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MANAGING DISPUTES IN THE NUCLEAR SECTOR – CHARLOTTE BIJLANI (1)

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**Abstract**

In recent years, there have been a number of high profile and long running disputes in the nuclear energy sector. These disputes tend to be exceptionally high value and complex and have the potential to drain resources and damage ongoing relationships.

Such disputes tend to arise because of the failure to treat nuclear power projects differently from the run of the mill construction projects.

Unlike a typical construction project, nuclear power projects are exceptionally long running and subject to intensive regulation from the very start of the initiative through to the day to day operation of the plant.

Such intensive regulation drives the need for the highest quality of work and safety standards given the health and safety risks and the extensive liabilities that could potentially arise if there happened to be a radiation leak.

If the regulator is not satisfied with any of the quality or safety aspects of any part of the project, construction is likely to come to a grinding halt until the relevant issues have been addressed to the satisfaction of the regulator.

The time and costs associated with the intensive intervention rights of the regulator, the liability risks associated with a nuclear power project and the potentially conflicting objectives on the part of the employer, the contractor(s) and the regulator means that parties need to approach the contractual framework differently and factor in at every stage the potential for delay and additional costs. The parties also need to recognise that a much more intensive level of effective project management is required at every stage of the project.

In our paper, we will consider the nuances of contracting in the nuclear power sector, how to effectively contract manage throughout a project and the dispute specific considerations to contracting in the nuclear sector including:

- The procurement strategy and the appropriate form of construction contract;
- Effective Contract Management including managing the regulator; documents and people;
- The Dispute Resolution Provision: the Most Important Contractual Provision?;
- Maximising the opportunities for settlement through ADR;
- Exercising caution with Settlement Agreements; and
- Preparing the legal case including managing and preserving evidence throughout a lengthy project lifecycle.

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## **Introduction**

*Nuclear projects tend to be exceptionally complex as well as significant in size, duration and cost. As such, if they are not properly managed, huge cost overruns and delays can result leading to complex and very costly and length disputes.*

*Any dispute that arises will have the potential to be a major drain on resources for all parties involved and interfere with the day to day progression of the project. Given the highly regulated nature of nuclear projects and the dominance of state owned entities, there is also the potential for political tensions to arise when a nuclear project is not proceeding to plan.*

*Disputes in nuclear projects can arise at various stages. They do not just happen at or towards the end. For example, there may be an issue early on with the development of the design, the licensing process, the implementation of the project programme, the site conditions, unanticipated construction issues, sub-contractor delay and issues with the testing and commissioning.*

*It has been widely reported that a common theme to the significant cost and time overruns suffered in relation to nuclear projects around the world is poor planning and project management. It has taken time for others to learn from the mistakes that have been made but now those involved in nuclear are paying much closer attention. EDF has been a major player in the nuclear industry in a number of jurisdictions but it has suffered hugely on certain projects and is using important lessons learnt in its current dealings with the UK's major nuclear project at Hinkley Point. As said by the UK Chief Executive of EDF: "Keeping Hinkley on schedule and on budget is crucial if EDF is to avoid further financial pain and that it had been "aided by lessons from other projects." (1)*

### ***Olkiluoto 3 project***

One such project that has served as a cautionary tale for the Hinkley point and other projects ongoing or planned is Finland's Olkiluoto 3 nuclear reactor.

In 2005, Olkiluoto-3 was billed at that time to be the world's biggest European Pressurised Reactor ("EPR") project. At its inception, it was anticipated that the plant would have a capacity of 1,600 megawatts, cost EURO 3 billion and come online in 2009. But it is now expected to complete ten years later than planned (in 2019) at a staggering cost of in excess of EURO 8 billion.

The Olkiluoto 3 Project has been described as "one of the biggest conflicts in the history of the construction sector." (2) In the words of Pekka Lundmark, the chief executive of the Finnish power company Fortum (which owns 26% of Teollisuuden Voima Oyj ("TVO") the consortium behind Olkiluoto 3): "If the nuclear industry wants to have a future it cannot afford more projects like this". (3)

One of the key issues that has arisen in the course of the ongoing disputes appears to be the fact that many of the organisations chosen to work on the different parts of the plant did not have any experience with working in the nuclear industry, and little understanding of the safety requirements. (4)

From the very start of the project numerous issues arose. A concrete base slab was laid incorrectly – a key part of the structure that was supposed to be able to withstand and hold up the weight of the entire power plant.

In July 2006, the Finnish Radiation and Nuclear Safety Authority ("STUK") appointed an investigative team to assess the compliance of the construction team with the relevant safety requirements. (5) This initial investigation noted that subcontractors with no prior experience in

nuclear power had been selected and that consequently major problems had been encountered with regards to project management and construction (though not necessarily nuclear safety).

In September 2007, STUK issued a further report in respect of the steel liners. The walls and dome of the plant are made of pre-stressed concrete with a steel liner on its inner surface. This steel liner is intended to stop any leakage of radioactive substances and is therefore a key safety feature in a nuclear plant. Due to issues in the welding of the liner production had to be stopped temporarily.

Issues with welding would arise again in the project, and in August 2008 STUK issued a further report in respect of the welds in the steel reinforcements of the concrete structures – in particular on loadbearing joints. Additional reports on welding issues would be raised by STUK in October 2009 and August 2010.

STUK also issued reports into the automation system design, the instrumentation control system which is essentially the nervous system of the plant, in July 2009 and June 2010 – in particular there were concerns about the system back-ups.

The tremendous delays and cost overruns experienced at Olkiluoto 3 are not unique in the nuclear construction industry. Given the technical and regulatory difficulties that have to be overcome it is not surprising that other projects have suffered similarly. EDF are involved in constructing an EPR at Flamanville and as at 2017 this project was running 6 years late and costs had spiralled to some EURO 7 billion over budget. EDF were also involved in the construction of two EPRs at Taishan in China, where the delays were more limited and only ran to some four years.(6)

### **Procurement Strategy**

Any delay or issue in the life cycle of a project will invariably have substantial knock-on effects that can derail a project. It is therefore of paramount importance that care and sufficient time is taken at the start of a project to ensure that sound foundations are laid for the project going forwards. One crucial decision that will need to be taken is the basis on which the contractor should be appointed. The options tend to be 1) EPC turnkey 2) Hybrid or Split EPC or c) multi contracting.

### **EPC**

For conventional power projects, a common approach is for the employer to engage a contractor under a turnkey EPC (Engineering Procurement and Construction) contract.

Under a traditional EPC contract, the works will be carried out for a fixed price by a set date. There will be limited circumstances in which extensions of time and additional costs can be claimed and the contractor will be responsible for the design and all works associated with the project.

For nuclear power projects, a turnkey arrangement is unlikely to be suitable given the complexity of the works involved and the far greater risks, costs, construction periods, and regulatory and safety requirements.

The regulatory and safety requirements which derive from the relevant international conventions impose restrictions on the freedom of the parties to contract in the traditional way. Unlike a conventional power project, it is not up to the employer and contractor to decide the methodology for the work, to decide how the project will be managed or how design issues should be addressed. The regulator is likely to want to control such matters intensively and their repeated intervention inevitably has the potential to cause significant delay and cost overruns.

It is also the case that the allocation of risk under a nuclear project tends to be rather different from a conventional power project. In a nuclear project, it is the licensed operator that will be liable for all claims arising from a nuclear incident. The relevant party cannot claim against the contractor.

### **Hybrid or Split EPC**

A hybrid or split EPC divides a traditional EPC contract between a small number of contractors with parallel or phased work streams. At its simplest, a hybrid/split approach tends to divide a nuclear project into two packages:

- Nuclear Island (essentially the reactor containment building, safety related equipment buildings, buildings housing radioactive substances and all associated systems and components); and
- Conventional or Turbine Island (the turbine generator and all associated non-safety related systems and building).

It is considered that this approach simplifies the worker qualification requirements for the project and makes it easier to identify and assign causes of delay and cost overruns. (7) It also can minimise the project management and co-ordinated risk for the employer.

### **Multi-Contracting**

Multi contracting allows the work to be split into various contractual packages across different contractors. Multi contracting gives the employer an attractive level of control and flexibility over different stages of the works which is well suited to nuclear projects given the regulatory restrictions and safety risks that apply. It can also be more cost effective given that a single or small contractor pool under an EPC model will charge a higher premium for the delivery risks.

Multi-contracting does however have its downsides. The employer will be tasked with co-ordinating the different contractual arrangements and that can only be done by an employer that has experience in multi-contract project management and has a detailed understanding of nuclear construction. If the contracts are not properly managed, such that one contractor delay leads to delays in works by other contractors, it will be the employer that will be responsible for the delays and cost overruns. It is also the case that unlike an EPC model contract, there will be separate warranties from each contractor for their part of the works. This is the case unless some form of umbrella guarantee arrangement is put in place.

These issues with multi contracting arrangements can also make it much more difficult to secure project financing and as such, it is important to get the funder(s) on board with such arrangements early on in the procurement process.

### **Form of construction contract: FIDIC or NEC?**

The form of contract that is likely to be adapted, regardless of which procurement strategy is deployed is likely to be either NEC3 or FIDIC.

## **NEC**

The first edition of the NEC was published in March 1993 and focused on strong project management principles. The second edition was issued in November 1995 and it was extended from use particularly in the engineering sector to the wider construction industry.

The third edition of the NEC was published in June 2005 (“NEC3”) and whilst the general approach to the contract has remained the same, there were several changes to key clauses. In particular, there has been a focus on proactive project management by, amongst other things, adopting an early warning system which is enforced by applying adverse valuation principles should the contractor fail to warn the owner. The NEC3 sets out the framework for the parties to follow whilst identifying who bears the risk in the event that a particular problem materialises.

The NEC3 has most notably been adopted for the decommissioning of nuclear power stations.

## **FIDIC**

FIDIC is short for "Fédération Internationale des Ingénieurs – Conseils" (International Federation of Consulting Engineers), an international federation of associations of consulting engineers representing the profession in their respective countries.

FIDIC's Contracts Committee has been responsible for producing the most commonly used standard forms of contract for international construction projects and they are well known to international contractors and funders.

The different forms of FIDIC contracts are recognised by colours. The Red Book is the most traditional form with the employer retaining responsibility for the design. The Yellow Book is more suited for projects where the contractor has the main design responsibility. The Silver Book is for EPC arrangements with the contractor taking on more extensive time and cost risks.

The 2017 versions of the Red Book, Yellow Book and Silver Book are more extensive than the 1999 versions and are geared at better project management and contain more detailed provisions for managing and resolving disputes throughout the period of a project.

If FIDIC is chosen for a nuclear power project, the standardised form of Red Book tends to be overlaid with the project specific provisions.

## **Effective Contract Management**

It is widely recognised that poor project management has been the root cause of significant schedule and cost overruns in many nuclear power projects from around the world.

Effective contract management for a nuclear project can be complex and requires specialist expertise and bespoke planning. Not only is it important for the project to have a clearly defined schedule and budget targets, it is also important for provisions and mechanisms to be incorporated in the contractual documents that enable the parties to operate in a way that enables them to minimise disputes and manage disputes effectively if they do arise.

It is also extremely important to choose the right lead personnel tasked with project management and to ensure that they have the requisite skills and expertise to handle a nuclear project and that the key personnel know what the contract documentations says and what they need to do in order to

comply with it. Human nature and the psychological aversion to reporting cost overruns and delays is something that should not be ignored. (8)

The new suite of FIDIC 2017 contracts have gone some way to improve project management and to force regular reporting and the communication of claims. For example, Clause 8.4 of the FIDIC 2017 Red Book introduces a useful advance warning mechanism. It requires the parties to notify each other “in advance of any known or probable future events which may (a) adversely affect the work of the Contractor’s Personnel; (b) adversely affect the performance of the Works when completed; (c) increase the Contract Price; and/or (d) delay the execution of the Works (if any).” The clause does not however explain what is meant by “advance warning” or specify a sanction for non-compliance.

Such early warning mechanisms will be crucial in a nuclear project as will tighter provisions that are directed at managing the project schedule and its costs.

### **Managing the Regulator**

The regulator will have significant intervention rights throughout the project and can make inquiries and demands concerning the use of sub- contractors, the identity of suppliers, processes used, the methodology for the works and the safety measures being applied. It is imperative that the contract makes clear whose responsibility it is to deal with the regulator at various stages and to make sure that the interventions and requirements of the regulator are being properly managed.

It is also imperative for the team tasked with this role have experience of the regulator and the regulatory framework and have in place:

1. A detailed plan and strategies in place for meeting the regulatory requirements;
2. A system for effectively monitoring compliance with regulatory requirements and the ongoing demands of the regulator;
3. A system for recording all communications with the regulator and all licensing documentation.

### **Managing Documents**

With the significant size of nuclear projects come huge volumes of documents including design specifications, drawings, project reports and minutes of meetings.

It is imperative for those documents to be properly managed through an effective document management system that can cope with the huge volume of data and filter it across the different categories/fields.

Not only is an effective document management system imperative for the advancement of the project, it will also be crucial if any dispute arises.

Making sure that the document management provisions in the contractual documents are sufficiently comprehensive will be key.

### **Managing People**

It is important to choose the right people at various levels for a nuclear power project. Particular attention should be given to those people tasked with the project management.

In the case of extensions of time and claims for additional costs, the psychological motivations of managers and subordinates and the human nature of avoiding the delivery of “bad news” can have a direct impact on disputes. It has been reported that the communication of late claims are one of the most common and contentious causes of employer/contractor disputes.

The expanded dispute resolution provisions in FIDIC 2017 go some way to compel proper reporting with the advance warning of claims (clause 8.4 of the Red Book) and with more detailed procedures and time bars being applied to the making of claims by both the employer and contractor.

### **The Dispute Resolution Provision: the Most Important Contractual Provision?**

Any dispute during the term of a nuclear project has the potential to cause significant disruption. Surprisingly, however, there tends to be limited negotiation about the wording of the dispute resolution clauses. This tends to be because pre-contract, the focus of the parties is on doing the deal done and the potential of anything going wrong is firmly at the back of their minds.

Such an approach can have dangerous and costly consequences particularly if proper thought has not been given to dispute avoidance with steps incorporated in the dispute resolution provision to explore settlement in a way that is quick and cost effective rather than forcing the parties through a long and costly court or arbitration process.

Having a multi-tiered dispute resolution provision that incorporates a number of steps that allows the parties to think through their respective positions and negotiate before tensions rise can be of fundamental importance.

Typically the first step in a multi-tiered dispute resolution provision includes formal/informal negotiations, then a formal mediation, then adjudication, expert determination and/or arbitration or litigation for a final resolution. Some clauses even allow parties to appeal to a second level of arbitration.

The FIDIC 2017 suite of contracts separates the old Clause 20 into two separate provisions: one dealing in detail with the procedures for the contractor and employer to make claims and the other dealing with how disputes about those claims are to be resolved.

Some of the benefits as well as downsides to a tiered dispute resolution provision are set out below.

### **Benefits of Tiered Dispute Resolution Provisions**

- They maximise the opportunities for resolving disputes quickly and cost effectively and before an expensive and lengthy.
- They can effectively achieve the same purpose as a pre-action protocol that you sometimes see in court procedures in certain jurisdictions such as the UK and allow the parties to set out in some detail their positions and give some thoughts to the strength of their positions before become embroiled in arbitration proceedings.
- Beneficial where the project is long standing and it is important for the parties to preserve their relationship.
- Can enable parties to narrow the issues between them and reach a common ground making an arbitration process more effective.

## Downsides of Tiered Dispute Resolution Provisions

- If the parties are clear on their own positions and there is no possibility of settlement, going through the earlier steps can be a waste of time and costs.
- It may be that the full extent of a claim or dispute is not known until after lengthy pleadings have been exchanged such that it is premature and unrealistic to expect parties to settle their differences through pre-arbitration negotiations.
- There can be time sensitivities that are not accommodated by a tiered dispute resolution provision such as the need to obtain urgent injunctive relief that needs to be secured pending the outcome of any arbitral proceedings or a limitation period that is about to expire.
- Any potential non-compliance with the pre-arbitration steps could give rise to challenges being made against the Tribunal's jurisdiction to hear a dispute. Such challenges could be made in the course of the arbitration proceedings or even at a later stage e.g. when a party seeks to enforce the award.

## Jurisdiction Issues

The jurisdiction issue mentioned in last point, has the potential to cause significant issues.

It may be that the arbitral tribunal or relevant national courts will take the view that the arbitral tribunal does not have jurisdiction to determine the dispute because the pre-arbitral steps have not been met. As such, any failure to comply with the contractual procedures is high risk.

Generally speaking, most national courts and arbitral tribunals have been reluctant to find that pre-arbitral steps constitute jurisdictional conditions precedent to commencing arbitration, absent clear language to that effect within the multi-tier clause.<sup>(9)</sup>

In general, the English courts have refused to recognise a promise to negotiate or an "agreement to agree" as they have been considered too uncertain to enforce (*Walford v Miles* [1992] 2 AC 128). However, it is now clear that as long as the agreement is sufficiently clear and detailed, the English courts will enforce it – see for example *Cable and Wireless plc v IBM United Kingdom Ltd* [2002] EWHC 2059 (Comm) where the court held that because the parties had identified a particular procedure in their agreement it was sufficiently certain so as to make the provision enforceable. Had it merely been an agreement "to attempt in good faith to negotiate a settlement" then the clause would not have been upheld.

The decision in *Emirates Trading Agency LLC v Prime Mineral Exports Private Limited* [2014] EWHC 2104 (Comm) went further than previous English cases in holding that an agreement to negotiate was not only enforceable but that it was a precondition of the right to arbitration. In that case a multi-tiered clause required the parties to seek to resolve their disputes by "friendly discussions", failing which either could refer the dispute to arbitration. Teare J held that friendly discussions were a condition precedent to the right to refer the claim to arbitration. As he saw it, where parties agree a dispute resolution clause which purports to prevent them from arbitrating the dispute without first seeking to resolve the dispute by friendly discussions, the courts should seek to give effect to the parties' bargain.

Teare J's decision in the *Emirates* was that any failure to apply a friendly discussion provision would deprive the arbitral tribunal of jurisdiction to hear the matter, meaning that any award would then be invalid and ineffective. This consequence was unlikely to have been intended by the court and has, quite rightly, been criticised in subsequent decisions such as *Emirates Trading Agency LLC v Sociedade de Fomento Industrial Private Ltd* [2015] 1 C.L.C. 963, where Popplewell J refused to express

a view on whether the relevant clause was enforceable or a condition precedent to the jurisdiction of the tribunal. On the facts he found that even if it was enforceable as a condition precedent, the relevant clause had been satisfied.

Another relatively recent case is *DS-Rendite-Fonds NR 1066 VCLL Titan Glory GmbH and Co Tankshiff KG v Titan Maritime SA* [2015] EWHC 2488 (Comm) where Males J considered a clause which required the parties to “negotiate in good faith” and held that it was too uncertain to enforce.

By way of contrast, the courts in the UAE have adopted a different approach to the English courts when reviewing multi-tiered clauses. The Dubai Court of Cassation has held that if the parties agree to adopt certain procedures to resolve disputes amicably between them, it does not prevent the parties from appealing directly to the courts and avoiding the amicable procedures because it is the court that has general jurisdiction to determine the dispute.(10)

## **Forms of Alternative Dispute Resolution**

### **Expert Determination**

Under an expert determination process, the parties appoint expert(s) to rule on certain, defined issues and to apply his or her expertise to the facts presented to make a decision. Typically an expert determination process is effective to determine technical issues and the parties will be at liberty to choose the best person(s) to act as expert(s) for the issues they decide to refer for expert determination.

An expert determination is not enforceable in the same way as an arbitration award or court judgment but usually leads to a contractual obligation between the parties to comply with the expert’s decision. So long as the expert answers the correct question, his/her decision will be binding as between the parties, assuming the parties have agreed to be bound by it and there is no evidence of bias or fraud (*Owen Pell v Bindi (London) Ltd (2008) QBD (TCC)*).

Expert determinations can be quick and cost effective if the contractual procedures for seeking such a determination are drafted with sufficient care and thought. However, whilst expert determinations are widely accepted in certain common law jurisdictions such as England and Wales and Australia, they are not so well tested in certain civil law jurisdictions.

### **Dispute Avoidance and Adjudication Boards (DAAB’s)**

The 2017 FIDIC suite of contracts introduces the need for a DAAB to determine disputes as a pre-condition to arbitration. The default position under FIDIC 2017 is that the DAAB’s are “standing” in that they are appointed by the contract and remain in place throughout the lifetime of the project.

A DAAB can have any number of members but FIDIC provides for one or three members to be chosen by the parties. If the DAAB process is to be effective, it is important for the parties to have confidence in the candidates that will serve on it and in the case of a nuclear project, it is imperative to check that the members have sufficient relevant knowledge and expertise as well as the capacity to be appointed.

The board members will typically visit the site regularly and be updated on the project’s progress through for example progress reports. By clause 21.3 of the FIDIC 2017 suite, the DAAB is also given an informal dispute avoidance role. The parties may jointly request the DAAB to provide assistance

informally to discuss and attempt to resolve any issue that may have arisen between them. The informal assistance can be given during meetings or site visits and the parties are not bound to act on the advice given.

Time bars are also introduced for referring disputes to DAAB for a formal decision. A party must refer a dispute to DAAB within 42 days after giving or receiving a Notice of Dissatisfaction with the engineer's decision and the DAAB must give its decision within 42 days. A party that is dissatisfied with a DAAB decision (in whole or in part) must give a Notice of Dissatisfaction to the other party and DAAB within 28 days before arbitration proceedings are commenced. If only part of a DAAB decision is disputed, that part is treated as severable from the remainder of the DAAB decision and the remainder becomes final and binding between the parties.

Whilst the use of a DAAB is strongly recommended by FIDIC, there are serious cost considerations that can be particularly acute for lengthy nuclear projects that are likely to run over many years.

The DAAB members will charge fees and travel expenses throughout the life of the project and these can turn into substantial amounts with say a 10 year nuclear project. DAAB's can also be a drain on the time of the project management team in terms of the time they spend attending site visits with DAAB and dealing with the requirements during any determination process.

### **Caution with Settlement Agreements**

Whether a dispute arises but a settlement is reached either before or during a formal dispute resolution process adjudication, it is important to think very carefully about how the settlement should be framed and recorded.

If a settlement is being reached before a dispute resolution process has been formally commenced, it may be the case that there is greater scope for uncertainty about what has been settled and whether reaching such a settlement is right on the "merits". Careful consideration also needs to be given to:

- whether only claims known to the parties or communicated to date are being settled;
- what the cut-off date for claims should be? Is it the date of the settlement agreement or some other date;
- what the governing law and jurisdiction provisions applicable to the settlement agreement should be. It may not be suitable to adopt the same provisions that appear in the underlying construction contract; and
- whether the settlement should be documented by a Consent Award.

### **Consent Awards**

The parties to arbitration proceedings may ask the Tribunal to embody the terms of any potential settlement agreement into a Consent Award so as to aid with enforcement. However, there are certain matters that the parties need to be careful of if they intend to seek a Consent Award including:

- The relevant rules applicable to the arbitration should be checked for any particular requirements with Consent Awards. For example, the LCIA Rules 2014 states that the Consent Award must state that it has been made at the parties' joint request and with their consent. It is therefore important to record in any settlement agreement itself that the parties agree to a Consent Award being sought;

- A typical settlement agreement can contain boiler plate provisions that cannot be reflected in a Consent Award because they extend beyond the Arbitral Tribunal's terms of reference and/or the arbitration agreement;
- A settlement that is stated to be subject to certain conditions cannot be transformed into a Consent Award

As such the terms for any settlement must be carefully scrutinised and the terms carefully drafted to ensure that they can be transformed into a valid and enforceable Consent Award. If that is not possible for any reason, certain terms of the settlement may need to be kept out of the Consent Award terms and enforced by other means.

### **Preparing the Legal Case**

Any nuclear project has the potential to create a variety of disputes throughout the project duration. Managing such disputes can be exceptionally time consuming and costly and it is important to balance the cost and time involved in resolving a dispute with the quality of outcome that is ultimately anticipated.

In managing a disputes, consideration should be given to:

- Putting together an effective and achievable internal work plan so that the lawyers are given what they need timeously and in an effective fashion;
- Front loading the process with early witness interviews, reviewing key documents and securing expert evidence;
- Avoiding being overly optimistic and confident;
- Consider if certain issues should be bifurcated? Most commonly: jurisdiction, merits, quantum
- Consider if there are rules and regulations that restrict the use and distribution of certain data to those conducting the arbitration process.

Consideration also needs to be given to how witnesses (both factual and experts) are managed and how their evidence (particularly the expert evidence) should be presented.

### **Factual Witnesses**

A nuclear project will involve vast numbers of people with expertise across many different fields. In preparing the legal case, it is important to identify early on what the key factual evidence will be and which individuals are best placed to give that evidence.

Inevitably during a lengthy nuclear project, people come and go and it may be that the relevant witness is no longer involved in the project. Early inquiries should be made to establish whether the relevant individual(s) can be contacted and if they will agree to be co-operative and support the case. Issues can also arise with the length of any arbitration process and the fact that any nuclear project can be subject to many arbitrations which could rumble on for years. Will those witnesses be able to remember the relevant facts and make themselves available over such a long periods of time?

### **Experts**

As with a typical construction dispute, time and cost impact analysis will need to be carried out. However, with a nuclear projects the events that are being assessed may be vast and therefore very difficult to assess in any meaningful way. Relevant experts will need to be brought in early on to assess

the best methodology for presenting the evidence. One method that has been suggested practical for multiple claim events is statistical sampling to present the financial impacts of a large number of claim events in a more cost effective and digestible format, and suitable for the arbitral tribunal to determine in a reasonable period of time. (11)

As for the lawyers tasked with the dispute, any experts must be familiar with the nature of a nuclear project including the strict regulatory regime. The regulator will be an easy excuse for any contractor faced with delays and additional costs and it is important for the experts to be able to interpret and assess the regulators requirements at various stages of the project.

It is also important to think about the timing for introducing experts to the project. Given that there will inevitably be numerous events of delay and costs extensions, it is maybe worth having a team of experts on board from the very beginning.

### **Managing multiple disputes**

As we have discussed, large construction projects can give rise to numerous disputes, and whilst it is possible that the disputes can be dealt with in one set of proceedings, it is more than likely that several sets of arbitration, adjudication or litigation proceedings will be required to resolve these issues (depending on what the dispute resolution clauses say).

As such if multiple disputes do arise, the need for effective dispute management will be even more acute. The documentation involved is likely to be huge and proper document management systems should be deployed across the team staffing the dispute. Careful thought must also be given to how the disputes will be effectively staffed with factual and expert witness, lawyers, Queen's Counsel and arbitrators and any staff overlaps between disputes should be carefully anticipated and thought through.

The time drain on resources over lengthy periods should not be underestimated.

### **Watson Farley & Williams (Middle East) LLP**

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- 1 Nuclear's Hazards: struggling industry aims for power surge: Andrew Ward in Hinkley Point February 4 2018
  - 2 Reuters 28/02/2014 - see Finland's cautionary tale for UK article
  - 3 Nuclear plant nears completion after huge delays, Andrew Ward in the Financial Times 18 May 2017
  - 4 New nuclear: Finland's cautionary tale for the UK: Carbon Brief
  - 5 STUK report 12 July 2006
  - 6 Nuclear plant nears completion after huge delays, FT
  - 7 Use of Standard FIDIC Contracting to Minimize Disputes in Nuclear Power Plant Construction by Yong Seon Seo and Robert Murray Field – International Law Journal of Engineering Research and Technology ISSN: 2278-0181 Vol. 6 Issue 10, October 2017
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  - 9 GAR: The Guide to Energy Arbitrations: Multi Tier Dispute Resolution Clauses as Jurisdictional Conditions Precedent to Arbitration: George M Vlavianos and Vasilis F L Pappas
  - 10 Dubai Court of Cassation, Case Number 14 of 2008

