



# Thoughts from the Editor

by **Karen Cherrill**

I'm delighted that you are reading this first edition of Kingsfield's Newsletter! Our aim is to provide our clients, new and old, with informative and thought provoking content on a quarterly basis. It's an opportunity to step back from our busy day-jobs and take a moment to reflect on some of the issues facing our industry. Talking of which...

## When will the madness end?!

Our Chairman, John Fotherby, whom many of you know is not shy in sharing his opinions on the challenges facing our industry is also the current Chairman of the European Construction Institute. In a recent blog entitled "When will the madness end?", John makes a call to arms for our industry and the ECI members to radically overhaul the way we contract for and deliver projects in a post oil price crash era. The ECI, now merged with BRE, is proposing to act as a catalyst for change and cross-sectoral learning to improve capital utilisation and shareholder value. You can read his blog here [www.eci-online.org](http://www.eci-online.org)

## Commercially viable renewables?

Another theme that I have noticed since 2014 is the emergence of renewables as a commercially viable alternative to

conventional power. Particularly in the solar and wind sectors, there are now a plethora of projects able to be financed without subsidies. A number of our clients are Spanish contractors, who are leading the way on solar technologies. Concentrated solar power (CSP) addresses the earlier problems of an inability to generate power when the sun isn't shining mainly through molten salt storage. What we should not forget is that there is a recognisably conventional power island at the heart of these vast solar fields – and the critical path runs through this. So commercial viability also means completing projects on time with many of the core skillsets of EPC delivery still very much needed.

## Kingsfield's New Country Manager

We are excited that Fernando Falcon has joined us as our Country Manager for Spain. Fernando brings project and contract management experience from Tecnicas Reunidas and Sener, and is helping us build our presence in this active market and support our clients there. You will see an article from him on the back page...



## Congratulations to our Kingsfield Academy Team...

...for winning its Highly Commended Award in the Innovation for Learning category at the recent ECITB Training & Development Awards

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## Recent Cases

MT Højgaard A/S vs E.ON Climate & Renewables...

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# Kingsfield Academy's Project Management Program wins Award

by Gabriele Burian, Director Kingsfield Academy

We are proud to announce that an ambitious Program developed by Kingsfield Academy for TechnipFMC has been recognised with a "Highly Commended" Award in the Innovation for Learning Category at October's ECITB Training & Development Awards.

The global Program focuses on developing project management skills and strategies for improved project profitability.

The innovative elements of the Program arise from a combination of factors:

- Strong sponsor vision and tie-in with business strategy
- A highly participative learning design (75:25 participation vs instruction)
- A coaching approach to the delivery
- Co-delivery with senior client practitioners in each region



- Client specific and highly relevant case studies
- Co-coaches as change champions in their regions
- Integrating relational & leadership elements with the commercial content

In addition to these factors, the Program's success was achieved through close collaboration with our client's proactive corporate learning team, who ensured that key stakeholders were aligned to the goals of the Program and trusted our team to lead creatively as subject matter experts and learning professionals.

## PARTICIPANT FEEDBACK

*...particularly appreciated the way in which this course was facilitated*

*...very strong coaches – brilliant...*

*...appreciate the methodology and involvement of all participants and its vicinity to [our] practices...*

*...open and frank discussion on the challenges of execution in the current environment...*

*...in depth knowledge sharing in 2 days...*

*...I particularly appreciated all the practical tools and knowledge provided...*

# Foundations in Commercial Awareness Training

Following Kingsfield's recent success in becoming an ECITB Approved Provider we are now developing our first course 'Foundations in Commercial Awareness' which will be available from early 2018. This one day course focusses on engineering construction projects and is developed under the ECITB license against the new Commercial Awareness training standard.

Using the back-drop of a UK based case study project this interactive course is aimed at those individuals within project teams interested in developing greater insights into how their actions can impact

project outcomes and ultimately project margins.

Click here to download further information on **Foundations in Commercial Awareness**.

If you want more details on this and other courses developed by Kingsfield Academy please contact: [learning@kingsfieldconsulting.com](mailto:learning@kingsfieldconsulting.com)

Master your learning curve

**Foundations in Commercial Awareness**  
for Engineering Construction Project Professionals

Delivering profitable projects within the engineering & construction industry is a team sport.

Those project professionals with overall responsibility for the management of contracts depend upon the support of the entire project team. Which means that everybody needs to understand their individual roles & responsibilities when it comes to commercial factors to ensure that project margins are not eroded and increased.



**AVAILABLE FROM JANUARY 2018**

Our "Foundations in Commercial Awareness" training course is being developed under ECITB license and against the new training standard. For more information contact:

[learning@kingsfieldconsulting.com](mailto:learning@kingsfieldconsulting.com)

**Kingsfield Academy**  
We are the learning and development division of Kingsfield and create innovative training solutions for practitioners & teams in the International engineering and construction industry for successful project outcomes.



Engineering Construction Industry Training Board  
APPROVED PROVIDER



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# Fitness for Purpose vs Industry Design Standards: And the winner is...

by Jayne Hagan, Managing Consultant

A recent decision of the UK Supreme Court in the case MT Højgaard A/S vs E.ON Climate and Renewables UK Robin Rigg East Limited has highlighted the implications of deficient design standards. The case concerned a dispute between the parties over who bore liability for Euro 26 million remedial costs caused by the defective design to the foundations of 2 offshore windfarms at Robin Rigg in the UK.

Although this is an English case and the same principles of law might not apply in other jurisdictions, we believe that it is important to raise awareness of the ramifications for deficient design and the question of which party bears liability.

## The Facts

E.ON Climate and Renewables UK Robin Rigg East Ltd ("the Employer") entered into a contract with MT Højgaard A/S ("Contractor") to design and build foundation structures for 2 offshore windfarms at Robin Rigg in Solway, Firth.

### (i) The Contract

The key contract terms concerning the dispute were:

- > Clause 8.1(x) which required that, "...The Contractor shall, in accordance with this Agreement, design, manufacture, test, deliver and install and complete the Works so that each item of Plant and the Works as a whole shall be...fit for its purpose as determined in accordance with the Specification using Good Industry Practice..." The Contract also required that the Contractor use due care and professional skill.

The Employer's Technical Requirements provided that the design should meet DNV-OS-J101 ("J101"), the international standard published by Det Norske Veritas ("DNV"), an independent classification and certification agency. In relation to the design of steel structures and associated works, connections were required between the members, and J101 provided a choice of designs for such connections. The connections could be grouted, or there was the alternative to use shear keys which "...could reduce the fatigue strength of the tubular members and of the grout....".

The Technical Requirements also required that, "...the design of the foundations shall ensure a lifetime of 20 years in every respect...".

### (ii) The Issues

Upon entry into the contract, the Contractor proceeded with a design by using grout only, with no shear connectors. After the foundations were built in February 2009, a flaw was discovered at a Dutch offshore wind farm which had a similar J101 design to that at Robin Rigg, where the grouted connections began to fail and the transition pieces started to slip down the monopiles. A subsequent investigation by DNV in the summer of 2009 revealed the cause of the failure, which was that the formula for grouted connections was substantially overestimated in relation to their axial capacity - by a factor of 10! In April 2010 the wind farm foundations at Robin Rigg started to fail from the same cause.

A technical solution was agreed between the parties, and the parties agreed to the cost of remedying the problem for the sum of EUR 26 million. The parties were however unable to agree on who bore liability for the overall cost and therefore sought to resolve the matter in court.

## The Court Decisions

### (i) The Technology and Construction Court ("TCC")

At first instance the TCC held that the Contractor had exercised reasonable skill and care and complied with J101. However, it found that the Contract contained a fitness for purpose obligation that required the foundations to have a service life of 20 years. Therefore it was held that the Contractor had breached that obligation and the Employer was entitled to the cost of the remedial works.

### (ii) The Court of Appeal

The Contractor appealed to the Court of Appeal, which found that the Employer was liable. The court held that the Contract required that the foundations have a design life of 20 years and that this meant that they would not necessarily function for 20 years, although they probably should.

### (iii) Supreme Court

Following the Court of Appeal's decision, the Employer took the matter to the Supreme Court, which reversed the Court of Appeal's decision, and found that the Contractor was liable for the costs. The basis of the Supreme Court's decision was that the requirement of the Contract that the design be "fit for purpose" with a design life of 20 years overruled all other requirements of the Contract and associated documents, and that the most rigorous of the various requirements were applicable. It was further noted that the Employer's Requirements and J101 stated the minimum requirements, and that the Contractor had the duty to ensure that such minimum requirements would produce an overall compliant "fit for purpose" 20 year design.

## What can we conclude?

The Supreme Court acknowledged that where there are clear words in the contract that indicates an obligation, such as achieving a 20 year design life, a contractor would be liable if it failed to achieve the specific result, even though it complied with the requisite standard.

Although, this case may be unsettling for contractors, it highlights the importance of the need for a contractor to be clear on whether it is responsible for achieving a specific result as well as complying with industry standards.

Indeed, in the event where the contract requires compliance with industry standards, the contractor must ensure that these do not contain incorrect or contradictory information, but are feasible and compatible with the contract requirements. It is therefore necessary to review such documentation during the contract negotiation period.

This case in question is unfortunate, as it is reasonable to assume that internationally accepted standards are tried and tested prior to and over the period of their existence. Indeed, this case may well be a one off situation, but it does serve as a reminder to contracting parties to exercise care when negotiating and agreeing terms

# Digital Construction Week

by Celestino Moreno Fernandez, Consultant

## What was Digital Construction week?

It was an exhibition at Excel London on 18/19<sup>th</sup> October with interactive, hands on demonstrations about new technologies in the world of construction

## Why were Kingsfield there?

The world is changing, work is changing and tools to manage it are changing too. That is one of the reasons why Kingsfield Planning is developing a new way to detect, analyse and monitor the risk in EPC projects based on 4D planning

Although there are many interesting developments in this space, we were

surprised that we didn't find anything about the use of 4D modelling and this is despite our clients telling us how useful this visualisation tool is in planning or deconstructing their projects. Our aim is to present at next year's exhibition and share our pioneering work in this area...

## So what is coming?

From the management of works from your smartphone, to controlling a crane from your living room, the DCW is a place where everything you can imagine that can make your work easier exists. Among all the conference and gadgets we heard about and tried I would like to highlight three...

## HOLENS and its applications in construction

Hololens are glasses which allow you to mix the real world with a 3D virtual one. One of the most interesting applications demonstrated the possibility of visiting a site and seeing how your future plant is going to be built. Not only that, Hololens allows you to change in real time every single detail where the design or construction can be improved and save it. This way you can anticipate problems

which may appear in the construction phase – amazing stuff!

## FULCRO and its 3D projection room

Fulcro allows you to project your 3D model in a room and walk inside it locating every single detail and focusing on the special areas where you may have constructability problems in the future. The advantage over Hololens is that you don't need any other gadget and you can share your experience with everyone who is inside the room. On the other hand, this model is 100% virtual while with Hololens you are watching your model in the real world

## Mini Drone Camera

A drone the size of a fly which can take photos and you can see live through goggles what it is recording. This sized drone is used in places where the space is reduced, for example to look for possible problems in piping labyrinth which has already been built.



# ¿Estás preparado para el reto?

by Fernando Falcon, Country Manager Spain

Tradicionalmente, la tecnología, alcance del trabajo, condiciones del sitio, plazo de ejecución, subcontratistas y proveedores habituales y otros factores "técnicos" determinaban la complejidad de un proyecto.

En mercados locales y con clientes habituales, el éxito del proyecto básicamente dependía del plan de ejecución y su gestión y el estilo de gestión comercial puede basarse en una relación de confianza. El Cliente conoce y confía en el Contratista y en que cualquier circunstancia adversa se resolverá satisfactoriamente según sus expectativas y el Contratista que ya conoce al Cliente, confía en que los problemas sufridos y su impacto, eventualmente serán reconocidos y compensados por el Cliente. En este escenario, es común durante la ejecución del proyecto centrarse solo en los aspectos técnicos y no "molestar" al Cliente con los comerciales, que podrían deteriorar la relación o incluso retrasar el proyecto, y dejar estos para el final del proyecto. La cultura también influye en el estilo de relación entre el Cliente y el Contratista y particularmente en la relación comercial.

En la actualidad en el mercado internacional existen otros factores de influencia: el rápido avance de la tecnología, restricciones del mercado con reducidos márgenes y plazos imposibles, las circunstancias legales, políticas, sociales o ambientales, clientes, socios y competidores internacionales y globales, importancia estratégica del proyecto para las organizaciones involucradas, cantidad y variedad de interfaces entre el proyecto y otras entidades,... Todos ellos añadidos a los "tradicionales" dan lugar a situaciones, circunstancias y comportamientos imprevisibles, con múltiples interdependencias y relaciones no lineales y siendo el resultado del proyecto difícil de explicar a posteriori.

En este escenario, ser un experimentado contratista experto gestión de proyectos y tecnología no garantiza la entrega de un proyecto rentable. En cada proyecto el éxito depende cada vez más de la capacidad de adaptación a lo impredecible, una gestión comercial sólida del proyecto que se ocupe de los eventos a medida que ocurren y a la vez construir relaciones efectivas y productivas y manteniéndolas durante la ejecución del proyecto.

## ¿Estás preparado para el reto?