

NEWSLETTER

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INTERNATIONAL FEDERATION OF CONSULTING ENGINEERS

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Chairperson's message



Michele Kruger
South Africa

Chair's message

It's been a busy couple of months for the FIDIC YPF Steering Committee.

During March 2012, we assigned members to have roles in various sub-committees including the e-Newsletter quarterly, the YPF database and email, management of our Website, and our exciting YP Development Report. We are also working hard on assisting focus areas of FIDIC including the GAMA (Africa), South America and the Gulf region. Additional to this, we are hard at work with the YP program for the FIDIC World Conference in Seoul, Korea this September. We will have the normal fun activities such as the "Meet and Greet", Breakfast with the FIDIC Executive Committee, and an interesting site visit and social afterwards. Additional to this, we are working hard on putting together an engaging YP session showcasing our view on Green Engineering and Sustainable Development. Watch this space for more details!

Thanks to Manoochehr Azizi and Tomoyuki Kitano for representing us so wonderfully at the past two FIDIC Executive Committee meetings in Jordan and Japan, well done Team! We hope you enjoy this newsletter including the great work being done by EFCA, the Canadian YP network, and Baroness Lynda Chalker. We have also treated you with a great article on tips for Power Plant Construction Management.

Enjoy!



EC meeting in Amman-Jordan, 7-8 Feb. 2012
from left: Chris Newcomb-FIDIC EC member, Jomanah Albtoush-Jordanian YP,
Manoochehr Azizi-FIDIC YPFSC member



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Simon Davidson
Canada

TOGETHER, YPs ARE STRONGER! **The consulting engineering community in Canada**

Canada has a unique demographic distribution with its 34 million citizens scattered over the second largest country in the world. The Canadian consulting engineering community has to be well organized to overcome this reality and to bring together the leaders of the industry.

The provincial associations representing consulting engineering firms exist to face local issues and interact with the provincial government; while our national association acts as the united voice of the Canadian consulting engineering industry vis-à-vis the federal government. The national association, known as the Association of Consulting Engineering Companies (ACEC) also interfaces with FIDIC at the international level.

How do YP's fit in?

Over eight years ago, the first YP group was formed in the western provinces of Alberta and British Columbia, and with their success as an example, other provinces followed suit. Today, there are six provinces that have YP groups. They focus their efforts on organizing local conferences, networking events, and other professional development activities.

In light of this YP movement across the country, ACEC created a national YP program at its Annual Summit. The purpose is to provide YPs with a tailored stream of educational sessions, designed specifically for their professional development needs. The annual event is a great opportunity for networking and sharing best practices. It was first launched in 2009 and the program has been building ever since.

At the Annual Summit, YP groups have the opportunity to share their past accomplishments and successes, as well as their difficulties, with other provincial YP groups through the National YP Forum. Since YPGs across the nation tend to have similar goals, their challenges are often also the same. The Forum provides a chance to discuss common solutions and best practices.

Together, YPs are stronger!

At the 2011 National Summit in Montebello, YPs discussed the idea of creating a YP network which would work together year-round, not just at the conference. The idea was acclaimed by all and put forward to the ACEC Board of Directors following the conference.

The Board has since approved this recommendation and has invited a YP representative to attend all national Board meetings, and it has provided funding for the YP Chair to attend the Annual Conference each year.

The ACEC Board of Directors is in strong support of the dynamic movement of YP groups and has invited their feedback on content development for the summit.

Thanks to the YP pioneers from across our country, we stand united behind the vision of a stronger industry, better practices, and the sharing of ideas. Because one thing is for sure: **Together, YPs are Stronger!**



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Interview with Baroness Lynda Chalker from Africa Matters Limited

Africa Matters Limited

Africa Matters Limited is an independent consultancy which provides advice and assistance to companies initiating, developing, or growing their activities in Africa. Their primary focus is on building closer relationships between the private and public sector, with a view to creating strong, meaningful, and sustainable partnerships.

Interview with the Baroness

Lynda indicated that according to their information, great things are happening all over. Good news from Africa includes:

The World Bank Vice President for Sustainable Development, Rachel Kyte, has said that Kenya has the opportunity to achieve higher, more sustainable growth if it increases investments in infrastructure and climate resilient development. Kyte said more efficient transport systems, green energy investments, and actions on adaptation to climate change will increase Kenya's competitiveness in the East African region and provide safer livelihoods for millions of Kenyans.

Tanzania has signed a 50 million euro (\$66.5 million) loan facility with the European Investment Bank (EIB) to upgrade regional airports to boost tourism and air transport in East Africa's second-biggest economy. The 20-year loan facility would finance the upgrading of Kigoma, Tabora, Bukoba, Shinyanga and Sumbawanga airports. Projects include the replacement of runways, and the reconstruction of taxiways and passenger terminal buildings.

The Minister of Mineral Resources, Esperanca Bias, has said that Mozambique expects \$50 billion to be spent developing its liquid natural gas (LNG) industry over the next ten years. In November, U.S. oil company Anadarko Petroleum Corp increased its resource estimate for its major gas finds offshore of fast-growing Mozambique.

Cameroon's economy is expected to grow by 5.5 percent in 2012 despite the Arab spring and a sovereign debt crisis that has hurt the European zone, the country's most important export partner. Non-oil economic activities, particularly growth in the primary and tertiary sectors, which helped Cameroon's economy grow in 2011 to 4.1 percent, will be the main drivers, World Bank's region lead economist Raju Jan Singh, told a news conference. Singh said the economic momentum observed in Cameroon, the Central African region's largest economy and gateway port, was expected to carry over into 2012 due to various infrastructure projects. Singh said the economic slowdown in the Euro zone will probably translate into lower exports and remittances as Europe remains Cameroon's largest market and hosts the largest community of Cameroonians abroad.

Johnnie Carson, a former Ambassador to Kenya and now US Assistant Secretary of State for Africa was in Nairobi in February as the head of a delegation of US private energy investors. He held talks with Kenyan government leaders on a range of issues in addition to improvements in energy infrastructure. Executives of US-based multinationals such as General Electric and Chevron took part in the prospecting trip to Kenya and four other sub-Saharan countries. Obama administration trade officials were also in the delegation. The visit was co-sponsored by the Washington-based Corporate Council on Africa, which groups US companies with business interests on the continent. American officials have not specified which projects in Kenya are being considered for investment.



Michele Kruger
South Africa



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About Lynda

Lynda has been a member of the Lower and Upper Houses of the UK Parliament for over thirty five years. Between 1986 and 1997 she was Minister of State at the Foreign & Commonwealth Office, holding responsibility for Africa and the Commonwealth and for Overseas Development. Lynda was made a Life Peer in 1992.

Lynda was the first woman to be appointed an Advisory and then a Non-Executive Director of Unilever, a position she held from 1998 to 2007. She is a Non-Executive Director of Group Five (Pty), a member of the international advisory board of Lafarge et Cie and also advised the World Bank for over 10 years. Lynda was Chairman of the Board of the Medicines for Malaria Venture MMV from 2006 to the 2011.



She is Chairman of Pasco Risk Management, an Executive Trustee of the Global Leadership Foundation (GLF) and Trustee of the Investment Climate Facility for Africa (ICF), as well as being a patron of a number of charities. Lynda is also co-ordinator of the Honorary International Investment Council of President Goodluck Jonathan of Nigeria and a member of similar bodies in Uganda and Tanzania.

Lynda describes Africa as the misunderstood continent, full of conflict but also full of warmth and diversity. She is passionate about the African Bush and its wildlife and enjoys every trip she often makes to the continent.

EFCA 2012 Annual Conference Highlights

The EFCA (European Federation of Engineering Consultancy Associations) celebrated its 2012 Annual Conference last May in the beautiful city of Lisbon, under the theme *Developing the Engineering World – Winning Strategies*. This year's event was especially inspiring as, in addition to the full programme, EFCA celebrated its 20th anniversary.

The conference analyzed the challenges that European firms are being confronted with, which predominantly includes diminishing public investment, cost based competition, increasing outsourcing/off shoring, and need for internationalization. The focus was aimed on the changes that the industry needs to undertake in order to achieve a competitive position for the years to come. New ideas were proposed, and examples were showcased of how companies can evolve from traditional engineering designers to integrated solution providers, offering completely adapted answers to each employer's needs and thus maximizing value for clients.

Another fundamental change in our industry is happening in business development strategies. While some fields of engineering are in danger of becoming plain and undifferentiated, risking being perceived as mere commodities and therefore competing solely on price, successful companies are evolving from pure designers to real project starters. They are partnering with investors and sharing risks and profits in a completely new win-win approach. A successful example of this shift is the new sustainability and energy efficiency industry.



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Alejandro Varón Tischer
Spain

One of the strongest values of the Conference programme was the speakers. Not only because leaders of a handful of the most influential European companies shared their insights with the audience in Portugal, but also because top level experts from other related industries, like banking, insurance or university presented their alternative views on what they expect from our field and what we, as engineering consultants, should give to society in the future. Last but not least, the conference saw our FIDIC President Geoff French participate in the opening plenary *Setting the scene*, debating with his EFCA's counterpart on current market trends.



YP participants at the EFCA 2012 Annual Conference

Of course, at such an event, the YP community was also represented. Thursday May 24 was solely devoted to the YP Forum, which started with an interactive skills session on the contemporary topic of *Managing generational and cultural differences for a company's future success*, followed by the award of the 2012 Young Professional of the Year competition to Charlotte Spliethoff. The innovation and contribution of the ten proposed projects was remarkable. The afternoon closed with a debate on how to build YP networks nationally and internationally. A visit to the Alcantara waste water treatment plant was held to conclude the YP day.

During the last part of the debate, potential EFCA-FIDIC YP collaboration and joint initiatives were explored, as one of the goals of the FIDIC YP Steering Committee is to strengthen relations with local and regional YP Associations. Let's hope that the YP cooperation will be one more in a series of successful FIDIC and EFCA joint initiatives.

Finally the kindness and warm welcome from our Portuguese hosts and all the EFCA team must be highlighted. Their contribution and readiness to walk the extra mile was essential for an inspiring congress... and for spoiling the attending YPs with local amenities.

Now the European YP community is looking forward to Barcelona 2013. Next year EFCA will not hold its annual event as it will be actively cooperating with FIDIC in the organization of the 2013 conference in Spain, when FIDIC will celebrate another impressive anniversary, its 100th!

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Construction Management for Power Plant Projects

Electricity plays a vital role not only in individual lives but also for industrial development and national economies. To generate electricity, power plants are constructed using various sources of energy such as coal, gas, wind, solar, nuclear, biomass, geothermal and hydro to name a few. Due to onerous demands of electricity, there is an increase in the risk profile to deliver power plant projects cheaper and faster, while moving closer to the boundaries of innovative design, value engineering, and new construction methodology.

I have been working for the last eight years with Japanese companies, who are global leaders in power plant business and I have been involved in various Engineering Procurement and Construction Contracts (EPC) projects for power plants (Coal, Gas & Fuel based) across the globe. In EPC projects, construction share varies from 20-30% of the total project cost, and if not managed properly, it can impact the overall project cost and result in cost overrun. Construction Management in EPC projects has therefore become a central element to prevent total project financial loss.

This article introduces factors affecting the risks in power plant projects followed by the mitigation measures, and constraints to implement a new construction management approach. FIDIC contract conditions for EPC/Turnkey Project, Plant and Design-Build Contract and Construction Contracts were widely used to measure for the performance of these projects.

Based on my experience, the following are some of factors which have attributed to increased project risks in terms of cost, quality and schedule:

- increase in raw material prices
- fluctuating currencies exchange rate
- legal liability for injury to persons, properties
- claims and disputes with client, consortium partners and subcontractors
- lack of attention to applicable laws and regulations, permit requirements
- design modifications and variations
- delays in quality control approvals, inspection and test reports
- site conditions
- uncertainties in using new materials
- improper selection of procurement systems
- Inappropriate vendor quality control
- Inclement site weather conditions
- delay in civil handovers and access
- changes in construction planning from estimation stage due to non-availability of resources
- lack of coordination and interface between subcontractors
- delivery of defective material at site requiring repair equipment, materials delivery to site
- strict health ,safety and environment regulations
- labour disputes and industrial conflicts
- lack of communication between the site office and head office
- lack of skilled and experienced workers
- poor quality control for construction works
- inadequate project schedule monitoring



Sandeep Thakur
 Japan



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To prevent the re-occurrence of such events, the below mitigation concept were introduced to minimize project risks:

(A) Developing a risk response plan, for instance:

(i) changing scope, adding time, or adding resources to the project plan to eliminate the risk or to protect the project objectives in order to:

- (a) avoid the risks of currency exchange fluctuation, local currency for capital costs shall be maximized by way of procuring construction services with local companies;
- (b) shorten the construction schedule to prevent any delay damages, new construction technique shall be utilised and accordingly the equipment deployment can be planned to facilitate the lifting works; and
- (c) reduce the surprises in the construction cost, study of the provision of pre-assembled blocks to reduce the onsite construction cost and schedule.

(ii) Adopting mitigation steps to include alternative dispute resolution provisions both in the main contract and construction subcontract to manage positively for an early settlement without incurring any cost for arbitration or litigation.

(iii) transfer of the financial impact of risk by contracting out some aspects of the work by incorporating the relevant and critical main contract provisions to the construction subcontracts on back- to -back principle for the clauses:

- (a) delay damages in proportion for delay in schedule;
- (b) defect liability;
- (c) inspection and testing;
- (d) force majeure clauses;
- (e) unforeseen conditions;
- (f) employers risks;
- (g) taxes & duties; and
- (h) intellectual propriety rights

(B) Preparation of construction schedule with appropriate float envisaging the possible delays due to delay in drawings, approvals, materials delivery, construction issues, unforeseen conditions etc.

(C) Provision of taking the additional insurance to cover the deductibles values for "ERECTION ALL RISK" and "THIRD PARTY LIABILITY" insurance issued by the Client.

(D) Selection of suitable procurement system with standardized specifications to meet the project requirements.

(E) Setting up the tolerances during the design stage for construction planning purpose.

(F) Employment of local skilled management staffs to facilitate the reduction of the indirect cost originally considered for the deployment of head office personnel.



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In developing the effective practice of the construction management for EPC projects in Japanese companies, there were a few constraints and limitations that had to be overcome.

First and foremost was the establishment of the standard subcontract documents, the fact that “adopting changes is not easy always” was true. The reasons were due to the lack of an accepted industry model for construction contract management, standard tender procedures, lack of knowledge of international contract standards and specification, English language adaptability, and lack of dedicated resources for contract management for construction works.

Secondly, establishing the common platform for the information and communication exchange was an arduous task due to the existing gap between site office and head office management.

Finally, the current practice of risk management was based on the execution of domestic projects rather than international practices. The traditional method of risk analysis being practiced primarily focused on cost contingencies for projects rather than schedule contingencies. The reason was that rare schedule overrun is encountered in domestic projects, which is due to client’s strict requirements, work ethics, culture, effective planning, labour productivity, industrial relations, applicable laws and regulations.

However, with management support and directions, the above constraints were eliminated and new construction management practice was reinforced for future EPC projects.



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**Communications
Chairperson
FIDIC YPF Steering
Committee**



**Michele Kruger
South Africa**

HOW TO BECOME PART OF THE FIDIC YPF GROUP

Become part of this young dynamic group of people and receive updates, newsletters and information on upcoming events such as FIDIC conferences and training opportunities.

International YPF Groups: find out what the YPs in your country are doing and how to connect with them! Please register on the YPF homepage listed below.

Once we have your details, we will send you our newsletter and other info as it comes up. Please remember to keep your details updated!

For general information about us and FIDIC, go to: www.fidic.org

For more information or if you need help to connect, contact myself at:
fidicypforum@gmail.com

**Michele Kruger
Communications Chairperson
FIDIC YPF Steering Committee**

Starting your own YPF in your country

If you liked what you saw in the FIDIC YPF and YPFs across the world, why not start your own? This is best achieved through your country's Member Association (MA) of FIDIC. However, if no such association exists, or your MA does not want to have their own YPF, you can contact us to find out how to start your own YPF. Through FIDIC we may have resources to make it easier or help partner it with you. All you need is your enthusiasm for Engineering! From there you decide what it is that you want your YPF to represent. What is your focus? Is it training Young Professionals? Is it getting the youth interested in Engineering? Is it just socializing with your peers? Or is it all of the above? As the FIDIC YPF, we will do all we can to support your new endeavor!

Contact us at: fidicypforum@gmail.com