

Global Arbitration Review

# The Guide to Construction Arbitration

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General Editors

Stavros Brekoulakis and David Brynmor Thomas QC

Third Edition

# The Guide to Construction Arbitration

Third Edition

Editors

Stavros Brekoulakis and David Brynmor Thomas QC

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# Introduction

**Stavros Brekoulakis and David Brynmor Thomas QC<sup>1</sup>**

It is a pleasure to introduce the third edition of *The Guide to Construction Arbitration*. The *Guide* has evolved since its first edition to form, we hope, a valuable resource for clients, in-house counsel, experts and external counsel involved in construction arbitration, whether they are dealing with construction arbitration for the first time or have extensive experience in it.

The construction industry is a major contributor to economic growth worldwide. In the United Kingdom it has been estimated that every £1 investment in construction output generates £2.84 in total economic activity.<sup>2</sup> In India, the BJP, which now forms the government, proposed infrastructure spending of 100 lakh crore rupees (over US\$1,300 billion) over the next five years in its 2019 manifesto.

The industry covers a wide range of different types of projects, from building offices, factories and warehouses, shopping malls, hotels and homes to major infrastructure projects that involve more complex civil engineering works such as the construction of harbours, railroads, mines, highways and bridges. Other construction projects involve specialist engineering works such as shipbuilding; bespoke plant and machinery such as turbines, generators and aircraft engines; or works that aim to support energy projects such as upstream oil and gas projects or renewables (wind, wave, solar) and nuclear plants.

These complex construction projects are rarely completed without encountering risks that lead to changes to the time and cost required for their execution. Those changes in turn give rise to disputes, the majority of which (possibly the vast majority) are submitted to alternative dispute resolution (ADR) processes and eventually arbitration. The reasons that lead construction parties to choose ADR and arbitration owe as much to the (perceived or

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1 Stavros Brekoulakis is a professor and the director of the School of International Arbitration at Queen Mary University of London and an associate member of 3 Verulam Buildings. David Brynmor Thomas QC is a barrister at 39 Essex Chambers and visiting professor at Queen Mary University of London.

2 Report of Economic Consultants LEK for the UK Contractors Group.

real) inefficiencies of national courts as to the (perceived or real) advantages of out-of-court dispute resolution. For example, with a few notable exceptions such as the Technology and Construction Court in England and Wales, most national courts lack construction specialist departments or judges with construction expertise and experience. Arbitration, on the other hand, allows construction parties to appoint arbitrators with the necessary specialised knowledge and understanding of complex construction projects. Importantly, arbitration allows construction parties to ‘design and build’ (to stay in tune with the theme of *The Guide to Construction Arbitration*) the dispute resolution procedure in a way that addresses a number of procedural challenges in construction arbitrations, including the typically large volume of documentary evidence, the most effective use of experts to address delay and quantum, as well as complex technical issues, and programme analysis. While the use of some ADR methods such as dispute adjudication boards has spread relatively recently,<sup>3</sup> arbitration has traditionally been included as the default dispute resolution mechanism for disputes arising out of international construction contracts.<sup>4</sup>

A question that often arises is: what is special about international construction disputes that they require specialist arbitration knowledge? In the first place, construction projects are associated with considerably more risk than any other typical commercial transaction, both in terms of the amount of risk allocated under them and the complexity of that risk. Their nature and typically long duration lead to risks including unexpected ground and climate conditions, industrial accidents, fluctuation in the price of materials and in the value of currency, political risks (such as political riots, governmental interventions and strikes) and legal risks (such as amendments in law or failure to secure legal permits and licences).

Further, time is very often critical in construction projects. An Olympic Games stadium must be delivered before the hard deadline that is the date of the games. If a shopping mall is not ready for the commercially busy Christmas period, significant amounts may be lost in seasonal retail trade. The late delivery of a power station can disrupt the project financing used to fund it.

Moreover, arguments as to causation, especially of delay, in construction projects are typically complex. Many phases of a construction project can run concurrently, which often makes it difficult to identify the origins and causes of delay. Legal concepts such as concurrent delay, critical paths and global claims are unique to construction disputes.

Equally, the involvement of a wide number of parties with different capacities and divergent interests adds to the complexity of construction disputes. A typical construction project may involve not only an employer and a contractor, but several subcontractors, a project manager, an engineer and architect, specialist professionals such as civil or structural engineers and designers, mechanical engineers, consultants such as acoustic and energy consultants, lenders and other funders, insurers and suppliers. A seemingly limited dispute arising on one subcontract may lead to disputes under other subcontracts and the main construction contract, and may have financial and legal consequences for many of the above parties, triggering disputes under much wider documentation such as shareholder agreements, joint operating agreements, funding documents and concessions. That often

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3 Dispute adjudication boards were first introduced in FIDIC contracts (in the Orange Book) in 1995 and in ICE contracts as recently as in 2005.

4 Arbitration has been included in FIDIC contracts since the publication of the first FIDIC contract in 1957.

gives rise to issues about multiparty arbitration proceedings and third-party participation in arbitration proceedings.

Another important feature of construction disputes is the widespread use of standard forms, such as the FIDIC or the ICE conditions of construction contracts. Efficient dispute resolution requires familiarity and understanding of the, often nuanced, risk allocation arrangements in these standard forms. Good knowledge of construction-specific legislation is necessary too. While the resolution of most construction disputes will depend on the factual circumstances and the provisions of the contractual agreement of the parties, legal issues may often arise in relation to statutory (frequently mandatory) warranty and limitation periods for construction claims, statutory direct claims by subcontractors against the employers,<sup>5</sup> statutory prohibition of the pay-when-paid and pay-if-paid provisions<sup>6</sup> and, of course, mandatory legislation on public procurement.<sup>7</sup>

Finally, as already mentioned, construction disputes are technically complex, requiring efficient management of challenging evidentiary processes, including document management, expert evidence, programme analysis and quantification of damages. The evidentiary challenges in construction disputes have given rise to the use of tools, such as Scott Schedules (used to present fact intensive disputes in a more user friendly format), that are unique in construction arbitrations.<sup>8</sup>

It is for all these reasons that alternative dispute resolution and arbitration of construction disputes require special focus and attention, which is what *The Guide to Construction Arbitration* aims to provide.

*The Guide to Construction Arbitration* is designed to appeal to different audiences. The authors of the various chapters are themselves market-leading experts, so it can provide a ready resource for specialist construction arbitration practitioners who already have a view of the information they seek. Beyond that, it has been compiled and written to offer practical information to practitioners who are inexperienced in international construction contracts or dispute resolution in construction disputes. For example, in-house lawyers who may be experienced in negotiating and drafting construction contracts but not in running disputes arising from them, or construction professionals who may have experience in managing construction projects but may lack experience in the conduct of construction arbitration, will find *The Guide to Construction Arbitration* useful. Lawyers in private practice who are familiar with arbitration, but lack experience in construction will also benefit. Last but not least, students who study construction arbitration will find it to be a helpful source of information.

While the main focus of *The Guide to Construction Arbitration* is the resolution, by arbitration, of disputes arising out of construction projects, Part I is devoted to important substantive aspects of international construction contracts. To understand how construction disputes are resolved in international arbitration, one has to understand how disputes arise out of a typical construction contract in the first place, and what are the substantive rights, obligations and remedies of the parties to a construction contract.

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5 For example, in France, Law No. 75-1334 of 31 December 1975 on Subcontracting.

6 For example, in the United Kingdom with the UK Housing Grants Construction and Regeneration Act 1996.

7 For example, EU Directive 2014/24.

8 J. Jenkins and K. Rosenberg, 'Engineering and Construction Arbitration', in Lew et al. (editors) *Arbitration in England*, Kluwer (2013).

Thus, this book is broadly divided in four parts. Part I examines a wide range of substantive issues in construction contracts, such as *The Contract: the Foundation of Construction Projects*, *Bonds and Guarantees*, *An Introduction to the FIDIC Suite of Contracts*, *Allocation of Risk in Construction Contracts*, *Contractors' and Employers' Claims, Remedies and Reliefs*. Chapters valuably address the quantification of delays, the role of programmes and the various methods used for the computation of costs and damages in construction arbitrations, while an entire chapter is devoted to an examination, from a comparative law perspective, of the practically critical topic of concurrent delay.

Part II then focuses on dispute resolution processes in construction disputes. The aim of this Part is to look into special features of construction arbitration, and the following chapters are included: *Suitability of Arbitration Rules for Construction Disputes*, *Subcontracts and Multiparty Arbitration in Construction Disputes*, *Interim Relief, including Emergency Arbitrators in Construction Arbitration*, *Organisation of the Proceedings in Construction Arbitrations*, *Documents in Construction Disputes and Awards*, and the role and management of expert evidence.

Part III examines a number of select topics in international construction arbitration by reference to some key industry sectors and contract structures, including the nuclear sector, energy sector, concession contracts and turnkey projects. Part IV examines construction arbitration in specific jurisdictions of particular interest and with very active construction industries

We have taken the opportunity to add to the chapters in this third edition, to address matters identified by users of the first two editions. These include chapters examining dispute boards, ADR in construction contracts, agreements to arbitrate and interim relief in detail. There are chapters on pricing and payment, investment treaty arbitration in the construction sector, a discussion of the typical parties to a construction contract, further discussion of the organisation of expert testimony and a chapter on construction arbitration in Brazil.

Overall, the third edition of *The Guide to Construction Arbitration* builds upon the success of the first two editions and has been further expanded. The structure and organisation of *The Guide to Construction Arbitration* is broadly based on the LLM course on International Construction Contracts and Arbitration that we teach at Queen Mary University of London. The course was first introduced by HH Humphrey Lloyd in 1987 and was taught by him for more than 20 years. Humphrey has been an exceptional source of inspiration for hundreds of students who followed his classes, and we are personally indebted to him for having conceived the course originally and for his generous assistance when he passed the course on some years ago.

We want to thank all the authors for contributing to *The Guide to Construction Arbitration*. We are extremely fortunate that a group of distinguished practitioners and construction arbitration specialists from a wide range of jurisdictions have agreed to participate in this project. We further want to thank Gemma Chalk, Bevan Woodhouse and Hannah Higgins for all their hard work in the commission, editing and production of this book. They have made our work easy. Special thanks are due to David Samuels and GAR for asking us to conceive, design and edit this book. We thoroughly enjoyed the task, and hope that the readers will find the result to be useful and informative.

# Part I

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## International Construction Contracts

# 4

## Pricing and Payment

**Tony Dymond and Sophia Burton<sup>1</sup>**

Price and payment are central to most commercial transactions. In the complex web of reciprocal obligations that comprise sophisticated modern construction contracts, the overarching significance of these matters may not immediately be apparent to the casual reader. However, notwithstanding the relative brevity with which it may be expressed, the principal obligation of an employer under a construction contract is to pay for the work. This chapter addresses how much, when and upon what conditions.

### Pricing

It is often said that one of the principal functions of a construction contract is to allocate risk. If a risk that has been allocated to the contractor occurs, the contractor will be obliged to execute the works without any additional payment to compensate it for costs incurred as a result of the occurrence.<sup>2</sup> Conversely, if the risk is allocated to the employer, the contractor will typically receive additional payment if that risk eventuates. Commonly, the language of provisions in a construction contract is, explicitly, the language of risk. For example, a contract may provide for financial compensation or additional time for completion where a contractor is delayed by unforeseen ground conditions, exceptionally inclement weather and the like. By contrast, the choice of pricing model entails an implicit risk allocation between the parties to the contract. There is no conditional statement providing for payment upon the happening of an event, but the pricing mechanism itself does that work. A bricklayer who agrees a fixed price for building a wall will bear the risk that it requires more bricks (and therefore more labour) to complete than anticipated, whereas if the bricklayer agrees a rate per brick laid, the employer will bear that risk.

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<sup>1</sup> Tony Dymond is a partner and Sophia Burton is an associate at Debevoise & Plimpton LLP.

The risk allocation effected by the pricing model may not be immediately obvious because it is implicit, but it needs to be analysed and considered together with all of those risks that are expressly allocated to one or other party (or in some cases shared by the parties) if the risk profile of the contract is to be understood properly. Once the pricing model is seen as a risk allocation device, risk management techniques can be used to inform the choice. An employer choosing a pricing model should consider:

- which risks it allocates to the contractor;
- whether the contractor can accept those risks;
- whether it can manage and bear those risks;
- what premium it will charge for accepting the risks; and
- what behaviour the retention or transfer of those risks will incentivise.

Finally, while under most legal systems many risks can be allocated to either party, the risk of change of scope directed by the employer and the risk of the employer interfering in, delaying or hindering the progress of the works will usually rest with the employer.<sup>3</sup> A high probability that such risks will frequently arise may militate in favour of a pricing model that automatically allocates that risk without the need for the engagement of the contractual mechanics of notices, variations, claims, complex valuation rules and the like, which can be cumbersome, time consuming and expensive to operate, and can promote adversarial behaviour.

#### Lump sum or fixed price contract

These are contracts in which the total contract price is pre-agreed. The price can be adjusted pursuant to the change or variation regime if the employer instructs variations to work scope. In addition, the contractor will be entitled to financial compensation<sup>4</sup> for the employer's interference with progress, and may be so entitled for other identified neutral risks that might include the ground and weather conditions examples referred to above.

This pricing method provides the employer with the greatest possible certainty as to cost and, correspondingly, exposes the contractor to the greatest possible risk. Subject to the price adjustment mechanism, the contractor takes on all pricing risks, such as quantities, labour efficiency, labour and material costs, plant costs as well as all neutral risks not specifically allocated to the employer under the price-changing mechanism.

Fixed price contracts have obvious attractions for employers valuing price certainty above other considerations, for example, where the employer is a project financed special purpose vehicle, or where a public sector employer is highly sensitive to the political repercussions of substantial cost overruns. In some jurisdictions, the fixed price model is the default, particularly for public procurement, while others including the United Kingdom have seen growing interest in models that apportion risks differently.

The prudent contractor will seek to identify and quantify the risks. The contractor may decide that the risks are too great or too uncertain to accept and decline to bid for the work. Similarly, an employer may conclude that the risks are too great for the contractor

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3 There is a limited exception to this principle in contracts containing 'no damages for delay' provisions of the kind commonly found in the United States.

4 This may take effect by way of a formal adjustment to the contract price or by a separate additional payment.



(or any of the potential tenderers) to bear. There are few contractors that can bear the pricing risk on a multibillion dollar fixed price contract. If a contractor accepts a risk that it is unable to bear, the risk transfer is illusory – it reverts to the employer as insolvency risk. The unavailability of contractors who are willing to accept or able to bear the risk of a fixed price may dictate using another pricing model.

Price certainty comes at a cost. A prudent contractor will include a contingency in its price to cover the risks it is accepting. That contingency will not always appear as a discrete line item in a tender but may be spread through the various items that make up the tender price. Further, a contractor will accept a risk only where there is a corresponding reward. The profit margin on a fixed price contract will, therefore, ordinarily be higher than it would be had the contract been let on some other basis. Where an employer has some flexibility as to the pricing model to be adopted, it will consider whether the risk premium that would have to be paid for the transfer of risks that may never arise represents good value for money.

### Cost reimbursable contracts

Cost reimbursable contracts (sometimes called a cost plus contract) sit at the other end of the risk allocation spectrum. The contractor is reimbursed the actual costs they incur in carrying out the works, together with an additional fee that may be fixed, a percentage of the costs, or some combination of the two. The employer will bear all of the pricing risk: the number of man hours, the labour rate, the quantities and costs of materials and of plant and materials, etc. In all but the most straightforward of projects, this is likely to translate to considerable uncertainty as to outturn cost. Since the contractor is bearing very little risk, it will not need to include a substantial contingency in its fee and will ordinarily be prepared to tender on a lower margin than it would for a fixed price contract.

Cost reimbursable contracts are often employed where there is a high probability of risks arising that a contractor will not accept, for example, where the employer expects to have a very high degree of involvement in directing the execution of the works or otherwise interfacing with the contractor, or where the works comprise the refurbishment or upgrade of existing 'grey' assets, the condition of which is unknown. The principle of cost reimbursement means that it is not necessary to undertake a valuation on each occasion on which the employer gives a direction, or each time the condition of an existing asset differs from that assumed.

While the administrative burden is potentially reduced because of the elimination of valuation exercises, cost reimbursable contracts do need to be closely supervised and managed. The contractor's costs records need to be updated, maintained and made available to the employer (or third-party certifier). Importantly, contractors operating under cost reimbursable contracts may not be commercially incentivised to manage the works to a budget, thus increasing the risks of cost overrun. Employers engaging contractors on this basis may therefore require an increased level of scrutiny of, and involvement in, management, scheduling, procurement and resourcing.

### Unit price contracts

In a unit price contract, the price is derived from agreed rates and prices for units of work. This might include prices for cubic metres of excavation, casting tonnes of concrete, laying metres of pipe, pulling and terminating cables, etc. The initial price will be based on an approximate quantity of the units, with the actual payment determined by the number of units actually required and used on the project. Unit pricing allows for the direct comparison of tender prices and benchmark prices. The employer takes the quantities risk but the contractor takes other pricing risks including the efficiency risk, in other words, the risk that it has wrongly assessed the number of man-hours per unit of production and the risk of the unit cost of the materials.

### Target cost contracts

Target cost contracts use a mechanism in which a target will be agreed for the scope of works on the project, either for the entire project or for a portion of the works. The target price can be adjusted for changes instructed by the owner or other events using the contractual mechanisms. The contractor is paid on a cost reimbursable basis or according to agreed rates and prices. The difference between the costs incurred and the target cost is shared between the employer and contractor according to a formula that provides for their respective share of any cost saving ('gain-share') and their contribution to any cost over-run ('pain-share'). The formulae can be quite sophisticated. In theory, it enables an employer to incentivise a contractor to control costs in circumstances in which a contractor is unable or unwilling to take the full pricing risk associated with a fixed price contract, or where the employer is unwilling to pay the premium a contractor would charge for accepting that risk. Often the formula is structured so as to provide the contractor with sufficient cash flow so as to complete the project if there is a cost overrun – effectively putting at risk only the contractor's profit.

A guaranteed maximum contract is a variation of a target cost contracts where the contractor is compensated for actual costs incurred plus a fee, subject to a maximum price. The contractor is responsible for cost overruns above the guaranteed maximum price, unless that guaranteed maximum price has been increased via formal change orders using the contractual mechanisms. Any savings resulting from cost underruns may be retained by the employer or may be shared between the parties according to a formula. Again, the use of a gain share formula incentivises the contractor to manage costs.

### Fluctuations

Some contracts provide a mechanism to deal with the effects of inflation, exchange rate changes affecting the import of materials, changes in unionised labour rates, etc., all of which can be significant on larger projects that span several years. Where such mechanisms are incorporated, contractors base the tender on current prices, which are then subject to adjustment. The fluctuation provisions will identify the costs to which they apply. Typically they provide for changes in the cost of labour, transport and materials. Usually, the fluctuation provisions will provide for the price adjustments to be calculated from nationally

published price indices rather than calculating actual cost increases. A fluctuations provision is intended to allocate to the employer the risk of potentially volatile costs that a contractor cannot control.

### Hybrid models and price conversion

In practice, it is very common for a hybrid pricing model to be used. It is not unusual, particularly on large-scale projects, for a contract to be let in which some of the scope is fixed price while the remainder is cost reimbursable. The division may be by physical work scope or by activity: so the construction of a rail line might be fixed price while the construction of the associated stations might be undertaken on a target price; or the construction of a process plant might be fixed price while its commissioning, which entails a far greater degree of employer involvement, might be cost reimbursable. Where a pure pricing model is used, it may or may not be replicated further down the supply chain. So, for example, an employer may choose partially to de-risk a cost reimbursable contract by requiring the contractor to subcontract parts of the works on a fixed price basis (and may take a role in the procurement of the fixed price subcontracts).

Another common model is to convert from cost reimbursement to fixed price when the scope can be properly ascertained, for example once the design is fully or at least sufficiently developed, or the precise condition of grey assets is understood. The drawback of this approach is that no competitive tender is held for the fixed price scope, so the employer may not achieve the best price for the work.

## Payment

### Introduction

Pricing and payment are linked. The pricing model will, to an extent, constrain the payment mechanism. But one theme runs through any discussion of payment, whatever the precise details of the mechanism: the management of cash flow. A contractor will generally wish to maintain a positive cash flow – that is to say for the payment received to exceed the costs incurred so that it can fund construction without drawing on its own cash reserves or third-party borrowing. Employers, too, have an interest in ensuring that the project is adequately funded. Failure to do so may result in the rate of progress being reduced or even the abandonment of the project. On the other hand, employers will want to ensure that the payments match the progress of the works, or that they have security for any overpayment or advance payment made early in the project delivery. Payment is almost always made on an instalment or interim basis as the works progress, using some kind of measurement, rather than for payment to be made in one lump sum at the end. Additionally, many contracts provide for the retention of sums as security for completion and the rectification of defects.

In this section, the payment clauses of the FIDIC Conditions of Contract for Works of Civil Engineering Construction (2017), commonly referred to as the ‘Red Book’, will be used as a basis for discussion. The pricing under the FIDIC Red Book is on a re-measurement basis, although there is an option for the contract to be set up on a lump sum basis.

## Advance payment

It is common for the employer to make advance payments to the contractor. The advance payments are usually used on preparatory activities such as site mobilisation or purchase of machinery or materials. Ordinarily, the advance payment is recovered by the employer through deductions to the interim payments. Typically, the contractor is required to provide a bond or bank guarantee known as an advance payment guarantee as security for the return of the advance payment. In the FIDIC Red Book, Clause 14.2 provides the mechanism for the advance payment, advance payment guarantee and repayment of the same. The example form of the advance payment guarantee is in the form of an on-demand security instrument.

## Payment applications

Interim payments are typically made as the works progress, with payments being applied for on periodic basis, often monthly, or when certain stages or milestones of the project are met. The contract will require the contractor to make an application for a payment and will set out what specific information is to be included in the application, including the requirements to identify or demonstrate with specified documentary support the work done in the period or since the previous stage or milestone. If the employer is satisfied that the sum applied for is correct, it will make payment of the amount within a set time of receiving the payment application.

The mechanism of payment will be constrained by the pricing mechanism selected. For example, if the contract is cost reimbursable then the payment mechanism will very likely be cost based. Other pricing models will result in other payment mechanisms; for example, a unit price contract will be driven by quantities (using rates and prices) whereas a lump sum contract will likely have payment mechanisms that reflect the progress achieved by the contractor in accordance with progress measurement rules, or by achievement of payment milestones. Nevertheless, there is considerable flexibility in the timing and assessment of payments that parties are free to negotiate though there are practical and commercial limits. For example, payment on a quarterly basis may cause the contractor cash flow difficulties whereas payment on a weekly basis may become too burdensome for the employer to verify and administer effectively.

In the FIDIC Red Book, Clause 14.3 provides for periodic payment as agreed between the parties, or if not agreed, on a monthly basis and further sets out what information the payment application should include and what format the payment application should take. Clause 14.4 provides an option for the parties to use a schedule of payments specifying the instalments in which the contract price will be paid that is to be used as an estimate for the purposes of the interim payments.

Most construction contracts also provide for some kind of final account and subsequent payment once the works have been completed, and the FIDIC Red Book follows this practice.<sup>5</sup> The purpose of the final account is to allow both parties to calculate and agree any adjustments to the contract sum that may need to be adjusted because of variations, liquidated damages, fluctuations or payments relating to testing of the works. Often,

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<sup>5</sup> Clause 14.11 of the FIDIC Red Book also allows for partially agreed final statement in certain circumstances.

agreement of the final account will also be accompanied by (or is a precursor to) the issuing of a final certificate. The final certificate is usually treated as conclusive, demonstrating that all patent defects have been remedied, all adjustments to the contract sum have been agreed and all claims settled.

When drafting or negotiating the payment mechanisms in construction contracts, local law requirements or considerations have to be taken into account. For example, in the UK, there is a detailed payment scheme for all construction contracts under the Construction Act 1996.<sup>6</sup> The Construction Act 1996 provides for a Scheme<sup>7</sup> that takes effect as implied terms in a construction contract (as defined by the Construction Act 1996) where the construction contract does not include the necessary payment provisions under the Construction Act 1996. Those necessary provisions mandate that the construction contract must include or provide for:

- payments made by ‘instalments, stage payments or other periodic payments for any work’;<sup>8</sup>
- an adequate mechanism for determining what payments become due under the contract, when those payments become due<sup>9</sup> and a final date for payment for any sum that becomes due;<sup>10</sup> and
- a requirement for the paying party to make payment of the ‘notified sum’ by the final date for payment.<sup>11</sup>

There are also other prohibitions imposed by the Construction Act 1996, such as the prohibition of pay-when-paid clauses<sup>12</sup> and pay-when-certified or other conditional payments.<sup>13</sup> The purpose of these requirements and prohibitions is to ensure that regular payments are maintained to, in turn, enable the contractor to maintain the cash flow that is vital to the success of projects.

In Australia, the rules governing payment in commercial construction contracts are the relevant Security of Payment legislation in each state and territory (SoPA).<sup>14</sup> SoPA aims to ensure that contractors and subcontractors are paid for their work in a timely manner without the need for protracted legal disputes, recognising the importance of maintaining cash flow in the construction industry. The legislation in each jurisdiction differs slightly; however, common features include strict time frames in which an employer must respond

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6 Housing Grants, Construction and Regeneration Act 1996 as amended by the Local Democracy, Economic Development and Construction Act 2009, commonly referred to as the ‘Construction Act 1996’.

7 Scheme for Construction Contracts (England and Wales) Regulations 1998 (Amendment) (England) Regulations 2011 (SI 2011/2333), commonly referred to as the ‘Scheme’.

8 Section 109(1) of the Construction Act 2009, which applies if the duration of the contract work is specified or estimated to be more than 45 days.

9 Section 110(1)(a) of the Construction Act 1996.

10 Section 110(1)(b) of the Construction Act 1996.

11 Section 111(1) of the Construction Act 1996.

12 Section 113(1) of the Construction Act 1996.

13 Section 110(1A) of the Construction Act 1996.

14 For example, the Building and Construction Industry Security of Payment Act 2002 (Vic); Building and Construction Industry Security of Payment Act 1999 (NSW); Building and Construction Industry Payments Act 2004 (Qld); Construction Contracts Act 2004 (WA); and Building and Construction Industry Security of Payment Act 2009 (SA).

to a contractor's claim for progress payments as failing to do so entitles a contractor to the full amount claimed.<sup>15</sup> The legislation also sets out the requirements for a proper or complete payment claim. If the parties disagree as to the amount owing, and provided the contractor's claim is effective and the employer has responded in time, SoPA in each state and territory allows a contractor to swiftly proceed to adjudication and obtain a determination within a specified number of days (ranging from 10 to 15 days after the employer's response is served).<sup>16</sup> Recently, the state-by-state approach to SoPA has come under scrutiny, with many people advocating for a unified national approach.<sup>17</sup>

In the United States, at federal level, the Prompt Payment Act 1999 ensures that all contractors on public construction projects receive payments from the government within 30 days, with specified interest rates applying thereafter.<sup>18</sup> In line with the federal legislation, many states have now introduced Prompt Payment laws as a means of protecting payments owed to prime contractors and lower-tier subcontractors.<sup>19</sup> Many of the state-based Prompt Payment laws also impose interest on late payments.<sup>20</sup> In addition, the United States also has state based legislation that allows various parties involved in construction projects (owners, contractors, subcontractors, suppliers and lenders) to encumber real property that is part of the construction project by way of a lien as security for payment (often referred to as 'mechanic's lien').<sup>21</sup> Who can apply for a lien and under what circumstances differs in each state.

## Variations

More often than not during a construction project, the scope of works will be varied. This might arise because the employer wants or needs to change the scope of works, the original scope of works can no longer be carried out, or the contractor may discover something that necessitates a change to the scope of works. Whether or not a change constitutes a variation and, therefore, which party bears the risk of that change, depends upon the terms of the contract. It is typically an issue that is bound up with the procurement methodology – who directed or is responsible for the matter that necessitated the change.

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15 For example, under the Building and Construction Industry Security of Payment Act 1999 (NSW), an employer must respond to a contractor's payment claim within 10 days setting out the amount it proposes to pay. Failing to respond within this time frame entitles the contractor to apply for summary judgment in the full amount of the payment claim.

16 For example, under the Construction Contracts Act 2004 (WA), an employer must provide a written response to a contractor's adjudication application within 10 business days, following which the adjudicator must determine the dispute within 10 business days.

17 The Australian government commissioned the national Review of Security of Payment Laws, released on 21 May 2018.

18 Prompt Payment Act 1999.

19 For example, California Code, Civil Code – CIV Section 8800; A.R.S. 32-1129.02(B) in Arizona; New York Consolidated Laws, General Business Law – GBS Section 756-a.

20 For example, Section 715.12(4), Fla. Stat; 73 P.S. Section 505(c); Texas Property Code 28.004.

21 For example, California Constitution, Article XIV, Section 3; New York's Lien Law Article 2.

There is no requirement to have the same pricing mechanism for a variation as for the original contract price, and it is not uncommon for the pricing mechanism for the base contract to be different from the pricing mechanism for any variation. For example, a fixed price contract might provide for variations valued by reference to rates and prices, or reference to the cost of the variation works or cost plus a certain percentage for profit.

Variations are often contentious, in particular the valuation of the work done (or to be done). More sophisticated contracts will contain provisions that regulate how variations are to be valued, but even with those provisions, disputes often arise.

Under the FIDIC Red Book, variations are valued in accordance with Clause 12 using measured quantities of the varied work. Clause 12.3 sets out the procedures for the measurement and evaluation of the works, based on the net actual quantities of work that have been executed and variations are also valued in accordance with this clause. The basis for the appropriate rate or price is that which is specified in the Bill of Quantities or if there is no such item specified therein, the rate or price is based on that for 'similar work'.<sup>22</sup> Clause 12.3 also provides for instances where a new rate or price may be required.

### Contractor's costs

Another contentious topic relates to the contractor's costs and what a contractor can or cannot recover. In more sophisticated contracts, there will be a definition of the term 'cost' and when cost or cost plus a percentage profit is recoverable. For example, in the FIDIC Red Book, 'cost' is defined as:

*all expenditure reasonably incurred (or to be incurred) by the Contractor in performing the Contract, whether on or off the Site, including taxes, overheads and similar charges, but does not include profit.*<sup>23</sup>

Another example is the NEC4 ECC form of contract using Option C, under which the contractor is entitled to be paid the defined cost of carrying out the works. Clauses 52.2 and 52.4 of Option C require the contractor to make its cost records available to the Project Manager on an open book basis. The definition of 'defined cost'<sup>24</sup> comprises:

- the cost of components listed in the Schedule of Cost Components; and
- less 'disallowed cost', including costs not justified by the accounts and records, costs of correcting defects or cost incurred due to the contractor not following a procedure stated in the scope or not giving an early warning.<sup>25</sup>

While the above examples of definitions are clearly aimed at trying to prevent disputes arising as to what the contractor can or cannot recover as 'costs', there is ambiguity in the provisions that will often lead to a dispute. For example, the FIDIC Red Book definition

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<sup>22</sup> Clause 12.3 of the FIDIC Red Book 2017.

<sup>23</sup> Clause 1.1.19 of the FIDIC Red Book 2017.

<sup>24</sup> Clause 11.2(24) of Option C, NEC4 ECC.

<sup>25</sup> Clause 11.2(26) of Option C, NEC4 ECC.

begs the question as to what is meant by a cost that is reasonably incurred, whereas the NEC4 definition of 'disallowed cost' might give rise to a dispute about what standard of justification is required by the contractor's accounts and records.

### Other considerations

A common issue is whether and to what extent the employer is entitled to withhold or deduct amounts from the contractor. Under the FIDIC Red Book, Clause 14.6.2 sets out how amounts can be withheld from an interim payment if the contractor has failed to perform any work, service or obligation under the contract. Local laws might set out statutory provisions in relation to withholding of payments or payment schemes. In the UK, if an employer wishes to withhold money it must serve a notice in a particular form, referred to as a 'pay less notice' to be entitled to do so.<sup>26</sup>

Another recurring issue is entitlement to interest on late payment. Whether or not a contractor can claim interest or financing charges may depend on the jurisdiction and governing law of the contract. However, assuming that there is no prohibition or over-arching local law, it is common for a contract to contain a contractual rate of interest for late payments. Further, in some jurisdictions, there is also a statutory rate of interest.<sup>27</sup> In the FIDIC Red Book, Clause 14.8 applies to delayed payments and the contractor is entitled to financing charges compounded monthly.<sup>28</sup> The contractor is entitled to such amounts without the need to submit any formal notice.

### Retention

Construction contracts typically allow the employer to retain a percentage of the value of the work carried out until completion of the works (or a section thereof) or until the making good of defects. This mechanism provides security to the employer against the risk that the contractor either does not complete the works or fails to remedy any defects. Usually the employer keeps the retained amount, the 'retention', either for a specified period or until a specified event has occurred, after which it is released to the contractor.

Under the payment terms of the FIDIC Red Book, the amount of retention is agreed upon by the parties.<sup>29</sup> That agreed percentage will be deducted from each of the interim payments under Clause 14.3(iii). The FIDIC Red Book follows the usual practice of releasing the retention to the contractor in two equal portions as set out in Clause 14.9:

- half when the taking-over certificate has been issued for the whole of the works and the works have passed all specified tests (or if sectional completion is being used when the section is complete a relevant percentage based on the percentage value of that section); and

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<sup>26</sup> Section 111(3) of the Construction Act 1996.

<sup>27</sup> For example, in the UK the Late Payment of Commercial Debts (Interest) Act 1998 may apply and in the US, the Prompt Payment Act 1999 may apply. This is in contrast to countries or jurisdictions that operate under shariah law, in which interest is usually prohibited.

<sup>28</sup> To be calculated at the annual rate of 3 per cent above one of three rates set out in Clause 14.8.

<sup>29</sup> Other standard forms do contain a percentage for the retention, for example, under the JCT standard for contracts the retention amount is 3 per cent.



- half after the expiry of the defect notification period (or relevant percentage of the works for sectional completion).

The Guidance Notes accompanying the FIDIC Red Book address the option for the parties to include a special provision that allows for the early release of retention money to the contractor in exchange for some other kind of security.<sup>30</sup> FIDIC is not alone in so doing; the Joint Contracts Tribunal standard forms also provide for a retention bond as an alternative to the retention of monies from the interim payments.

### Payment on termination

Termination of a construction contract gives rise to potentially complex payment issues that may turn on which party terminated, for what reasons and whether or not the party terminated under the contract or at law. Sophisticated contracts set out the consequences for the different types of termination, and the FIDIC Red Book does so in Clauses 15 and 16.

Clause 15 addresses the consequences of termination by the employer and provides for two options: termination for contractor's default<sup>31</sup> and termination for employer's convenience.<sup>32</sup> Clause 15.4 sets out the payment consequences of a contractor's default that allows the employer to withhold payment to the contractor of the amounts agreed or determined in line with Clause 15.3 until all the costs, losses and damages under Clause 15.4 have been established. While the specifics of these clauses are particular to the FIDIC Red Book, the principle underlying these clauses is quite common in that termination for default enables the employer to recoup any loss or damage it has suffered before making any payment to the contractor.

Termination for convenience provisions are common but are usually only available to the employer. Consideration must be given as to whether local laws prevent or restrict any express contractual right to terminate for convenience or otherwise. Clause 15.7 sets out the payment obligations following a termination for convenience: the employer must pay the amount certified in the payment certificate to the contractor within 112 days after the engineer received the contractor's submission in accordance with Clause 15.6.<sup>33</sup>

Clause 16 sets out the consequences for termination by the contractor and Clause 16.4 sets out the consequences for payment after termination by the contractor: The employer must pay the contractor:

- the value of the work done;<sup>34</sup> and
- any loss of profit or other loss or damage suffered or incurred by the contractor as a result of the termination.

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30 The FIDIC Conditions of Contract for Works of Civil Engineering Construction (2017), Guidance for the Preparation of Particular Conditions, p.42.

31 Clause 15.2 of the FIDIC Red Book.

32 Clause 15.5 of the FIDIC Red Book .

33 Clause 15.6 of the FIDIC Red Book also sets out how the valuation after termination is to be carried out and what can and cannot be included.

34 What is included in the value of the work is set out in Clause 18.5 of the FIDIC Red Book.

# Appendix 1

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Tony Dymond is co-chair of Debevoise's Asia arbitration practice and a partner in the firm's London and Hong Kong offices. His practice focuses on complex, multi-jurisdictional disputes in both litigation and arbitration. He has advised clients in a wide range of jurisdictions, having spent the past 20 years in London, Hong Kong and Seoul. He is widely acknowledged as a leading lawyer in high-value disputes arising from large-scale projects, particularly in the energy and infrastructure sectors, where Mr Dymond has advised on some of the largest, most complex, market-shaping disputes.

Mr Dymond is consistently recognised by the legal directories as a leader in his field. He is included in *The Legal 500's* inaugural International Arbitration Powerlist, and in *The Legal 500 UK* he has been recommended for commercial litigation, international arbitration and construction disputes. The guide has hailed him as a 'prolific, top-class strategic thinker'. *Chambers UK* also recommends Mr Dymond for his construction disputes work. The guides have previously described him as 'an excellent communicator and advocate who is an excellent problem-solver' and as 'a "clever and commercially astute" practitioner. Clients find him "very sound and a safe pair of hands"'. *The Legal 500 UK* has stated 'Tony Dymond is "excellent at the overall strategy of a dispute"'. He is named by *Who's Who Legal* among its Thought Leaders in construction, and by *Expert Guides* as one of the UK's leading construction law practitioners.

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Ms Burton joined the firm in September 2018 from another US law firm in London, having trained and practised at a magic circle law firm prior to that. She graduated from Magdalene College, University of Cambridge in 2008 with a BA (Hons).

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Edited by the academics who run a course on construction contracts and arbitration at the School of International Arbitration, Global Arbitration Review's *The Guide to Construction Arbitration* brings together both substantive and procedural sides of the subject in one volume. Across four parts, it moves from explaining the mechanics of FIDIC contracts and particular procedural questions that arise at the disputes stage, to how to organise an effective arbitration, before ending with a section on the specifics of certain contracts and of key countries and regions. It has been written by leaders in the field from both the civil and common law worlds and other relevant professions.

This third edition is fully up to date with the new FIDIC suites, and has new chapters on parties, pricing, expert witnesses, claims resolution, dispute boards, ADR, agreements to arbitrate, investment treaty arbitration, and Brazil. It is a must-have for anyone seeking to improve their understanding of construction disputes or construction law.

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