Chapter 11
Measurement Claims

Whilst the subject of 'claims' is not strictly within the ambit of this book, it is nevertheless an important issue in the context of measurement for the simple reason that various sorts of claims have their origin in matters concerning how work is to be measured and paid for.

This might arise from events on-site, from differences of opinion between the employer and the contractor or between the contractor and the subcontractor(s) or from disputes where, for example, the correctness of quantities or item descriptions, the application of measurement rules or the interpretation of those rules comes into question.

Disputes may also arise where there is a question regarding the basis of the contract, as it is not always clear whether a contract is for a lump sum (fixed) or a lump sum (adjustable) or a measure and value contract. It may seem an obvious thing to check, but it is surprising how often contracts, and especially subcontracts, are entered into without a basic understanding of the basis of the tender, and thence the contract.

11.1 Claims

The UK construction industry is notorious for being 'claims conscious' and has an unenviable reputation for conflict, disputes and litigation that has been highlighted in numerous industry reports dating from the 1944 Simon Report to the more recent Latham (1994) and Egan (1998) reports.

Despite changes in procurement methods and increased emphasis on partnering and developing better supply chain relationships, contractors and subcontractors remain conscious of their contractual entitlement when the occasion arises, and construction industry claims remain a fruitful area for lawyers and claims experts.

A claim arises in construction work when conditions on-site, and/or the circumstances in which work is carried out, are not as envisaged in the contract. Claims may also arise when the documentation upon which the contract is based is flawed in some way.

Managing Measurement Risk in Building and Civil Engineering, First Edition. Peter Williams.

11.1.1 Definition of 'claims'

The word 'claim' is, to some extent, an idiomatic term that is widely used in the construction industry to signify a demand for additional payment, but it is also a term that appears in some standard contracts, notably the Infrastructure Conditions of Contract.

Other less emotive terms tend to be preferred in some contracts – JCT contracts refer to 'loss and expense' and the NEC Engineering and Construction Contract uses 'compensation event', for example. Claims submitted to the employer tend to reflect badly on the employer's professional team, whereas claims submitted to contractors by subcontractors tend to reflect badly on the contractor's profit margin!

A definition, therefore, may be useful to clarify exactly what is meant by the word 'claim', and the following, taken from the excellent book by Hughes and Barber (1992), now sadly out of print, serves the purpose most eloquently:

> ***Claim:*** *a request, demand, application for payment or notification of presumed entitlement to which the contractor, rightly or wrongly at that stage, considers himself entitled and in respect of which agreement has not yet been reached.*

Notwithstanding the above definition, which might be considered to reflect 'active' claims – that is, claims actively pursued by the contractor – certain claims may be considered as 'passive' to the extent that they are initiated by the contract administrator under an express duty in the contract. For example, where there is a variation to the contract, the contractor may automatically receive an enhanced BQ rate, or additional preliminaries, as a result of an instruction issued by the contract administrator. The contractor may not agree with the valuation, but this will then become an 'active' claim.

Both 'active' and 'passive' claims arise for a number of reasons, and there are several types of claims that may be classified in different ways.

11.1.2 Classification of claims

A glance at any of the standard texts on construction claims will reveal that claims may be classified under a variety of headings. Chappell (2011), for instance, prefers a 'legalistic' classification:

- Contractual claims.
- Common law claims.
- *Quantum meruit* claims:
  - Where there is a contract.
  - Where there is no contract.
- *Ex gratia* claims.

Hewitt (2011), on the other hand, classifies claims more pragmatically:

- Claims for variations.
- Claims for extensions of time.
- Prolongation claims.
- Acceleration and disruption claims.
- Claims for damages under the law.
- Interim and final claims.

Hughes and Barber (1992) propose a classification by subject which is perhaps more pertinent to this book:

- Claims concerning the existence or applicability of the contract.
- Claims concerning contract documentation.

- Claims concerning the execution of the work.
- Claims concerning payment.
- Claims concerning prolongation (delay and disruption).
- Claims concerning default, determination, forfeiture, etc.

Chappell (2011) reminds us that claims are not just a one-way street and that employers may have legitimate claims against contractors for a variety of reasons. These might include the payment of liquidated and ascertained damages for late completion, the payment of a debt due on a final certificate, or by way of set-off, against sums due (e.g. where the employer has paid others to rectify the contractor's faulty work), or in circumstances where the contractor's employment under the contract has been determined.

However, none of the standard classifications of claims refer specifically to 'measurement claims' albeit that practitioners in the industry are very familiar with the phrase.

11.1.3 Measurement claims

Hughes and Barber (1992) come closest to the phrase 'measurement claims' under their heading of **claims concerning contract documentation**. In the context of this book, therefore, **measurement claims** are taken to mean contractual, common law, *quantum meruit* or *ex gratia* claims submitted by contractors or subcontractors under the following heads of claim:

- Where there is an error in a quantity.
- Where there is an error in an item description.
- Where there is a discrepancy between a pricing document (e.g. BQ, schedule of rates, etc.) and any other contract document(s), such as drawings or specifications.
- Where there is a departure from the rules of a method of measurement.
- Where there has been an omission, or alleged omission, to measure something required by the method of measurement.

Where quantities are provided by one party to a contract (e.g. the employer) to another party (e.g. contractors) for the purpose of submitting a tender, errors in the quantities provided will inevitably influence the tender figure (lump sum contracts) or tender total (measure and value contracts) submitted. This may mean that the tender figure is inflated as a consequence or that the tender figure is lower than it otherwise would be. More often than not, such errors will be adjusted pursuant to express contractual provisions, but each contract, especially non-standard or amended standard contracts, should be carefully scrutinised to be sure of the contractor's entitlement.

The same principle applies to descriptive errors, departures from the method of measurement and failure to measure something required by the method of measurement:

- Different contracts treat errors in quantities and other errors, departures and omissions in different ways.
- In some cases, changes in quantities are not necessarily reflected in changes to the rates and prices.
- Some contracts may provide for adjustments to rates and prices but not to preliminaries.
- There may be no provision in the contract to adjust errors.
- There may be a specific term in the contract excluding any express or implied warranty as to the accuracy of the quantities.
- Where items of work are obviously required to complete a lump sum contract (e.g. floor boards in a house), the contractor's price may be deemed to include them even though the items were erroneously omitted from contract specification. This follows judgements in *Williams v Fitzmaurice (1858)* and *Patman and Fotheringham v Pilditch* (1904).

- Faced with uncertainties in the BQ, a prudent contractor may feel that a qualified tender may be the best way to avoid problems later on, although the invitation to tender may preclude such a tactic.

11.2 Extra work

Margins are notoriously slim in construction, and scrutiny of the annual accounts of contracting companies will typically reveal 2–3% profit on turnover. It is not surprising, therefore, that contractors are always looking for 'extras' on their contracts in order to generate more margin. Such 'extras' may result from:

- Extra work ordered by the employer that was not included in the original contract.
- Expenditure of provisional sums for defined or undefined work.
- Increased quantities of work on top of that billed in the contract documents resulting from design changes.
- Additional work arising as a result of unexpected events on-site (e.g. bad ground conditions, unknown services).
- Additional quantities of work due to errors in the contract documents:
  - Incorrect measurement.
  - Omission to measure something required by the method of measurement.
  - Departures from the method of measurement.

11.2.1 Are quantities included in the contract?

In order to determine whether or not the contractor should be paid for 'extra work', it must first be established whether or not the quantities given in the contract documents form part of the contract. This may seem obvious, but it is not always clear whether quantities are included in the contract or not; this may be due to oversight, mistake or misrepresentation or simply that documents that should have been incorporated into the contract have been omitted for some reason.

In some standard forms of contract, it is clear that the bill of quantities is a contract document (e.g. JCT 2011 SBC/Q, ICC – Measurement Version), but not all construction contracts are based on standard forms, not all standard forms provide for a bill of quantities to be included in the contract, and not all contracts are formulated using 'bills of quantities' in the normally accepted meaning of the phrase.

Fortunately, Ramsey and Furst (2015) provide authority as to whether quantities are part of a contract or not and suggest that, where a bill of quantities forms part of a contract for a lump sum:

- The quantities *are introduced into the contract as part of the description of the contract work* (*Patman and Fotheringham v Pilditch*, 1904).

Ramsey and Furst (2015) also remark, however, that it is sometimes difficult to determine whether, in fact, the quantities do form part of the contract and they quote a number of cases that have been brought before the courts:

- In *Young v Blake* (1887), it was held that quantities do not form part of the contract where there is an express power in the contract for the architect to rectify any mistakes in the quantities.
- In *Sharpe v San Paulo Railways* (1873), a contract to build a railway for a fixed price lump sum according to a specification, the judgement was that the contractor was not entitled to be paid for additional work where quantities were included in a schedule to the contract.
- In *Re Ford v Bembrose* (1902), it was similarly concluded that, where the contract was to construct certain buildings according to plans and a specification which included quantities, the contractor was not entitled to be paid extra.

- In the case of *Williams v Fitzmaurice* (1858), floor boards were omitted from the specification to build a house which the contractor had undertaken to complete in its entirety ready for occupation. In this particular case, *the language of the specification* clearly inferred that it was the contractor's obligation to complete the work omitted from the specification without further recompense.

In a further case, however, where a block of flats was to be built for a lump sum according to plans, invitation to tender, specification and bill of quantities, Ramsey and Furst (2015) report that it was held that the quantities did form part of the contract and that the contractor was entitled to be paid for items that were omitted from, or understated in, the bill of quantities. The judge qualified this judgement, however, with respect to *things that everybody must understand are to be done, but which happen to be omitted from the quantities* and which would not, therefore, qualify as 'extra work' following the judgement in *Williams v Fitzmaurice*.

11.2.2 Lump sum versus measure and value contracts

Ramsey and Furst (2015) make the point that it is a matter of construction as to what is included in the contract in each case and they add two important distinctions with respect to lump sum contracts:

1. Lump sum contracts may be broadly classified into:
   a) Those in which the contractor's obligation is broadly defined (e.g. to build a house).
   b) Those in which the contractor's obligation is precisely defined (e.g. to execute so many cubic metres of digging).
2. Where a contractor is to complete a whole, specific or entire work (e.g. a house, a railway from A to B), *the courts readily infer a promise on his part to provide everything* ***indispensably necessary*** *to complete the whole work* on the basis that *necessary works are not extras but are impliedly included in the lump sum*.

In the case of measure and value contracts (as opposed to lump sum), Ramsey and Furst (2015) argue that *it is usually immaterial whether any particular item of work that the contractor has to do is in the contract or not, because the contractor is entitled to be paid for it at the contract rate if it is applicable, or at a reasonable price if it is not* (*Re Walton-on-the-Naze Urban District Council v Moran*, 1905).

However, where a measure and value contract includes a specified sum for a specified item of work, Ramsey and Furst (2015) say that *it is a question of construction to determine what work is impliedly included in that item of work*. If the question arises as to whether or not the contractor could claim for extra work in such circumstances, Ramsey and Furst (2015) conclude that *the principles of construction applicable to lumps sum contracts* would apply to each item. Nonetheless, they also remind us that *it is important to determine whether the work is of the type contemplated by the contract* and is therefore governed by its conditions or whether the work *is outside the contract*.

In all this, lump sum contracts have to be contrasted with measure and value contracts.

In the case of lump sum contracts, the contract sum must be adjusted for variations by means of additions to or deductions from the lump sum and not by remeasurement. This is how JCT 2011 works.

However, a bill of quantities can form part of a measure and value contract where it does not define the work for which a lump sum is payable but merely constitutes a schedule of rates and quantities by which the actual work done is measured and paid for (this is how the ICC – Measurement Version works).

The case law that applies to 'extra work' is very old and predates the first standard method of measurement (1922 SMM of Building Works) and the first 'recognisable' standard forms of contract (1903 RIBA form), albeit that the first 'standard forms of contract' were probably developed by public corporations (Thomas, 2001) in the nineteenth century. Nonetheless, there

is no reason to suppose that a modern court would not follow precedent but would clearly do so in the light of prevailing conditions of contract and standard methods of measurement.

11.3 Departures from the method of measurement

Where there are departures from the method of measurement stated in the contract, Hughes and Barber (1992) argue that the BQ description should prevail, provided that it is clear and unambiguous, on the legal axiom that the particular overrides the general.

This may well be the case with contract conditions that construe the contract documents equally. Under the ICC – Measurement Version Clause 5, for instance, there is no particular priority of documents, and so any departure from the stated method of measurement should not be problematic.

11.3.1 Priority of documents

Where there is priority of documents, however, the situation is more tricky.

Under the JCT2011 SBC/Q, for instance, Clause 1.3 states that *nothing contained in the Contract Bills or CPD documents, nor anything in any Framework Agreement, shall override or modify the Agreement or these Conditions*, but ***unstated*** departures from the method of measurement are, nevertheless, correctable (Clause 2.14.1 refers).

In the Engineering and Construction Contract, there is, strictly speaking, no priority of documents. Broome (2013) suggests, however, that, in practice, some documents *sit above* others, but the priority will depend upon individual circumstances. He also points out that *many employers* include an *order of precedence* in the articles of agreement to be referred to in the event of a conflict of documents or dispute. Broome (2013) proposes that the contract should sit above the Z clauses and that bills of quantities, or employer-written activity schedules, should sit above the Works Information, the Site Information and the accepted programme. On the bottom of the list are contractor-written activity schedules.

The ICC – Measurement Version Clause 5 states that *The several documents forming the Contract are to be taken as mutually explanatory of one another*. This indicates no priority of documents, but if the clause were to read, *The several documents forming the Contract are listed in the Contract Agreement*, the Contract Agreement may list the several documents in order of precedence, and in this case, there would be priority.

In the FIDIC conditions (Clause 1.5), documents are to be taken as mutually explanatory, but for the purposes of interpretation, follow an (a–h) sequence with the contract at the top and schedules (which includes bills of quantities and the like, if any) at the bottom.

The decision of Akenhead J. in 2013 in the Technology and Construction Court (TCC)[1] may be *read as a strong discouragement to place reliance on order of precedence provisions for every apparent discrepancy in the language of the contract without first properly analysing the contract and applying a commercial interpretation* (Weston, 2013).

11.3.2 Non-compliant item descriptions

Should a non-method of measurement compliant item description be included in the bill of quantities – perhaps where the method of measurement does not provide a suitable description for the item in question or is inadequate in some way – there should be a statement of derogation in the BQ or in a preamble. If not, the item would be correctable under the JCT conditions and (a suitably amended) ICC – Measurement Version.

However, if the item is nevertheless clear and unambiguous, it would not make sense for the method of measurement to take precedence over the item description, albeit this is effectively what some contracts say. Hopefully, common sense would prevail in such circumstances, but the issue is nevertheless open to question and potential dispute.

Where an item is omitted from the bill of quantities entirely or an item is incorrectly described, it could be argued that the item was *contingently and indispensably necessary* to complete the work and the contractor should therefore have allowed for it in his price.

A case in point would be where formwork to support concrete should have been measured but wasn't. Whilst the formwork is clearly contingently and indispensably necessary to complete the work, the principle can only be taken on a narrow construction if the method of measurement is stated in the contract and this states that formwork should be measured.

Most PQSs would accept this as an error of omission, measure the item and agree a rate, but other circumstances may be less clear.

This is a 'grey area', as it cannot be hoped that any BQ item will be scrupulously complete, despite the presence of item coverage and additional description rules in the method of measurement. Each bill compiler will have an individual way of interpreting the method of measurement, and indeed, some methods of measurement actively encourage additional description at the discretion of the person writing the item (e.g. CESMM4 Paragraph 5.11).

11.4 Errors in bills of quantities

Where errors are found in bills of quantities or other pricing document, this may well give rise to a head of claim depending on the extent to which, if at all, there is a contractual provision to deal with the issues arising:

- Quantities:
  - Wrong quantity.
  - Misleading provisional quantity.
- Descriptions:
  - Errors in descriptions.
  - Omission of information.
  - Discrepancies between related item descriptions.
  - Discrepancies between the bill of quantities and other contract documents.
  - Ambiguities or inconsistencies.
- Measurement rules:
  - Departures from the rules for item descriptions.
  - Departures from the rules for division of the work into items.
  - Items not measured.

Different standard forms of contract have different arrangements to deal with errors. This issue will now be considered in the context of the following standard forms of contract:

- JCT 2011 SBC/Q (JCT 2011).
- Infrastructure Conditions of Contract (ICC) – Measurement Version (ICC).
- NEC3 Engineering and Construction Contract (ECC).
- FIDIC Conditions of Contract for Construction 1999 (FIDIC).

11.4.1 JCT 2011

JCT SBC/Q 2011 is a lump sum contract with the option to enable parts of the work to be designed by the contractor. This is called the Contractor's Designed Portion (CDP).

As a result, the tender BQ will contain both the measured items of work that are to be priced and carried out in the usual way and the separately identified 'contractor designed works' which will have their own priced breakdown of the work involved (CDP Analysis). Errors in the measured items of work are treated differently to errors in the CPD Analysis unless, of course, the CDP has been measured by the PQS and included in the tender BQ.

For normally measured bill of quantities items, unstated departures from the method of measurement, errors in descriptions, omission of items and an error or omission of information in a provisional sum for defined work are corrected according to JCT 2011 Clause 2.14.1 and treated as a variation pursuant to Clause 2.14.3.

In the case of errors in the Contractor's Proposals or CDP Analysis, these shall be corrected, but no addition to the contract sum is made unless there is an error in the Employer's Requirements.

Errors treated as a variation to the contract are dealt with under the variation rules of Clause 5.6, and therefore, for errors resulting in additional work (i.e. where the BQ item has been under-measured), the validity of the BQ rates and prices for such work may come into question:

- For work of a similar character, executed under similar conditions and with no significant change in quantity, the BQ rates shall apply.
- Where the contrary is the case, the BQ rates shall form the basis of the valuation, but a *fair allowance* shall be made for differences in the nature of the work, the conditions in which it is executed and/or the differences in quantity.
- In the unlikely event that a difference in quantity creates additional work of an entirely different nature, the valuation shall be based on *fair rates and prices*.

Should the error in quantities result in a reduction in the amount of work required (i.e. where the BQ item has been overmeasured), the BQ rates shall apply to the valuation of the work concerned with no adjustment. In the case of both under-measurement and overmeasurement, the contract provides that there shall be an addition to or a reduction of preliminary items albeit that the contract is silent on how this shall be valued.

It is not uncommon to find that the employer's quantity surveyor has included inflated quantities in the BQ so as to create a 'hidden' contingency. Where this is the case, the contractor is faced with the 'double whammy' of suffering a reduction in the quantity of work to be carried out, and subsequent loss of turnover and profit, and a possible reduction in the value of preliminaries due to the reduced quantity of work required.

Prudent contractors will always scrutinise significant items in the BQ and, where it is suspected that the quantities are incorrect, make an appropriate adjustment:

- For under-measured quantities, enhance the rate by moving money from elsewhere in the priced BQ and thus make money when the quantity is increased.
- For overmeasured quantities, reduce the BQ rate and move the money elsewhere in the BQ in order to avoid losing money when the quantity is reduced.

JCT 2011 SBC/Q does not specify any 'trigger point' for the adjustment of BQ rates in the event of an error in quantities, and it is for the quantity surveyor to decide whether the error is significant enough to warrant a change in the rate and to decide what is fair in the circumstances. There is no clarification on this matter in SMM7 should this method of measurement be used in conjunction with the contract.

NRM2, however, provides a 'rule of thumb' for the adjustment of rates where the quantities are inaccurate, but this only applies to any provisional quantities that may have been included in the BQ. Such adjustments are intended to compensate the contractor only where the provisional quantities may have been misleading and are not intended for the correction of errors.

11.4.2 Engineering and Construction Contract

Under the ECC, ambiguities or inconsistencies in or between documents are resolved pursuant to the project manager's instructions. Errors in Works Information are treated as compensations events, but the pricing documents (Option A – Activity schedule; Option B – Bill of quantities) are not Works Information, and errors in these documents are treated differently.

ECC **Option A** is a lump sum contract based on an activity schedule. This may be prepared by the employer, in which case errors would be corrected, but, more usually, is prepared by the contractor, in which case the contractor will have to stand by any error.

The activity schedule does not have the status of Works Information or Site Information (Clause 54.1), but where there are changes to the Works Information which affect the contractor's prices, the project manager will assess a compensation event in accordance with Clause 60.1(1). There is no such relief for changes to the Site Information.

Option B – priced contract with bill of quantities – is a measure and value contract.

Under this option, the difference between the final total quantity of work done and the quantity stated in the BQ is a compensation event if the difference does not result from a change to the Works Information (Clause 60.4). This rule does not specifically refer to errors in quantities, but as this is a measure and value contract, they would be adjusted as normal by the process of admeasurement.

It would appear that Clause 60.4 is aimed mainly at circumstances where the contractor simply does more or less work than the bill of quantities states, that is, not an error, not a change to the Works Information, just a change in quantity. However, if the difference in quantity *is* the result (or partial result) of an error, the same valuation rule would apply where the contractor has simply done more or less work.

The Clause 60.4 valuation rule is complicated and Broome (2013) would prefer that it was changed. A compensation event arises if:

- The difference does not result from a change to the Works Information.
- The difference in quantity causes the Defined Cost per unit of quantity to change AND
- The rate in the BQ at the Contract Date multiplied by the final total quantity of work done is more than 0.5% of BQ total at the Contract Date.

Once the quantity for an item of work has been admeasured, the contractor can do the sums and decide whether or not to notify a compensation event to the project manager. This fits with the early warning ethos of the NEC3 contract and also ensures that, should the compensation event be validated, the contractor will be paid at the next opportunity. If the Defined Cost per unit reduces, then the affected rate is reduced.

Where a difference in quantity delays completion, this results in a compensation event under Clause 60.5.

Under Option B, should there be departures from the rules of measurement for item descriptions in the bill of quantities or for the division of the work into items (e.g. incorrect classification of items), the project manager will make the necessary corrections according to Clause 60.6 and each correction shall be a compensation event.

Where there are ambiguities, or inconsistencies, in the bill of quantities, Clause 60.6 also applies. In both instances where mistakes are corrected under Clause 60.6, there is the caveat that the correction of mistakes in the BQ may lead to reduced prices.

A novel provision in the ECC is in the assessment of compensation events resulting from the correction of inconsistencies between the bill of quantities and another document. In such circumstances, the contractor is assumed to have taken the BQ as correct, and this is the starting point for the assessment (refer to Clause 60.7).

11.4.3 Infrastructure Conditions of Contract

The ICC – Measurement Version is a measure and value or admeasurement contract which means that the quantities stated in the BQ at tender stage are estimated quantities (refer to Clause 55).

This also means that the priced BQ submitted at tender stage is purely a schedule of rates whose purpose is to facilitate the valuation of the actual quantity of work carried out. Consequently, the tender total submitted by the contractor is simply a total figure which enables the various tenders received to be compared.

As this is a measure and value contract, there is no contract sum to be adjusted at final account stage, nor is there any requirement for a written instruction in the event that the actual quantities vary from those stated in the BQ as is normal with a lump sum contract (refer to Clause 51(4)). There is no need for a mechanism to correct errors in quantities under the ICC form as they are, or should be, automatically picked up in the admeasurement process.

There may, however, be an error in an item description and this does require to be corrected. Clause 55(2) deals with this issue.

The decision to admeasure any part or parts of the work rests with the engineer under Clause 56(3), and therefore, should the engineer not require such admeasurement, it will not happen unless the engineer is prompted by the contractor. In this situation, the contractor will need to consider:

- Whether any such admeasure may result in an increase in quantities in which case it is in his interests to bring the matter to the engineer's attention.
- Whether a significant increase in quantities may result in a decrease in the BQ rate as is the prerogative of the engineer under Clause 56(2).
- Whether any admeasure may result in a decrease in quantities in which case it may be prudent to keep quiet.
- Whether it is likely that a significant decrease in quantities may result in an increase in the BQ rate under Clause 56(2).

Should the contractor decide to alert the engineer to a change in quantities, he may do so:

- Informally in the first instance, perhaps via the engineer's representative, which would be a courtesy to the engineer.
- Formally in a letter to the engineer.
- Formally in the contractor's monthly application for payment under Clause 60(1)(a) which states *the estimated contract value of the Permanent Works carried out up to the end of that month*.
- Formally in the contractor's statement of final account under Clause 66(4) which is required to show *the value in accordance with the Contract of the Works carried out*, albeit that this might fall foul of the contractor's obligation to give early warning of potential claims under Clause 12(2) in respect of adverse physical conditions and artificial obstructions.

However, as stated earlier, the ICC – Measurement Version does have a mechanism to reflect the consequence of a difference between the actual quantities of work carried out and those stated in the bills of quantities under which the engineer has the power to increase or decrease the appropriate BQ rates.

Therefore, if, in the opinion of the engineer and after consultation with the contractor, the BQ rates are rendered unreasonable or inapplicable by reason of the change in quantities, the engineer may increase or decrease the rates accordingly. Should the contractor be dissatisfied with the outcome, he has recourse to Clause 66(2)(b) to make his views known before possibly embarking on the contract dispute resolution procedure.

Item descriptions in the bill of quantities must, of course, comply with the specified standard method of measurement, unless there is a specific statement to the contrary somewhere in the contract documents; if they do not, then the engineer must take action to put matters right.

It must be noted that *No error in description in the Bill of Quantities or omission therefrom shall vitiate* [invalidate] *the Contract* – Clause 55(2) – nor do they release the contractor from his obligations to carry out the works in accordance with the drawings and specification or from any of his other obligations or liabilities under the contract. The error(s) must simply be corrected by the engineer, and the work actually carried out must be valued. Because the original item in the bill of quantities will be changed, this constitutes a variation to the contract, and thus, the valuation of that change must be in accordance with Clause 52(2) or (3) – Valuation of ordered variations.

The correction of errors in the 'rates and prices' contained in the bill of quantities is expressly excluded by Clause 55(2) as they are at the contractor's risk. This exclusion also applies to 'descriptions' inserted by the contractor. Where there is partial contractor design, CESMM4 should be amended pursuant to paragraph 5.4 (i.e. in a Preamble) but any descriptions, rates and prices inserted by the contractor would similarly not be subject to correction for errors or 'wrong estimates'.

11.4.4 FIDIC

The old FIDIC 'Red Book' was always regarded as a 'rebranded' version of the old ICE Conditions – in other words a measure and value/admeasurement contract.

The first edition of FIDIC Conditions of Contract for Construction 1999, however, has been extensively redrafted and now has its own personality and idiosyncrasies.

The standard Letter of Tender gives the idea that the new FIDIC Red Book is a lump sum contract because the tenderer offers to execute the works for a specified sum of money or such other sum as shall be determined in accordance with the conditions of contract. This is not the language of a measure and value contract.

However, turning to Clause 12.3 reveals the procedure for determining the contract price which is by *applying the measurement agreed* to the appropriate rates or prices in the bill of quantities or other schedule. Measurement shall be *the net actual quantity of each item of the permanent works* (Clause 12.2). This now sounds like a measure and value contract, especially when read in conjunction with Clause 14.1(c) which says that *any quantities which may be set out in the bill of quantities or other schedule are estimated quantities and are not to be taken as the actual and correct quantities*.

FIDIC is, in fact, written on the basis of a measure and value contract with provision for a lump sum if desired. Suggestions for appropriate amendments to the contract in order to create a lump sum arrangement are made in the *Guidance for the Preparation of Particular Conditions* bound into the Red Book. Additionally, the term *contract price* is replaced by *accepted contract amount* in a lump sum contract arrangement.

For reasons discussed earlier, the distinction between lump sum and measure and value contracts is important, especially as regards quantities and changes to the quantities.

There is not necessarily a bill of quantities with FIDIC, and there could quite easily be a schedule of rates (Clause 1.1.1.7: *Schedules*) or, possibly, an activity schedule, although the latter would presumably be an employer-drafted document.

Where there is an ambiguity or discrepancy in the documents that make up the contract, they are to be clarified by the engineer by way of an instruction (Clause 1.5), but such instructions may not necessarily result in a variation (Clause 3.3).

Technical errors in documents are notifiable by one party to the other (Clause 1.8), but there is no contractual remedy available. However, this clause will undoubtably be caught by Clause 3.3 which empowers the engineer to issue instructions *necessary for the execution of the works*.

Unusually, the method of measurement is not stated in the Appendix to Tender but is referred to in Clause 12.2 as being *in accordance with the Bill of Quantities or other applicable Schedules*. Presumably, this means that the method of measurement would be stated in these documents, failing which there would be no method of measurement. A bill of quantities prepared to 'any rules you like' is not a method of measurement!

On the assumption that a sensible method of measurement is used, changes in the measured quantities attract an adjustment to the appropriate BQ rates when the change in quantity *is more than 10%* of that stated in the bill of quantities/schedule (Clause 12.3(a)(i) refers) and:

- The change in quantity × the rate is more than 0.01% of the accepted contract amount.
- The change directly changes the cost per unit of the item by more than 1%.
- The rate in question is not a 'fixed rate item' (e.g. a fixed charge or a lump sum).

11.5 Procurement issues

Issues relating to entitlement claims from a measurement perspective are inextricably linked to the method of procurement employed for a particular project, to the form of contract between the employer and the contractor or between the contractor and any subcontractor and to the method of measurement (if any) used to quantify the work if, indeed, there has been any quantification carried out.

So-called measurement claims need to be considered in the context of the pricing documentation employed for the project in hand, whether or not a recognised standard method of measurement has been used and whether or not the specification is incorporated in the pricing document or whether it is separately bound.

A further consideration is whether the documentation has been prepared formally by, or on behalf of, the employer or whether it has been prepared by a contractor or subcontractor informally.

Note

1. RWE Npower Renewables Ltd v J N Bentley Ltd [2013] EWHC 978 (TCC)

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