



Alan Ma
Principal, Maxwell Alves Solicitors,
London, UK

Engineer's role in resolving disputes in offshore projects

A. Ma PhD, MICE, MIMarEST, MBCS

Offshore construction and supply projects involve complex contractual arrangements regulating the relationships of operators, contractors, subcontractors and suppliers. Although every effort is made to prevent the occurrence of disputes when parties enter into contract, it is a fact of life that disputes do arise. This paper explains the role of engineers in the dispute resolution process. It highlights the features of disputes which arise out of the offshore construction and supply industry by way of inclusion of a description of: the life cycle of a typical offshore development; a typical engineering, procurement, construction, installation and commissioning project; the engineer's involvement in the contractual process; types of frequently occurring disputes; and the role of engineers in dispute avoidance. By way of introducing the various methods of disputes resolution, including litigation, arbitration, adjudication, expert determination, mediation, the engineers' functions in these processes are highlighted. The paper concludes that engineers are indeed important if not crucial to every stage of an oil and gas construction project. They have every opportunity to assist in dispute avoidance by being more aware of the contractual relationship between various parties and the project procedure. They can be factual witnesses to set out the chain of events that happened, expert witnesses to assist the court or tribunal in understanding the technical issues, and they are also well placed to judge the rights and wrongs of the parties given their technical backgrounds in understanding the day-to-day running of a project.

1. INTRODUCTION

Offshore construction and supply projects involve complex contractual arrangements regulating the relationships of operators, contractors, subcontractors and suppliers. Although every effort is made to prevent the occurrence of disputes when parties enter into contract, it is a fact of life that disputes do arise. This paper highlights the role of engineers in the dispute resolution process. It covers the following topics.

- Characteristic features of offshore construction and supply projects.
- The various methods which can be used to resolve disputes.
- In the event of a dispute, the engineer's role in the resolution process, with an emphasis on an engineer acting as an expert witness.

2. CHARACTERISTIC FEATURES OF OFFSHORE CONSTRUCTION AND SUPPLY PROJECTS

2.1. Life cycle of a typical offshore development project

The life of an offshore development project starts from discovery of the field and finishes with decommissioning of the installation. The major stages are

- discovery/seismic
- drilling
- analysis and economics
- conceptual studies
- approval and finance
- engineering, procurement, construction, installation and commissioning (EPIC)
- infrastructure reception facilities
- operations and logistics
- inspection and maintenance
- decommissioning.

Both seismic and drilling operations require specialised technical inputs. Information such as the size of the reservoir, the recoverable reserves and the flow rates can be gathered from these operations. Once the data are obtained, they need to be analysed and input into an appropriate economic model. Engineers need to work with professionals from other disciplines such as economic analysts. The purpose of the exercise is to find the balance of revenue estimates and the costs involved. During these stages, key design parameters should also be established.

During the conceptual stage, inputs from development engineers are required. The offshore industry is a fast-developing and innovative industry. New products and techniques are developed to reduce costs and improve performance. Fields that had been considered to be uneconomical may now become viable by using new technology. Likewise, the life of a field can be extended as a result of the enhanced recovery techniques.

In the next stage, banks require input from engineers to tell them what are the risks involved in developing the field. There are construction risks, reservoir risks, project completion risks, technology risks, operational risks (e.g. information about reliability of the equipment and facilities by way of finding out the up-time). The banks cannot control these risks but they need to have an understanding in order to structure a suitable package.

Once the project sanction is obtained and the finance is organised, the next phase is for the operator to place an EPIC contract with a contractor. The contractor will in turn contract with subcontractors and suppliers. As an illustration of the level of activities involved in this stage, a £400 million project could involve some 250 subcontracts or purchase orders.

This paper focuses on the EPIC phase, although many of the points will be applicable to all other phases. This paper is also limited to the issues arising from the engineer's involvement in a dispute resolution environment.

2.2. A typical EPIC project

The traditional arrangement of an EPIC project is that the operator sits at the top of the contractual chain and places a contract with the EPIC contractor who, in turn, subcontracts the work to various specialist subcontractors and suppliers. There are other types of contracting strategies including partnering or alliancing, risk and reward, share gain and share pain. The common general arrangement for all these contracting strategies is that somebody carries out work in consideration of payment in accordance with the agreed contractual provisions.

2.3. Engineers' involvement in the contractual process

The process can be divided into two stages, namely pre-contract award and post-contract award.

2.3.1. Pre-contract. During the pre-contract stage, the client's engineers will prepare statements of requirements or functional specifications. These requirements or specifications become part of the bid document which goes to the bidders. The contractor's engineers will then review and put together a technical proposal with a method statement as part of the bid submission. Any qualifications should be made clear in the submission. Sometimes bidders submit alternative methods that are claimed to be better, quicker and cheaper to build.

After the tender is submitted, the client's engineers will study the bid submission. Usually, technical submissions and commercial submissions are assessed separately. Technical proposals will be assessed to see the compliance with the technical requirements, the suitability of the method statements and the viability of the delivery programme. Track records for delivering similar work will also be considered.

Meetings will be held to clarify any uncertainties in the submissions. Assuming the proposal is also commercially acceptable, a decision is made to go ahead with the contract. This decision leads to contract award.

As is often the case, minutes of these technical clarification meetings are referred to in the contract and form part of the contract documents. In writing these minutes, any agreement on acceptance or rejection of any qualifications must be clearly stated. One pitfall that can occur is that it may be the intentions of the parties to include only certain specific points raised at a meeting to be contractually bound. By including the entire set of the minutes, undesirable items are inevitably included into the contract as well. Instead of referring to the entire set of meeting minutes, it is advisable to write special provisions in the contract to reflect any agreement on specific points.

2.3.2. Post-contract. When the contract is awarded, there will be the usual process of having a 'kick-off' meeting to set out any procedural requirements, such as establishing the lines of communication, revisiting the programme and clarifying any documentation submission requirements. Then it will be a matter of monitoring the process and performing the work. There will be many opportunities for interaction between the engineers of both parties as well as other members of the team such as the commercial personnel, procurement manager and his/her expeditors. Even though there is a contract in place, any discussion could be interpreted as an ad hoc agreement on specific points, altering the rights that are defined in the original contracts. Furthermore, statements made by the client's engineers can be interpreted as instructions, which may trigger a variation. Care needs to be taken in these instances.

2.4. Types of frequently occurring disputes

What is a dispute? Cases^{1,2} have stated that an ordinary English word such as 'dispute' should be given its ordinary meaning. The Oxford English Dictionary states: 'to contend with opposing arguments or assertions'. It is also clear that a claim in itself will not be sufficient to create a dispute. There must be a denial or rebuttal of the claim in order for there to be a dispute.³

The following are the types of more commonly occurring disputes in an offshore construction and supply contract and they are placed into four categories.

The first category relates to performance of work. Performance standards are usually defined in the contract. For example, terms such as 'best oil field practice' and 'reasonable requirements' are frequently used. Trade practice experts are required to assist the interpretation of these terms in the event of a dispute.

The question of completion of the work is not always clear. In building contracts, despite numerous attempts to provide an appropriate definition, there are still ambiguities, and disputes still arise as to when practical completion has taken place. It has been accepted that completion of work is achieved upon the issuing of a certificate of practical completion, bearing in mind that the definition of practical completion is, however, how the parties to the project wish to interpret it. However, it is not clear whether a similar approach can be adopted in the offshore industry. For example, 'first oil' can be produced even though not all the major equipment is functioning properly. As for latent defects, there could be dispute on the nature of these defects.

The second category relates to progress of work. Delay is usually dealt with by liquidated damages (LDs) provisions to allow the client to deduct LDs from payment. However, a good defence for delay is that the contractor is entitled to extension of time due to intervention of the client or other events. An example of the employer's default is delay of free issue materials. In terms of extensions of time, it needs to be clearly defined in the contract as to who is responsible for, for instance, weather down-time.

The third category is in relation to variations. There are always arguments as to whether there is a change of workscope or conditions, and if yes, how to quantify it. For a typical EPIC contract, the commencement of the installation phase is

dependent on the progress of other earlier phases. In contracts involving installation contractors, there is usually a notification mechanism defined in the contract. If the mechanism is not followed by the client, it is clear that there is a change. However, what is not clear is the question of quantification: should the contract rates be used or the market rates if they are more appropriate.

The fourth category relates to design failures. EPIC contractors owe both a tortious and contractual liability to their clients since an obligation arises from the agreement between the contractor and the client and also by law. By law, contractors have an implied obligation to carry out works with reasonable care and skill. If, through design failure, the work has not been carried out to the level to which the client had agreed, the contractor can be required to rectify the faults or pay damages. However, there are difficulties here since the contractor may argue that equivalent performance has been made or even that the client through his behaviour has varied his requirements or waived his right to insist on strict performance.

Generally speaking, failure to comply with any procedural requirements in advancing a claim will not allow the client to reject a claim on that ground, but if the procedural requirement is a condition precedent of any claim, then it is a different matter.

3. CHARACTERISTICS OF THESE DISPUTES

Disputes arising from these projects are usually complex and expensive. This is the result of the combination of the following characteristics.

- (a) Complex technical issues. This requires little explanation.
- (b) Complex contractual arrangements leading to counter-claims as well as multi-party claims. Often a dispute involves more than two parties. For example, additional parties include their parent companies who provide parent company guarantees as well as the institutions who provided the performance bond.
- (c) Voluminous documentation. This includes design reports and drawings, which may have several revisions, over and above the correspondence.
- (d) Requests for detailed and technical evidence and quite often experts from a number of disciplines are required.
- (e) Substantial sums are at stake in cases of this nature. Very often the money involved is large enough to break a company.
- (f) A large number of personnel and companies are involved. One has seen that engineers and other professionals from various disciplines are usually involved in a development project.
- (g) International elements with differing cultural approaches and possibly conflicting laws.
- (h) No two projects are alike, even when they are designed and constructed in a similar manner. There is one problem here as a contractor may decide to give its client a discount because of repeatability of work. By their nature, no two projects are the same. Careful drafting of the contract is required to define how repeatability is measured.
- (i) Application of contract forms, standard and ad hoc. There are standard forms, but they are not very widely used in the industry outside the UK continental shelf (UKCS). For the ad

hoc contract, the allocation of risks is dependent on the commercial position of the parties at the time of contract.

- (j) Involvement of innovative materials, including a number of new products of unproved performance or strength. In this industry, advanced and complex technology is not only desired but also necessary in some instances, as mentioned above.
- (k) A small industry, hence parties have to work together in the future. There are less than 20 oil companies which are active in the UKCS. Furthermore, the client/contractor role could change as subcontractors may become a main contractor in another project. Hence, it is essential to consider using non-confrontational methods of dispute resolution procedures.

4. ROLE OF ENGINEERS IN DISPUTE AVOIDANCE

The best way to resolve disputes is to avoid their occurrence in the first place. A number of suggestions are presented in the following list.

- (a) Clear and concise drafting of specifications/scope of work. The importance of having a written contract in place has been illustrated in previous cases.⁴ Everything is reduced to a contract document in writing. There is no substitution for the clear and concise drafting of the contract document. At the very least, the contract document should maintain consistency. It is not uncommon to find that the design review cycle specified in the technical part differs from that defined in the main body of the contractual terms. This creates contradiction and ambiguity, which can be avoided by careful and concise contract drafting. It is quite common for parties to enter into a risk and reward contractual arrangement; however, the conditions for achieving rewards must be clearly defined. For example, the exact meaning of weight savings could breed dispute. The contract needs to make it clear how the weight is measured, what is included in the measurement and whether the weight means dry or wet.
- (b) Effective project management plan. When a contract is awarded, a project team has to be assembled in a very short timescale. Personnel from various backgrounds are brought together. A plan based on the company's previous experience needs to be in place to manage the project.
- (c) Adhere to project procedure. There is little point in having a project management plan if procedures are not followed. The plan should contain the means to ensure compliance. A well-structured procedure is particularly important in large-scale projects in which team members are drawn from multi-disciplines and backgrounds, and members may also be changed during the course of the project.
- (d) Be familiar with the contract documentation. The rights and obligations of all parties concerned are defined in the contract. As project progresses, the contract becomes the single source of reference from which parties can work out their liabilities and benefits. Knowing the contractual responsibilities will avoid unnecessary arguments and promote the smooth running of a project.
- (e) Understand the implications of the day-to-day communication. A project inevitably requires communication between various team members from different companies, contractors and subcontractors. A statement made to a supplier may be interpreted as changes that have cost and time implications. Individuals must be kept alert when making statements as representative of a party.

(f) Keep good contemporaneous records. When things go wrong, individuals will put forward their own version of events to suit their arguments. Mere allegations without substantiation carry no weight in any subsequent resolution of disputes. File notes, diaries, internal memoranda or e-mail messages that were created at the time are suitable evidence in support of individuals' claims and counterclaims.

5. METHODS OF DISPUTES RESOLUTION

In recent years, there has been a considerable choice of dispute resolution methods available to this industry. In considering which is right for the resolution of a particular dispute or for inclusion in a contractual dispute resolution procedure, it is necessary to understand certain fundamental distinctions that can be made between the available methods. For this purpose, a useful general method of grouping the available choices is by reference to the nature of the process.

The first group concerns the determination of the legal rights of the parties in a binding and final decision. This includes court proceedings, arbitration, adjudication and expert determination.

The second group of techniques for dispute resolution is often referred to under the umbrella description of alternative dispute resolution (ADR). There are many forms of ADR, each with its own characteristics, but the essential feature of ADR is that it is a voluntary process. The objective of this process is to seek a settlement of the dispute by agreement between the parties through the involvement of a neutral and independent third party who assists them towards a settlement that must be documented in the form of an agreement. The process is non-binding until that agreement is finalised, is without prejudice to the parties' legal rights, and is confidential. As a result, an important difference between ADR and the other binding processes is that the parties can control the outcome of the settlement by means of ADR.

These types of dispute resolution process are now considered in turn, identifying the factors which may influence the selection of an appropriate method.

5.1. Litigation

Litigation is a public contest in a court of law for the purpose of enforcing and seeking remedies. Once a dispute is referred to the court, the court has the power to require the parties to follow procedural rules, to compel the production of evidence and to make a binding and enforceable decision.

The 'overriding objective' of the Civil Procedure Rules (CPR) is to ensure that disputes are dealt with 'justly', which includes ensuring parties are on an equal footing, saving expense, being proportionate ensuring expedition and fairness, and allocating an appropriate share of court's time.

The CPR also requires the court to take on the burden of actively managing cases to further the overriding objective. The active management of cases has included a requirement to encourage parties to use ADR procedures if the court considers that to be appropriate, and for the court to facilitate the use of such procedures.

The CPR allows the court either at the request of the parties or of its own initiative to direct a stay of proceedings for a period while the parties try to settle the case by ADR, or other means. Mediation is a form of ADR supported by the court.

Together with the CPR, a number of pre-action protocols must be observed. The objectives of the pre-action protocols are stated to be to encourage the exchange of early and full information about a prospective legal claim, to enable parties to avoid litigation by agreeing a settlement of a claim before the commencement of court proceedings, and to support the efficient management of proceedings where litigation cannot be avoided.

The CPR enables the court to take into account compliance or non-compliance with the relevant protocol when giving directions for the management of proceedings and when making orders for costs. The court expects all parties to have complied in substance with the terms of the protocols in relevant cases. Where there is no specific protocol in force, a general practice direction on the subject informs parties that they are expected to act reasonably in exchanging information and documents relevant to the claim and generally in trying to avoid the necessity for the start of proceedings.

Failure to observe the protocol can result in costs penalties being imposed.

Very often, engineers are asked to give evidence in court as an expert. More information on expert witnesses is given in section 6.

5.2. Arbitration

Arbitration is a consensual private process of resolving disputes between parties by the decision of a neutral third party appointed by agreement of the parties.

The Arbitration Act 1996 attempts to infuse arbitration with new life as a fair means of resolving disputes between the parties without unnecessary delay or expense by introducing the opportunity for less legalistic and more flexible proceedings. It extends the power of the arbitral tribunal to introduce greater flexibility in proceedings, in particular

- (a) to depart from strict rules of evidence
- (b) to depart from a decision based upon strict interpretation of the applicable law
- (c) to determine the mode of 'hearing' to be adopted (e.g. inquisitorial or adversarial, oral or documentary)

but the essence of arbitration is party autonomy.

The parties are free to dictate the mode and pace of the procedure. Arbitration is appropriate (a) where confidentiality is important to the parties, (b) where the dispute turns upon the determination of matters of technical expertise, (c) where the parties need great flexibility in arranging dates and locations of hearings.

Apart from being asked to act as expert witnesses in arbitration, engineers are best placed to be appointed as the arbitrator, given their technical expertise. Of course, special training is required in order to carry out the capacity as the judge of disputes between parties.

5.3. Adjudication

Like arbitration, adjudication is a process of resolving disputes between parties by the decision of a neutral third party but is intended to provide a quick determination which will bind the parties only until the dispute is finally determined by legal proceedings, by arbitration or agreement.

Under the Housing Grants, Construction and Regeneration Act 1996 (HGCRA), adjudication is compulsory for construction operations. The HGCRA is designed to provide a framework for fairer contracts and better working relationships within the construction industry by requiring the incorporation into construction contracts of certain provisions for adjudication and prompt payment. Although this is so, the parties may between themselves agree to not be covered by the statute and thereby release themselves from the compulsory adjudication and use other dispute resolution methods.

The HGCRA does not cover the offshore industry⁵ and it was not the intention of Parliament to apply the act to the offshore construction and supply industry. There is, however, no reason why adjudication cannot be written into an offshore construction and supply contract as a quick way to decide disputes as the project progresses.

5.4. Expert determination

Expert determination is a process by which an issue or dispute is referred to a third party jointly appointed by the parties for determination under the contract. The expert investigates and reports on the relevant facts and matters within his/her expertise. It is particularly appropriate for a discrete matter of technical nature or short points of law.

An expert is not an arbitrator. He does not enjoy immunity from suit in the way that such immunity is enjoyed by arbitrators and judges.

The determination of an expert is a final and binding decision. The grounds for a challenge of an expert's decision are very limited.

In this kind of dispute resolution involving technical issues, the person who decides the dispute ideally should be an engineer. Unless of course the dispute is of a legal nature, in which case a lawyer or judge may be more appropriate.

5.5. Mediation

Mediation is effectively a structured means of facilitated negotiation aimed at achieving a settlement, which is acceptable to both parties. The parties are assisted in their negotiations by a third party, a 'neutral' mediator who will discuss the issues with the parties in open and private sessions, assist the parties in understanding the strengths and weaknesses in their positions and identify avenues for settlement which often involve issues and options outside the immediate matters in dispute.

The parties need to decide whether they will wish the mediator to formulate recommendations, which he may do with the benefits of full and frank discussions with each side to which the other is not necessarily a party.

Again, an engineer is in the best position to act as a mediator as he can facilitate negotiation based on his experience arising from the project environment.

6. ENGINEERS AS EXPERT WITNESSES

Very often engineers are asked to give evidence in court or at an arbitration hearing as an expert. There is a lot of ground that could be covered on this topic and it is important for an engineer to understand his or her duties as an expert witness.

In essence, the need for expert witnesses is the result of tribunals requiring assistance. The tribunals need assistance to make a decision on a particular issue or issues, which requires specialist knowledge beyond the knowledge of the tribunal.

The CPR defines an expert witness as an expert who has been instructed to give or prepare evidence for the purpose of court proceedings. The CPR definition draws a distinction between experts who are instructed with a view to actually giving evidence, be it in court or by means of a written report, and those who are simply instructed to advise a party or a potential party to proceedings.

The case *National Justice Compania Naviera SA v. Prudential Life Assurance Co. Ltd "The Ikarian Reefer" (1993)*⁶ provides a comprehensive 'checklist' laid down by the courts and it is still applicable. ('He/his' should be equally construed as 'she/her'.)

- (a) Expert evidence should be, and be seen to be, the independent product of the expert uninfluenced as to form or content by the exigencies of litigation.
- (b) An expert should provide independent assistance to the court by way of objective unbiased opinion in relation to matters within his expertise.
- (c) An expert witness should never assume the role of the advocate.
- (d) An expert witness should state the facts upon which his opinion is based; he should not omit to consider material facts which could detract from his concluded opinion.
- (e) An expert must make it clear when a particular question falls outside his expertise.
- (f) If the opinion of experts is not properly researched because it is considered that insufficient data are available, then this must be stated with an indication that the opinion is no more than a provisional one. In cases where an expert witness who has prepared a report could not assert that the report contained the whole truth and nothing but the truth without qualification, that qualification should be stated in the report.
- (g) If after the exchange of reports, an expert witness changes his view on a material matter having read the other side's expert's report or for any other reason, such change of view should be communicated (through the party's representatives) to the other side without delay and, when appropriate, to the court.
- (h) Where expert evidence refers to photographs, plans, calculations, analyses, measurements, survey reports or other similar documents, these must be provided to the opposite party at the same time as exchange of reports.

Many of the above have been codified in Part 35 of the CPR and the related practice direction.

7. CONCLUDING REMARKS

Engineers are, and indeed should be, involved in every stage of an oil and gas construction project. They have every opportunity to assist in dispute avoidance by way of being more aware of the contractual relationship between various parties and the project procedure. To achieve that, there should not be any need for any major further education or training for the engineers. If a dispute does, however, occur, engineers have a vital role to play in the dispute resolution process. They can be factual witnesses to set out the chain of events that happened, expert witnesses to assist the court or tribunal in understanding the technical issues, and they are also well placed to judge the rights and wrongs of the parties given their technical backgrounds in understanding the day-to-day running of a project.

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