 700 delegates, mostly international delegates.

The Directors and Secretaries (DNS) meeting was held between 08.30-13.00 hrs. on 7th September 2019. CEAI was represented by Dr. S. Chatterjee, Dr. Ajay Pradhan and Mr. Prashant Kapila in the meeting. The DNS is a very important annual meeting for discussing the current policy initiatives and functioning of FIDIC and lays down the base for the Board to consider towards making FIDIC

more responsive and effective for the members' need. The meeting was chaired by Mr. John Gamble of Canada and co-chaired by Mr. Chris Campbell of South Africa. The current initiatives and actions were presented.

Dr. Nelson Ogunshakin, CEO, FIDIC stated that a fresh look was being taken on the functioning of various committees and complete restructuring of those was being considered for making FIDIC more efficient and effective for the engineering consultancy fraternity and the Member Associations (MAs). He mentioned about the formation of a DNS Advisory Council of five members, however, due to late decision in the matter only two nominations were received from the MAs. Hence, the nominee of ACEZ (Zambia), USIC (Switzerland) and CEAI's nominee **Mr. Prashant Kapila** were declared elected to the Council. It is a good opportunity for CEAI to enhance its outreach with FIDIC.

The DNS meeting was followed in the afternoon by the FIDIC President's meet, which in a way sequel to the DNS meeting.

The FIDIC Best Business Practice Forum meeting was held, in the morning of 8th September 2019, with all the chairs of various FIDIC Committees. It was chaired by Dr. Nelson Ogunshakin. Each Committee chair presented a brief on the status, vision and mission of his/ her respective committee, with some audience participation and comments by the chair of the session.

The Business Practice Committee meeting was held from 06.45 to 08.30 hrs on 9th September 2019, prior to the start of Inaugural Session of the Conference at 08.45 hrs. It was attended by 14 of the 16 members; the other two joined over conference call. CEAI's representative, Dr. S Chatterjee had decided to retire from the Committee after the meeting, hence he had already proposed to the Chair, Mr. Andrew Read of New Zealand, to include Dr. Ajay Pradhan in his place.

Dr. Ajay Pradhan was therefore invited to join the BPC meeting as an observer. The meeting was very productive and the **Chair recorded high appreciation for Dr. S Chatterjee's contribution over the last twelve years.** Dr. S Chatterjee was given a standing ovation. Mr. Read also mentioned that as per the FIDIC practice, **Dr. Ajay Pradhan's** inclusion to BPC would have to be finally approved by the FIDIC Board.

The two-day Conference was well structured, with distinguished speakers to cover the diverse but connected topics. Two Cabinet Ministers of the Government of Mexico, that of Transportation & Communication and of Urban Development delivered the Key Theme topics for two important sessions. Participation was very good throughout. The associated exhibition also had good participation. The social programmes - Welcome Reception and Gala Dinner on the evenings of 8th and 9th September 2019 respectively were attended by all the CEAI delegates. The Welcome Reception was held in the historic building that houses the Public Works Department of Mexico.

On 10 September, GAM was held at 4.30 pm and was attended by Dr. Chatterjee, Mr. Kapila and Dr. Ajay Pradhan as CEAI representative. Voting for the two positions in the Board, in place of the two retiring members had been closed earlier. The results were announced in the GAM. Dr. Sarwano H from Indonesia and Mr. Luis Villarroja of Spain were declared elected. At the end of the GAM the first Vice President (President Elect) Mr. William Howard of USA was installed as the new President FIDIC, in place of the retiring President, Mr. Alain Bentejac of France. Mr. Tony Berry became the first Vice President and Mr. Liu Luobing of China was elected by the Board to be the second Vice President.

Overall the Conference was very well organized and provided high level of networking opportunity with key members of the stake holder authorities/ industries.



Dr. S. Chatterjee with other FIDIC Business Practice Committee Members



Mrs. Poonam Kapila, Mr. K. K. Kapila and Dr. S. Chatterjee at Gala Dinner

INTERNATIONAL SEMINAR ON “PERFORMANCE BASED DESIGN OF BUILDINGS & BRIDGES FOR ENHANCED SEISMIC RESILIENCE”

Indian Association of Structural Engineers (IAStructE) is organizing a two days **International Seminar on “Performance Based Design of Buildings & Bridges for Enhanced Seismic Resilience”** during **08– 09 November 2019** at PHD House, New Delhi.

The seminar provides a unique opportunity for all delegates not only to enrich knowledge by listening to the domestic and International Experts from USA, Italy & Japan on this relatively new topic but also to benefit interacting with the experts in the field & to use this opportunity for addressing various issues about their current/future projects.

The detailed tools for performing the high-end non-linear analysis such as Static Non-linear Procedure (pushover analysis), Non-Linear Dynamic Analysis, Incremental Dynamic Analysis & creation/ use of Fragility Curves will also be discussed along with case studies. These will also include Base Isolation & Damper devices used for Vibration Control of Structures.

CEAI is a supporting Association for this event and CEAI members are eligible for the same registration fee as applicable for IAStructE Members.

For more information, please contact, Mr Vikas Verma (Manager), IAStructE Secretariat, K-69A, Basement, Kalkaji, New Delhi 110019, Ph: 011-45794829 ; Email: iastructe@gmail.com;

NEW STRATEGIC PLAN FOR CEAI

For taking CEAI forward, new strategic plan has been finalised by the core committee led by Chairman Emeritus, Mr Mahendra Raj. The committee has submitted the final report and the same has been accepted by the Governing Council. The chapter ‘Looking Ahead’ of the strategic plan is being reproduced below for wider understanding of future direction of CEAI.

We look forward to receive views/ suggestions from readers regarding this document, which has immense importance to the future of Consulting Engineering Industry.

Reproduction of the last chapter of Strategic Plan.

LOOKING AHEAD

The Strategic Plan 2019-2014 of CEAI is cited in preceding chapters. The 2 yearly Implementation plan / strategy of this SPC must be detailed out and achieved by the GCs (Governing Councils) under the leadership of incumbent President of three

successive two-yearly tenures. In order to assist them in this effort the ‘Implementation Strategy and Conclusions’ identify the actions to be taken in each of the three identified tenure periods.

It is hoped that, the GC under the chairmanship of the Presidents of the three respective tenures will try and implement as many of the achievements as possible.

While preparing this SPC report, effort was to identify only those actions which are readily implementable without needing high financial and administrative inputs.

While the expectation that the goals to be achieved as enumerated in this SPC report, this chapter “Looking Ahead” is intended to record dreams of different members about the shape CEAI may assume and the activities it may pursue in decades to come beyond the strategic plan period of 2019-2024.

What follows are the dreams of different members of the Association.

1.0 Membership

First and foremost, we would like to see a steady and regular increase in the membership of the Association. Right now, the membership strength of the Association stands at around 550. Most of these members are from the Civil Engineering disciplines. Very few are from other disciplines. The Section in the SPC on “Membership” discusses possible measures which could be adopted to increase membership in all disciplines by 2024 and beyond.

We do hope that the measures as enumerated in SPC, and other imaginative ones are adopted to increase CEAI membership to about 1200 by 2024 and about 3000 by 2030, and that this increase encompasses almost all the disciplines of engineering – civil, mechanical, electrical, et al. Hopefully this dream will come through.

Right now, the membership is from Delhi & NCR (mostly) and from UP, Maharashtra, Tamilnadu, West Bengal, Karnataka, Haryana, Gujarat and Telengana which amounts to 45% of the total strength. The remaining 55% are from other states and union territories.

We hope that our wish of the Association’s membership number being 3000 by 2030 covers all the 29 states & 7 union territories of the country.

2.0 Operative Centres of CEAI

Right now, CEAI has four operative regional centres and no city chapters.

The section on Regional Centres and City Chapters predicts that by 2024 CEAI will have at least 5 operative Regional Centres and 20 City Chapters.

We wish that by 2030 we have a Regional Centre in each of the states and union territories of the country and also wish that by that time we have a large number of City Chapters spreading all over the country.

Right now, we have built a CEAI Centre in Delhi on a piece of land owned by CEAI. In due course of time, within the period of strategic plan and beyond, we should try to acquire other properties in different regional centres, from where offices can operate.

3.0 Recognition of CEAI

Even though CEAI has been in existence for almost twenty years, it is only recently that some of the government departments and other large public & private sector organizations have started acknowledging the existence of the Association.

It is our wish that by 2030 most of the Central & State Governments as well as major public & private organizations recognize and feel the presence of CEAI. Not only that, by the same

time the Association is represented in all the committees or groups framed by these organizations related to issues involving engineering consultancy.

4.0 CEAI Publications

The section of SPC report on 'Communications and Publications' plans to have a number of publications of interest to Consulting Engineers, the user of consulting engineers and the public at large.

We wish to see a steady growth in these informative publications by 2030 and that the publications should cover as many topics of interest to all stakeholders.

5.0 Selection and Appointment of Consulting Engineers

Right now, the selection and appointment of consultants for projects in most cases is based on the 'lowest bid' offer. We wish that gradually this system changes to selection based on 'competence' rather than cost.

Right now, terms & conditions of appointment of consulting engineers are all biased towards the users of consultant and at times are very unfair to the Consultants.

We wish that by 2030 the Association in consultation with various Government and other public/private clients evolve several standard documents which are equitable and fair both to the Client and Consultants

Right now, there are also no standard documents for Consultants to hire sub-Consultants.

6.0 Quality and Ethics

We wish that by 2030 all the above-mentioned documents are standardized. Right now, there is no system of ensuring high quality of service rendered by Consultants.

We wish by 2030 there are systems in position to ensure high quality service rendered based on highest standards of ethics.

7.0 Engineers Legislation

Right now, there is no regulation to control the profession of consulting engineering. We wish that such a regulation is in position and controls the engineering profession in the WTO regime and ensures a level field of operation between Indian and foreign consulting engineering firms.

8.0 Relationship with FIDIC Member Associations

Right now, we have signed MOU's with just a few associations from other countries. It is planned that during the six years of Strategic Plan from 2019 to 2024, we would try to sign more additional MOU's with some other Member Associations of FIDIC.

We wish by 2030 we have MOU's with almost all the Member Associations of FIDIC.

To have MOU's is one step forward but to activate that MOU is many steps forward. We should make attempts to activate all the MOU's we have already signed and those which we will sign in the future.

9.0 Technology Upgrade of our Members

There is explosion of knowledge in pure and applied sciences. Consultancy deals with applied sciences and enjoys similar expansion of knowledge. As such there is constant need of consultancy in fields which did not exist earlier. When the country needs consultancy in such fields one always looks abroad to procure such latest knowledge-based services.

We must create conditions within our country that we look ahead and identify the fields/disciplines in which consultancy will be required tomorrow. We should have a

mechanism to develop consultancy in such fields ahead of the time it is required in the field.

Suitable augmentation of technology should be addressed on top priority. While we expand our operations, it is also important that we continually innovate and enhance the quality of engineering services provided by our members. Consultancy will lose its respect, if this aspect is not well hammered and inculcated amongst the members. Each member should realize that he or she is doing a great harm to the profession by not providing right quality and value-added solutions to the client and ultimately to the nation.

We would envision that CEAI should try to have better inter-office communication facilities aided by technology, so that wherever you are, you should be able to connect virtually with one another for any meeting using Skype, GoToMeeting or other computer applications. This singular action in the near future would help us to attain a major leap forward.

10.0 Technology Frontiers as Enablers for Change

We are at the cusp of change that will impact us dramatically at work, at public spaces and at home. If we were to prognosticate, it is very likely to alter the way we work and play in the six years period of this Strategic Business Plan of CEAI. Therefore, it is imperative that we factor in the drivers of change and be aware of the skill-sets, new learnings and application of that knowledge.

The new emerging opportunities are driven by telecom services that are better, faster and cheaper (5G), shift to cloud-based services and data science. However, as these technologies get commoditized, they will

become all pervasive by providing an immersive experience.

For the telecom services to mature to 5G is a decision that the Government has to take. As consumers we can only wait and prepare ourselves to take advantage of the opportunity that enfolds with the expectation that its impact will be more far-reaching than the internet revolution that was ushered in two decades back.

Cloud Services, we find that companies are increasingly moving a lot of their computing to the public cloud, a system where services – including servers, storage, networking, databases, software, analytics and intelligence – are all provided over the internet. Amazon Web Services (AWS), Microsoft Azure and Google are the biggest providers of such cloud computing. There is also the private cloud where existing in-house IT Infrastructure take on characteristics of the public cloud, and that again is being widely adopted. Many of the traditional IT infrastructure vendors – such as HP and IBM, as also others – provide private cloud solutions.

The global battle for the public cloud services market leader is dominated by AWS and Microsoft Azure. AWS is by far the dominant player, with Azure at No. 2 and Google Cloud at No. 3. Each one has specific strengths. Even though Google is behind in Market share, it is preferred by many for AI applications.

Data Science enables the development of a wide range of applications spread across industry sectors. Though at CEAI our members are largely involved in the ‘Brick and Mortar’ business, intelligence is getting embedded in everything around us. We are already involved in building Smart

Infrastructure with Smart Cities, Smart Traffic Management, Smart Homes, etc. The key technologies that are the enablers to make the transition happen are listed below:

- Big Data and Data Analytics
- Cloud Computing
- Mobility
- Machine Learning (ML)
- Artificial Intelligence (AI)
- Cyber Security
- Neural Networks
- Image Processing
- Internet of Things (IoT)
- Augmented Reality / Virtual Reality (AR/VR)

While each of these subjects requires deep learning, the success comes when practitioners of core technologies team up with domain experts, such as, from members of CEAI to build solutions to solve problems in our everyday lives. For example, design devices that sense real world phenomena like temperature, vibration and air quality and integrate with AI algorithms that can analyse and interpret data much better. When there are a large number of such sensors spread across the city, the power of Big Data and Analytics can be used to re-route traffic to avoid congested roads using Mobile, Cloud and telecom Services. This bundle of services is labelled the 'Internet of Things'.

Similarly, the power of AR/VR can be deployed to design complex urban systems and train technicians to manage and maintain them. The power of Image Processing and Neural Networks can be used at toll plaza to capture the vehicle's number plate and vehicle type for automated tolling, or can be used at busy junctions for traffic management or emergency response.

One can think of thousands of use cases to simplify and improve the quality of life for ordinary citizens by using advanced technologies.

Currently, though the highest spend of such technologies are in sectors, such as, computing & electronics, healthcare, automotive and software & internet comprising of 76% (Source: NASSCOM – Zinnov) with industrials coming next at 11%. However, the spend in Engineering and R&D is the fastest growing segment of the Indian IT Industry. This portends well for a restructuring of the Indian engineering services delivery landscape in the medium to long term as many of the global giants in the field, such as, Google, Facebook, Amazon, Apple, Samsung, Microsoft, Intel, Qualcomm, Nvidia, are setting up base in Bengaluru and Hyderabad for development of Engineering and R&D, making it the second largest hub after California.

VIEW POINT

The themes for the next four issues of Viewpoint spread over a year would be:

- (a). **Pollution** (December 2019)
- (b). **Building Services** (March 2020)
- (c). **New Materials & Systems for Buildings** (June 2020)
- (d). **Stakeholder Management in Public Infrastructure Projects** (September 2020)

Considering the experience of CEAI members and various stakeholders in the subjects, CEAI would be happy to receive articles on the above themes. Authors could share their knowledge and experience by providing case studies of the works executed or in execution, first-hand accounts of the challenges faced, practical issues experienced and the solutions to those, etc. Photographs, charts, diagrams, drawings, etc. would benefit our readers

for better appreciation of the issues encountered and addressed.

The articles for an issue need to reach CEAI at least 6 weeks prior to the end of the month of the Viewpoint issue.

Articles need to be in Times New Roman 12 with single line spacing with before and after 6 pt and normal margin on A4 size. A recent clear and bright passport size photograph of the author is to be sent along with the article.

Advertisement in View Point

VIEW POINT is circulated to all CEAI Members, FIDIC, Ministries of the Government of India, Public & Private Sector Undertakings, Construction Firms, Contractors, Consultants, Foreign Missions and Funding Institutions in India and other organisations related to or dealing with the engineering profession.

Advertising in the VIEW POINT gives the advertiser wide exposure and visibility.

The rates for advertisements in VIEWPOINT are given below. This is excluding GST @ 5% or as prescribed, which will be extra:

Item	Rate Per issue* (Rs)	Discounted rate at 20% for 4 consecutive issues (from June 2019 to March 2020) * (Rs)
Back Cover **	25,000/-	80,000/-
Inside Front Cover ***	15,000/-	48,000/-
Inside Back Cover ***	15,000/-	48,000/-
Full Page	10,000/-	32,000/-

**GST @ 5% or as prescribed will be added to the above rates.*

***Back Cover booked till December 2019.*

****Inside Front & Back Covers booked till June 2020*