RICS PRACTICE INFORMATION

Interim valuations and payment

UK

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RICS standards framework

RICS' standards setting is governed and overseen by the Standards and Regulation Board (SRB). The SRB's aims are to operate in the public interest, and to develop the technical and ethical competence of the profession and its ability to deliver ethical practice to high standards globally.

The RICS Rules of Conduct set high-level professional requirements for the global chartered surveying profession. These are supported by more detailed standards and information relating to professional conduct and technical competency.

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As well as developing its own standards, RICS works collaboratively with other bodies at a national and international level to develop documents relevant to professional practice, such as cross-sector guidance, codes and standards. The application of these collaborative documents by RICS members will be defined either within the document itself or in associated RICS-published documents.

Document definitions

Document type	Definition
RICS professional standards	**Set requirements or expectations for RICS members and regulated firms about how they provide services or the outcomes of their actions.** RICS professional standards are principles-based and focused on outcomes and good practice. Any requirements included set a baseline expectation for competent delivery or ethical behaviour. They include practices and behaviours intended to protect clients and other stakeholders, as well as ensuring their reasonable expectations of ethics, integrity, technical competence and diligence are met. Members must comply with an RICS professional standard. They may include: • mandatory requirements, which use the word 'must' and must be complied with, and/or • recommended best practice, which uses the word 'should'. It is recognised that there may be acceptable alternatives to best practice that achieve the same or a better outcome. In regulatory or disciplinary proceedings, RICS will take into account relevant professional standards when deciding whether an RICS member or regulated firm acted appropriately and with reasonable competence. It is also likely that during any legal proceedings a judge, adjudicator or equivalent will take RICS professional standards into account.
RICS practice information	**Information to support the practice, knowledge and performance of RICS members and regulated firms, and the demand for professional services.** Practice information includes definitions, processes, toolkits, checklists, insights, research and technical information or advice. It also includes documents that aim to provide common benchmarks or approaches across a sector to help build efficient and consistent practice. This information is not mandatory and does not set requirements for RICS members or make explicit recommendations.

1 General principles (Level 1 – knowing)

1.1 Introduction

Most construction contracts require interim payments to be paid to the contractor. This is to relieve the contractor of the burden of financing the whole of the works until completion; works which may take many months or years to complete.

Valuation and payment are formal contractual processes and, therefore, they must be processed strictly in accordance with the contract conditions. Within each contract there will be clauses that set out the method of valuing the works, the criteria under which interim payments will be made, the timing of these payments and the administrative rules under which quantity surveyors (cost managers), contract administrators, employers and contractors must operate.

Most projects operate a payment system based on monthly payments to the contractor. The value of monthly payments is estimated by a site measure validated by the quantity surveyor, certified by the contract administrator and paid (within a stated time) by the employer. Note that the term 'contract administrator' used in this practice information means any person responsible for the administration of the building contract. The term includes: architect, contract administrator, employer's agent (used by JCT Contract Conditions) and project manager (used by NEC3 Contract Conditions).

The certificates or notices issued by the certifier to the contractor are then presented by the contractor to the employer who pays the contractor on an interim or instalment basis.

In many contracts, while the completion and calculation of the valuation is important, the method and procedure of the interim payment that the contractor receives is equally as important – particularly with the introduction of the *Local Democracy, Economic Development and Construction Act* 2009 has had a significant impact on the time periods in which the amounts of interim payments are to be agreed and paid.

This practice information assumes that the quantity surveyor has normal terms of appointment and the relative roles of the quantity surveyor carrying out valuations for an employer under unaltered standard contract conditions. However, this practice information is equally applicable to a quantity surveyor acting for a contractor who will be required to produce valuations in similar circumstances to that of a quantity surveyor acting for an employer. Mindful of the changes to payment introduced by the *Local Democracy, Economic Development and Construction Act* 2009, this has become even more relevant.

This practice information provides advice to quantity surveyors/cost managers carrying out such valuations. Although predominantly written for UK use, the principles of valuation can be used worldwide.

1.2 Interim valuations

1.2.1 Purpose of interim valuations

The purpose of interim valuations is to provide advice to the certifier on a construction project for the issue of interim certificates and payment notices. The certifier will be the contract administrator, employer's agent, the project manager or the employer – depending on the contract conditions being used.

The quantity surveyor's function is to assess value as distinct from cost, particularly with reference to prices of certain items in the preliminaries section and temporary works.

Interim valuation involves a revaluation of the whole work, not the work done since the last interim certificate or payment notice was issued.

The quantity surveyor carrying out the interim valuation must be aware of the overall position of any valuation within a project; to assess what remains of the anticipated final contract value after each interim valuation and ensure that within the terms and conditions of the contract this will be adequate to complete the works. This action is particularly valid towards the end of the contract.

1.2.2 Meaning of 'value' in the context of interim valuations

In the context of interim valuations, the meaning of 'value' is sometimes the subject of dispute.

For example: the JCT Standard Building Contract With Quantities 2011 refers to the 'total values of work properly executed by the Contractor'.

The contractor's view of the matter is that the value is to be found by reference to the bill of quantities and, as such, they are entitled to receive payment for what they have done at bill rates plus a proportion of the preliminaries. This appears entirely fair and reasonable and it is a system most commonly followed in practice. However, it has been argued, very convincingly, that the system does not represent the value of the work to the employer.

From the employer's viewpoint, the value of work completed by the contractor is the value of the whole contract less the cost of completing the work, with the aid of another contractor (which would include additional professional fees in re-tendering the works should the contract be terminated for any reason). This could result in a minus figure in the early stages of a contract. Contractors argue that the retention fund is designed to take care of that sort of eventuality but the retention fund as provided in most construction contracts is quite insufficient to cover the additional cost involved in the finishing of a contract by another contractor.

Although there are difficulties in operating the latter system, not least the method of evaluating the cost of completion, it does have merit of assuring that the employer has adequate funds if the worst happens.

However, it is suggested that the first view is the better one.

Note that the quantity surveyor is obliged to assess the value of the work that has been carried out and is assumed to be properly executed. The quantity surveyor is not an arbiter as to whether the work is properly executed. It is the responsibility of the contract administrator (employer's agent or project manager, whichever is applicable) to inform the quantity surveyor if any adjustment is required to their valuation for work that is not properly executed, or goods and materials that are not in accordance with the contract.

1.2.3 Valuation process

Valuation is the process by which the quantity surveyor arrives at the value. It normally involves visiting site and checking that the work has been carried out by visual inspection and/or measurement.

Detailed guidance on the steps involved in undertaking an interim valuation are provided at part 2 of this practice information: Practical application: Level 2 – doing.

1.2.4 Implications of over or under valuing works

An interim valuation must be a realistic assessment. A low valuation creates unreasonable financial problems for the contractor, whereas a high valuation creates a risk to the employer of paying sums for which they obtain no benefit. For example, towards the end of the contract, the quantity surveyor would be wise to record what is left of the anticipated final contract value after each valuation and ensure that, within the terms and conditions of the contract, this will be adequate to complete the works.

1.3 Certificates and notices

Certificates and notices are formal contractual statements concerning obligations of the parties in terms of time, payment and performance. Certificates and notices have two purposes:

- To record an event – as in the case of a practical completion certificate, a certificate of making good and a final certificate.
- A financial statement – as in the case of interim certificates, payment notices and pay less notices.

It is of critical importance to the contracting parties that obligations are met at the stated time. The traditional approach to contract drafting has required one of the employer's representatives (e.g. the project manager, the architect, the quantity surveyor, the structural

engineer, or the building services engineer) to act as an independent certifier (i.e. as the contract administrator or the employer's agent).

1.4 Conditions of contract

1.4.1 Most quantity surveyors/cost managers carry out valuations under either one of the JCT suite of Building Contracts or the New Engineering Contract. Namely:

- JCT Standard Building Contract with Quantities 2011 (SBC/Q).
- JCT Standard Building Contract Without Quantities 2011 (SBC/XQ).
- JCT Standard Building Contract with Approximate Quantities 2011(SBC/AQ).
- JCT Design and Build Contract 2011 (DB).
- JCT Intermediate Building Contract 2011 (IC).
- JCT Intermediate Building Contract with Contractors Design 2011 (ICD).
- JCT Minor Works Building Contract 2011 (MW).
- JCT Minor Works Building Contract with Contractors Design (MW/D).
- NEC3:
  - Option A: Priced Contract with Activity Schedule
  - Option B: Priced Contract with Bill of Quantities
  - Option C: Target Cost with Activity Schedule
  - Option D: Target Cost with Bill of Quantities
  - Option E: Cost Reimbursable Contract
  - Option F: Management Contract
  - Short NEC.

Consequently, guidance provided is primarily based on these standard forms of building contract. These contract conditions are only intended for use where the employer has engaged a professional consultant to advise on and to administer their terms and conditions.

1.4.2 Notwithstanding the contract conditions noted, it is recognised that there are other contract conditions in use (e.g. the FIDIC Yellow and Silver Books, the ICC (formerly the ICE), and IChemE Red Book, 3rd edition). The guidance provided is as equally valid for these lesser used contract conditions.

1.5 Legislation

The way in which interim valuations and payments are made under construction contracts are influenced by the:

- *Housing Grants, Construction and Regeneration Act* 1996 and

- *Local Democracy, Economic Development and Construction Act* 2009.

1.5.1 Housing Grants, Construction and Regeneration Act 1996

Under the *Housing Grants, Construction and Regeneration (HGCR) Act* 1996, a party to a construction contract in excess of 45 days in duration is entitled to interim or stage payments, so every construction contract should include provision for interim payments. Construction contracts of 45 days or less duration are referred to as 'non-qualifying' contracts.

These payments are determined by either valuing the quantity of work completed at stages throughout the process or agreeing amounts to be paid at certain dates or when a stage or milestone has been achieved. The process and terms should be set out in the contract.

Procedures for payment by stage or milestone are becoming more common, but the traditional route of valuing for work done is still the most popular procedure.

The requirement to provide stage/milestone or interim payments is now contained in the HGCR Act 1996 where it is stated in section 109 that: 'a party to a construction contract is entitled to payment by instalments, stage payments or other periodic payments for any work'.

Parties to the contract are free to agree the amounts of the payments and the intervals at which they become due.

Section 110 of the Act states that every construction contract shall provide an adequate mechanism for determining what payments become due under the contract and provide for a final date for payment in relation to any sum which becomes due.

Section 111 states that a party to a construction contract may not withhold payment after the final date for payment of a sum due under the contract unless an effective notice of intention to withhold payment has been given.

Where the parties have entered into a written contract but the contract provisions do not provide an adequate mechanism for determining what payments become due under a contract, or when they become due, the payment mechanism contained in *The Scheme for Construction Contracts (England and Wales) Regulations 1998 (Amendment) (England)* 2011 (the Scheme) comes into effect.

1.5.2 Local Democracy, Economic Development and Construction Act 2009

The *Local Democracy, Economic Development And Construction (LDEDC) Act* 2009 came into force on 1 October 2011 in England and Wales and 1 November 2011 in Scotland. The Act contained a host of changes to the operation of construction contracts; perhaps the most important of which concerned amendments to the payment provisions set out in sections

110 and 111 of the *Housing Grants, Construction and Regeneration (HGCR) Act* 1996 – resulting in a new payment regime.

The LDEDC Act 2009 also amended the HGCR Act 1996 by:

- bolstering a payee's right to suspend for late payment
- removing existing barriers to adjudication and
- making written and oral contracts subject to the Act.

The amended sections 110 and 111 of the HGCR Act 1996 have had a huge impact on construction contract payments, potentially imposing significant costs on any company that fails to understand or take heed of their effects, which can be summarised as follows:

1 Each and every pay period under a construction contract will require a payment notice to be issued within five days of the due date, specifying the sum due for that period (notified sum).

2 It will be impossible for a payer to avoid making a payment by failing to value or certify completed work, as the payee will be entitled to serve a payment notice in such circumstances.

3 Payment notices are required to contain the basis upon which notified sums are calculated.

4 A payer must pay the notified sum as contained in the relevant payment notice unless it serves a notice to pay less (or a pay less notice).

5 A notice to pay less than the notified sum must value the work at the date the notice is served, rather than the payment due date.

6 It is possible for either the notified sum or the sum given in a notice to pay less to be zero; however, the basis upon which the sum is calculated must be included.

A summary of the changes to the *Housing Grants, Construction, Regeneration Act* 1996 due to the *Local Democracy, Economic Development and Construction Act* 2009 in respect of payments is at appendix A of this practice information.

1.5.3 The Scheme for Construction Contracts (England and Wales) Regulations 1998 (Amendment) (England) 2011

The Scheme for Construction Contracts (the Scheme) sets out the payment provisions that are to be used in cases where the parties have entered into a written contract, but the contract provisions do not provide an adequate mechanism for determining what payments become due under a contract, or when they become due, the payment provisions contained in the Scheme apply.

Note that guidance provided does not consider the Scheme payment mechanism applying in Wales and Scotland.

1.6 The contract sum

The contract sum is the amount or consideration that the employer agrees to pay the contractor for carrying out the construction work. In the case of lump sum contracts, it is a specified sum of money written into the contract documents.

Almost without exception, all of the main forms of building contract are considered to be lump sum contracts.

However, the sum is seldom, if ever, a fixed amount but is subject to adjustment (additions and deductions) in respect of various matters. The primary causes for adjustment of the contract sum for which contract conditions make provisions are:

- the adjustment of provisional sums
- the adjustment of prime cost (PC) sums
- variations to the design and/or the specification of the work
- additions or reductions to the scope of the works
- loss and expense incurred by the contractor for specified reasons and
- increases or decreases in the costs of labour and materials or in taxes, levies or contributions imposed by the government (i.e. fluctuations – albeit many employer's will seek to remove such provisions through amendment to the contract conditions).

The variable nature of the contract sum might, at first glance, appear to cancel out the value of stating any sum at all. However, it does have the merit of giving the parties a good indication of the level of cost and providing a basis for estimating the eventual outturn cost as the construction works progress.

Notwithstanding this, under most standard contract conditions, the scope for adjustment of the contract sum is not unlimited – with the contract conditions having express provisions that limit adjustments. For example, the JCT Standard Building Contract With Quantities 2011 specifically excludes

> 'Any error in description or in quantity in the Contractor's Proposals or in the CDP [Contractor's Designed Portion] Analysis or any error consisting of an omission of items from them shall be corrected, but there shall be no addition to the Contract Sum [...]'

The important point is that the original contract sum is stated for a given amount of work. Some contracts are expressly not lump sum contracts – e.g. the JCT Standard Building Contract With Approximate Quantities 2011 or the NEC3 Option E (Cost Reimbursable Contract). If the contract conditions expressly provides for remeasurement, it is not a lump sum contract.

1.7 Payment mechanisms

Under all commonly used standard form building contracts the custom has been that provision is made for payment to be made by the employer to the contractor in instalments as the works progress. This custom now has statutory backing so that all building contracts qualifying as a 'construction contract' within the meaning of the Housing Grants, Construction and Regeneration Act 1996 must now make express provision for periodic payment to the contractor during the course of the building project.

The payment mechanisms within the Scheme for Construction Contracts and the standard form building contracts listed below are considered in this practice information:

- JCT Standard Building Contracts (all versions)
- JCT Design and Build Contract 2011
- JCT Intermediate Building Contract 2011 (all versions)
- JCT Minor Building Works Contract 2011
- NEC3 (reprinted with amendments April 2013):
  - Option A: Lump Sum with Activity Schedule
  - Option B: Lump Sum based on Bill of Quantities
  - Option C: Target Cost with Activity Schedule
  - Option D: Target Cost with Bill of Quantities
  - Option E: Cost Reimbursable Contract
  - Short NEC3 contracts.

1.8 Payment under JCT Standard Building Contracts

1.8.1 Generally

The JCT Standard Building Contract 2011 is designed for large-sized projects of a complex nature. The contract is available in four versions:

- JCT Standard Building Contract With Quantities 2011 (SBC/Q 2011)
- JCT Standard Building Contract With Quantities without Contractor's design 2011 (SBC/Q/XD 2011);
- JCT Standard Building Contract Without Quantities 2011 (SBC/XQ 2011)
- JCT Standard Building Contract With Approximate Quantities 2011 (SBC/AQ 2011)

All the JCT Standard Building Contracts contain the right for the contractor to interim payments.

On the whole, the provisions relating to valuations, certificates, notices and payments are the same for all the JCT Standard Building Contracts. Hence, the provisions within JCT

Standard Building Contract With Quantities 2011 (SBC/Q 2011) have been used in this practice information to explain the payment mechanisms within the JCT Standard Building Contracts. Notwithstanding this, there may be a difference in clause numbers between the different versions of the contract.

1.8.2 Roles

The roles under the JCT Standard Building Contracts in respect of valuations and payments is as follows:

- employer: payer
- contractor: payee
- contract administrator: certifier
- quantity surveyor: validator/valuer.

As stated, it is for the quantity surveyor to validate the contractor's interim applications for payment. However, where the contractor has not issued an interim payment application, the contract administrator is obliged by the contract conditions to request the quantity surveyor to undertake an interim valuation.

1.8.3 Payment timeline

The payment timeline under the JCT Standard Building Contracts is illustrated in Figure 1. The periods specified under the contract conditions are in days, whereas under the HSGCR Act 1996 and the LDEDC Act 2009 they are given in calendar days. The acts clearly state that the periods exclude public holidays. Neither the term 'day' nor 'calendar day' are defined in the contract conditions; only 'business days'. However, the contract conditions refer to the 'reckoning periods of days' where an action is required to be done within a specific period. Reckoning days exclude public holidays.

The same timeline applies to all versions of the JCT Standard Building Contract.

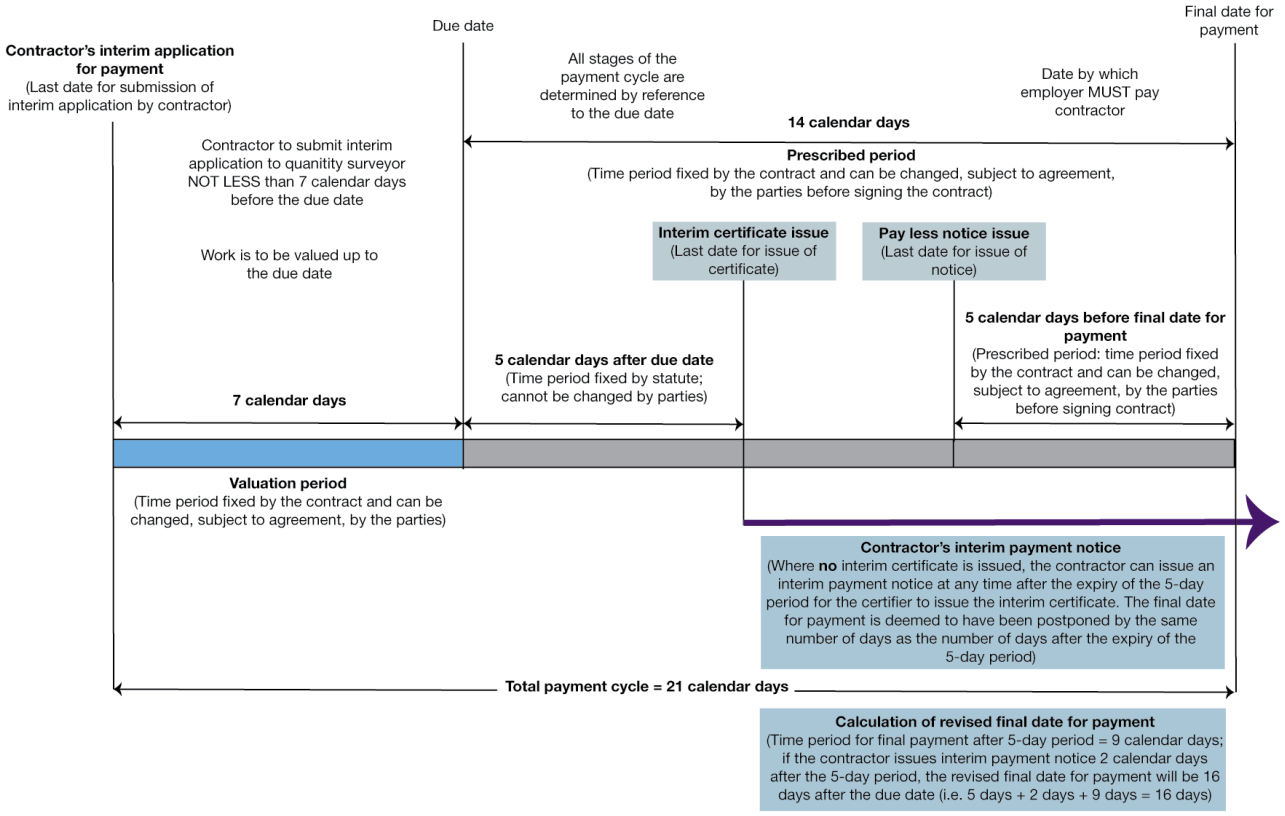

Figure 1: Payment timeline – JCT Standard Building Contracts 2011 (all forms of contract)

Note

Applicable to:

- JCT Standard Building Contract with Quantities 2011 (SBC/Q 2011)
- JCT Standard Building Contract Without Quantities 2011 (SBC/XQ 2011)
- JCT Standard Building Contract with Approximate Quantities 2011 (SBC/AQ 2011).

1.8.4 Interim payments up to practical completion

As regards interim payments up to practical completion, the contract conditions provide that

> 'the due date for Interim Payments by the Employer to the Contractor shall be the monthly dates specified in the Contract Particulars up to the Date of Practical Completion or the specified date within one month thereafter'.

1.8.5 Interim payments on and after practical completion

In respect of interim payments due on or after practical completion, the contract conditions state that 'the due date shall [be] the specified date at intervals of 2 months'. Notwithstanding this, the contract conditions give the parties the option to agree alternative time periods for interim payments on and after practical completion. The last due date is either the date of:

- expiry of the rectification period or (if later)
- issue of the certificate of making good.

1.8.6 Interim application

Whether the interim payment is up to, on or after practical completion, the contract conditions provide the contractor with the opportunity to submit an interim payment application to the quantity surveyor not less than seven days before the 'due date'. This is referred to as an 'interim application'. The contractor does not have to submit an interim application. However, any interim application submitted by the contractor must state 'the sum that the Contractor considers will become due to him at the [next] due date'.

An important point is indicated by the quotation in the preceding paragraph. This requires the contractor's interim application not only to state the 'gross valuation', but also show the relevant deductions under and the 'net' amount considered to be due. In addition, the contract conditions stipulate that the contractor must provide with their interim application details showing how the sum applied for has been calculated.

Relevant deductions comprise:

- the retention
- the cumulative amount of advanced payments that have become due
- the sums stated as due in all previous interim certificates and
- any sums paid after the issue of the latest interim certificate (whether or not adjusted by a pay less notice).

1.8.7 Interim certificates and valuations

Interim certificates are to be issued by the contract administrator to both the contractor and the employer. The contract administrator should also issue a copy to the quantity surveyor for record purposes.

The contract conditions provide that the contract administrator must issue an interim certificate within five [calendar] days of the due date whether or not the contractor has issued an interim [payment] application. This five [calendar] day period is set by statute in the *Housing Grants Construction Regeneration Act* 1996 as amended by the *Local Democracy, Economic Development and Construction Act* 2009. Being set by statute, the time period cannot be changed.

The contract conditions stipulate that an interim valuation is to be made before the issue of each interim certificate.

An interim certificate can be issued stating that no payment (zero) is due to the contractor.

1.8.8 Failure by the contractor to issue an interim application

To avoid a later payment application made by the contractor after the five [calendar] day period becoming an interim payment notice, it is essential that the contract administrator requests the quantity surveyor to make an interim valuation and to ascertain the amount to be stated as due in an interim certificate before the expiry of the five [calendar] day period after the due date.

1.8.9 Failure by the certifier to issue an interim certificate

The contract conditions make clear the consequences should the certifier fail to issue an interim certificate within five [calendar] days of the due date.

There are two default scenarios:

- Where the contractor has made an interim application within seven [calendar] days of the due date: the interim application shall become an interim payment notice if an interim certificate has not been issued within five [calendar] days of the due date.
- Where the contractor has 'not' made an interim application by the due date: The contractor may at any time after the five [calendar] day period following the due date issue an interim payment notice to the quantity surveyor. The contractor's interim payment notice must not only show the 'gross valuation', but also show the relevant deductions and the 'net' amount considered to be due, together with details showing how the sum applied for has been calculated.

1.8.10 Pay less notices

Pay less notices can be issued by either the employer or the contractor. The purpose of a pay less notice is to provide the employer with a method of notifying the contractor that they intend to pay less than the sum stated on a payment notice, or so that the contractor can notify the employer that they are demanding a lesser sum than that stated in their interim payment notice.

The contract conditions set out the requirements should either the employer or the contractor wish to issue a pay less notice to the other party.

Where a pay less notice is to be given by the employer

The employer is required to specify in any pay less notice both the sum that they consider to be due to the contractor at the date the pay less notice is given and the basis on which that sum has been calculated. Alternatively, the contract conditions also state that the pay less notice can be given on behalf of the employer by the certifier, quantity surveyor or employer's representative or by any other person the employer has previously notified the contractor is authorised to do so.

Should the employer intend to pay less than the sum stated as due from them in the 'interim certificate' or 'interim payment notice', whichever is applicable, the employer must issue a

'pay less notice' to the contractor, not less than five days before the final date for payment, stating their intention to pay less.

Where a pay less notice is given by the employer, the payment to be made on or before the final date for payment **must not** be less than the amount stated in the pay less notice.

Where a pay less notice is to be given by the contractor

In circumstances where the contractor is to give a pay less notice, the contractor is required to specify both the sum that they consider to be due to the employer at the date the pay less notice is given and the basis on which that sum has been calculated.

A pay less notice cannot be given by either the employer or the contractor in relation to a payment for which an interim certificate or the final certificate has not been issued until the contractor has, in respect of the payment, been given an interim payment notice or final payment notice (i.e. an interim certificate).

Irrespective of whether or not retention is included within sums due, or sums to become due, to the contractor, the employer is entitled to withhold or deduct monies from those sums.

1.8.11 Interim payment

The period for payment of an interim payment is prescribed by the contract conditions. The prescribed period is 14 [calendar days] from the due date; and defines day 14 as the 'final date for payment'. Note however, that because the period is prescribed by the contract conditions and not by statute, the period can be changed by agreement between the employer and the contractor.

Subject to any pay less notice given to the contractor by the employer, the sum stated in the contract administrator's interim certificate or contractor's interim payment notice, whichever is applicable, is to be paid by the employer to the contractor by the final date for payment.

In situations where both the contractor has made an interim application and the certifier has not issued an interim certificate; resulting in the subsequent issue of an interim payment notice by the contractor, the final date for payment is regarded as postponed. The period of postponement is the same number of days as the number of days after the expiry of the five day period after the due date. For example, if the contractor issues an interim payment notice two calendar days after the expiry of the last date for issuing an interim certificate by the certifier, the 'final date for payment' is deferred by the same period.

1.8.12 Failure by the employer to pay all sums due to the contractor

If the employer fails to pay a sum, or any part of it, due, including any VAT properly chargeable in respect of the sum, to the contractor by the final date for payment the employer **must**, in addition to any unpaid amount that should properly have been paid, pay the contractor simple interest on that amount at the interest rate for the period from the final date for payment until payment is made.

Interest under this clause is to be treated as a debt due to the contractor from the employer.

The contract conditions make it clear that acceptance of a payment of interest by the contractor shall not in any circumstances be construed as a waiver of their right to proper payment of the principal amount due, to suspend performance or terminate their employment.

1.9 Payment under the JCT Design and Build Contract 2011

1.9.1 Generally

The JCT Design and Build Contract 2011 (DB) is designed for construction projects where the contractor carries out both the design and the construction work. Design and build projects can vary in scale, but the JCT Design and Build Contract 2011 is generally suitable where detailed provisions are needed.

With regard to interim payments under the JCT Design and Build Contract 2011 (DB), there are two methods that may be used to value the work carried out by the contractor:

a **Alternative A: stage payments** – the contractor is entitled to be paid on a stage payment basis. A number of work stages will be identified in the contract particulars and priced on a cumulative basis. As stages are completed, the contractor is to submit an application for payment for the cumulative value of the works (taken from the contract particulars) at that stage.

b **Alternative B: periodic payments** – the contractor is to submit an application for payment on the dates set out in the contract particulars. The payment is based upon the value of work and design work executed by the contractor by that date.

The alternative to be used must be identified in the contract particulars. However, the default position is alternative B: periodic payments if no alternative has been stated.

Alternative B in the JCT Design and Build Contract is basically the same procedure used in the JCT Standard Building Contract with Quantities 2011 (SBC/Q), with the exception that the value of work is assessed on the contract sum analysis submitted by the contractor, instead of the bill of quantities.

Although there is a difference in clause numbers and terminology, the provisions relating to payments in the JCT Design and Build Contract 2011, in general, are the same as those in the JCT Standard Building Contracts 2011. The main changes relate to the payment timeline and those empowered to administer the contract.

1.9.2 Roles

The roles under the JCT Design and Build Contract in respect of valuations and payments are as follows:

- employer: payer

- contractor: payee
- employer's agent: certifier

Note that there is no role identified for the quantity surveyor under the JCT Design and Build Contract 2011 (i.e. the quantity surveyor is not referred to in the recitals; whereas the employer's agent is). Despite this, it is common practice for the employer to engage a quantity surveyor to validate the contractor's interim [payment] applications and to advise the employer (or employer's agent) the sums to be included in payment notices and deal with all other cost related matters under the contract.

Because the JCT Design and Build Contract 2011 does not recognise the need for quantity surveyor participation in the valuation process, the time periods stated in the contract conditions can, if not carefully planned, leave the quantity surveyor and the certifier with very limited time in which to validate the contractor's interim application, and to certify the amount of payment due – particularly where the five calendar day period for issuing the payment notice includes a weekend. In view of this, before the building contract is entered, it is recommended that amendment be made to the contract conditions to incorporate a requirement for the contractor to submit their interim application to the quantity surveyor an agreed number of working days before the due date.

As the quantity surveyor has no function under the contract, it is advisable that the employer makes it clear to the contractor that the quantity surveyor is to act on their behalf in connection with certain cost related matters. This is not an issue if the quantity surveyor and the employer's agent are the same.

It is the contractor's sole responsibility to submit interim payment applications in accordance with the agreed timings. Neither the employer nor their representatives have a contractual obligation to initiate payments without the contractor's interim payment application.

1.9.3 Payment timeline

The payment timeline under the JCT Design and Build Contract 2011, irrespective of whether alternative A or B is used, is illustrated in Figure 2.

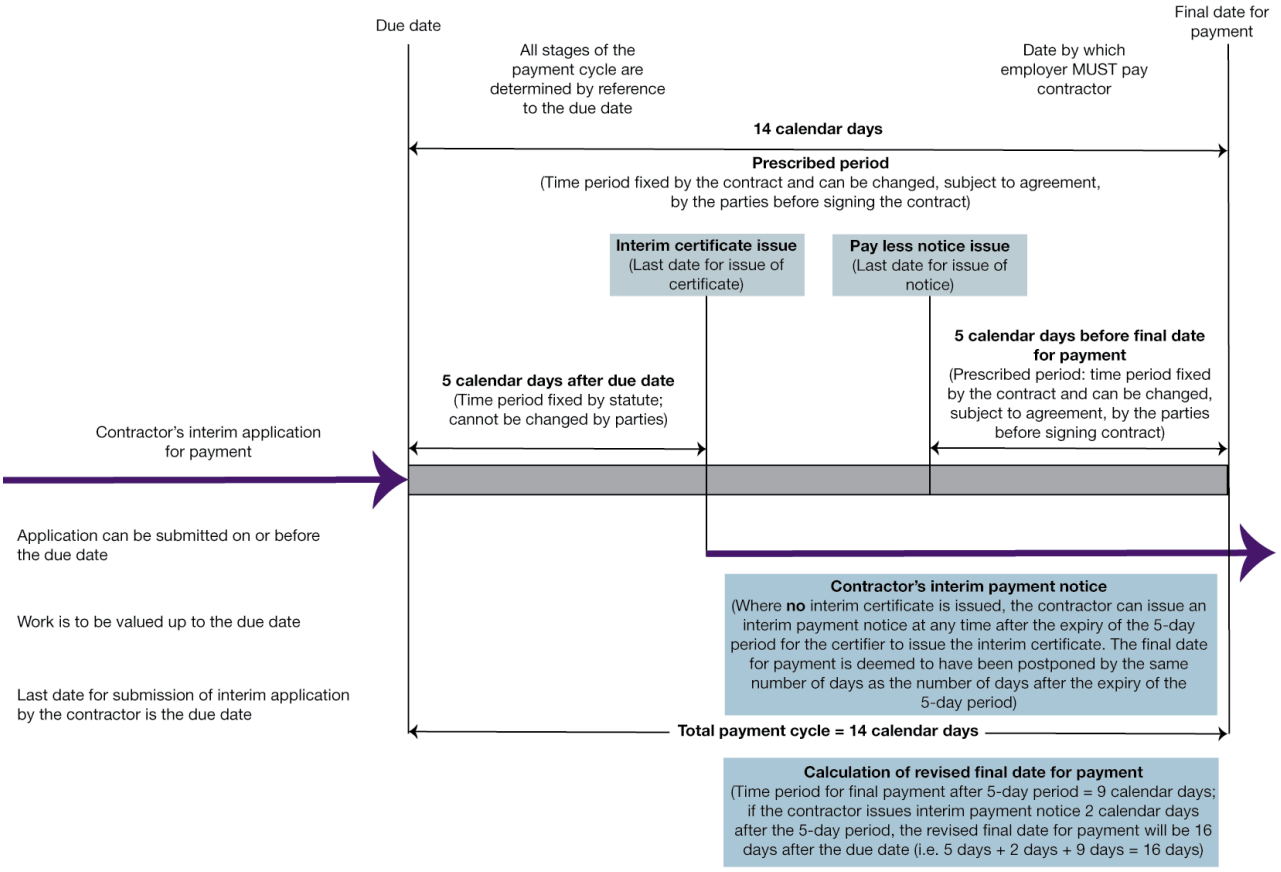

Figure 2: Payment timeline – JCT Design and Build Contract 2011

1.9.4 Interim payments up to practical completion

For the period up to practical completion, the payment timeline is as follows:

Where valuation method alternative A (stage payments) applies:

The contract conditions provide that 'an Interim Application [by the Contractor] shall be made as at completion of each stage specified in or by the Contract Particulars' up to the last stage (i.e. at which point practical completion is achieved).

Concerning the due date, the contract conditions state that: 'The due date for payment [...] shall be the later of the date of the completion of the stage and the date of receipt by the Employer of the [Contractor's] Interim Application'. That is, if the contractor submits an interim application for a stage before the date on which it was certified as having been completed by the employer or employer's agent, whichever is applicable, the due date is the date on which the stage was certified as having been completed. On the other hand, if the contractor submits an interim application for a stage after the date on which it was certified as having been completed, the due date is the date on which the interim application is received by the employer or employer's agent, whichever is applicable.

The definition of due date in respect of payments under alternative A applies to all interim payments, whether made up to, on, or after practical completion.

Where valuation method alternative B (periodic payments) applies:

The contract conditions provide that 'Interim Applications [by the Contractor] shall be made as at the monthly dates specified in the Contract Particulars [...] or specified date within one month thereafter'.

As regards the due date, the contract conditions specify that 'The due date for payment [...] shall be the later of the specified date and the date of receipt by the Employer of the [Contractor's] Interim Application'. That is, if the contractor submits an interim application before the monthly dates specified in the contract particulars, the due date is the date specified in the contract particulars. Conversely, if the contractor submits an interim application after the monthly date specified in the contract particulars, the due date is the date on which the interim application is received by the employer or employer's agent, as applicable.

The definition of due date applicable to alternative B applies to all interim payments, whether made up to, on, or after practical completion.

1.9.5 Interim payments on and after practical completion

For interim payments on and after practical completion, the payment timeline is as follows:

Where valuation method alternative A (stage payments) applies:

The contract conditions provide that 'Following the [Interim] Application [by the Contractor] shall be made at intervals of 2 months'. Notwithstanding this, the contract conditions give the parties the option to agree alternative time periods for interim payments on and after practical completion.

The last due date in the payment timeline is either the date of:

- **a** expiry of the rectification period or
- **b** (if later) issue of the notice of completion of making good.

Where valuation method alternative B (periodic payments) applies:

The contract conditions provide that 'interim applications [by the Contractor] shall be made at intervals of 2 months'. Again, the contract conditions give the parties the option to agree alternative time periods for interim payments on and after practical completion.

The last due dates in the payment timeline are the same as for alternative A.

1.9.6 Interim application

The procedure for contractor's interim [payment] applications and the due dates are set out in the contract conditions.

Note that unlike under the JCT Standard Building Contracts, there is no contractual provision under JCT Design and Build Contract 2011 that provides the contractor with the opportunity

to submit interim payment applications before the due date. This is because, as previously stated, the contract conditions do not recognise the need for valuation or validation of the contractor's interim payment applications by the employer's quantity surveyor – although this is a common requirement in most design and build/construct contracts. The contract conditions simply require the contractor to submit interim payment applications directly to the employer by the due date. The contractor's interim payment application is called an 'interim application'.

In all interim applications, the contractor must state 'the sum that [he] considers to be due to him and the basis on which that sum has been calculated' at the next due date.

As with the JCT Standard Building Contracts, it is very important to emphasise the meaning of the quotation in the preceding paragraph. It means that the contractor's interim application must show not only the 'gross valuation', but also show the relevant deductions and the 'net' amount considered to be due. Additionally, the contract conditions stipulate that the contractor's interim application must be supported with details showing how the sum applied for has been calculated, together with details showing how the sum applied for has been calculated with their interim application.

1.9.7 Payment notices

The terms 'interim certificates' and 'valuations' are not used by the JCT Design and Build Contract. Instead, the term 'payment notice' is used, which fulfils the same function as an interim certificate under the JCT Standard Building Contracts.

The time periods and protocol for interim payments under the JCT Design and Build Contract are the same as under the JCT Standard Form of Contracts. That is:

1 Interim payments are to be issued by the employer to the contractor.

2 The employer must issue a payment notice to the contractor within five calendar days of the due date; irrespective of whether or not the contractor has issued an interim application.

3 Subject to any pay less notice given to the contractor by the employer, the sum stated in the employer's payment notice is to be paid by the employer to the contractor by the final date for payment.

4 A payment notice can be issued stating that no (or zero) payment is due to the contractor.

1.9.8 Failure by the contractor to issue an interim application

When it comes to resolving a situation where the contractor has failed to issue an interim application, the JCT Design and Build Contract is silent. Notwithstanding this, under the provisions of the Contract Conditions, the employer is obliged to give a payment notice to the contractor.

If such a situation arises, it is recommended that the employer requests the quantity surveyor to ascertain the amount to be stated as due in a payment notice in time so that they can issue a payment notice by the due date (i.e. before the expiry of the 5 [calendar] day period after the due date).

1.9.9 Failure by the employer to issue a payment notice

Should the employer fail to issue a payment notice within five [calendar] days of the due date, the amount of the interim payment to be made by the employer to the contractor is to be, subject to any pay less notice (see 1.9.10), the sum stated as due in the contractor's interim application.

1.9.10 Pay less notices

The contract conditions set out the requirements should either the employer or the contractor wish to issue a pay less notice to the other party. The provisions of the JCT Design and Build Contract, albeit drafted slightly differently, are the same as those in the JCT Standard Building Contracts.

1.9.11 Interim payment

The period for payment of an interim payment is stipulated by the contract conditions. The prescribed period is 14 [calendar days] from the due date; and defines day 14 as the 'final date for payment'. Again, note that, because the period is prescribed by the contract conditions and not by statute, the period can be changed by agreement between the employer and the contractor.

Subject to any pay less notice given to the contractor by the employer, the amount of the interim payment to be made by the employer to the contractor is to be the sum stated in the payment notice. Payment must be made by no later than the final date for payment.

1.9.12 Failure by the employer to pay all sums due to the contractor

The contract conditions set out the consequences should the employers fail to pay all sums due to the contractor. The provisions are the same as those under the JCT Standard Building Contracts.

1.10 Payment under the JCT Intermediate Building Contract 2011

1.10.1 Generally

The JCT Intermediate Building Contract 2011 is designed for medium-sized projects of a fairly straightforward nature. The contract is available in two forms:

- JCT Intermediate Building Contract 2011 and
- JCT Intermediate Building Contract with Contractors Design 2011.

The provisions relating to payment, certificates and notices is the same for both versions of the JCT Intermediate Building Contracts.

In view of this, the provisions within the JCT Intermediate Building Contract 2011 have been used in this practice information to explain the payment mechanisms within both versions of the JCT Intermediate Building Contract.

1.10.2 Roles

The roles under the JCT Intermediate Building Contract in respect of valuations and payments are as follows:

- employer: payer
- contractor: payee
- contract administrator: certifier
- quantity surveyor: valuer.

The contract conditions stipulate that the quantity surveyor is only obliged to carry out interim valuations whenever the contract administrator considers them necessary to ascertain the amount to be stated as due in an interim certificate. In cases where the contractor has failed to submit an interim application for payment by the due date, it is essential that the contract administrator requests the quantity surveyor to make an interim valuation for the purpose of an interim certificate. Notwithstanding this, it is common practice for the quantity surveyor to make interim valuations – either by validating the contractor's interim application or valuing the works where the contractor has not issued an interim application. Indeed, this will usually be part of the post contract cost management services included within the quantity surveyor's appointment document by the employer.

1.10.3 Payment timeline

The payment timeline under the JCT Intermediate Building Contract is the same as that for the JCT Standard Building Contracts, irrespective of what version is used (refer to Figure 3).

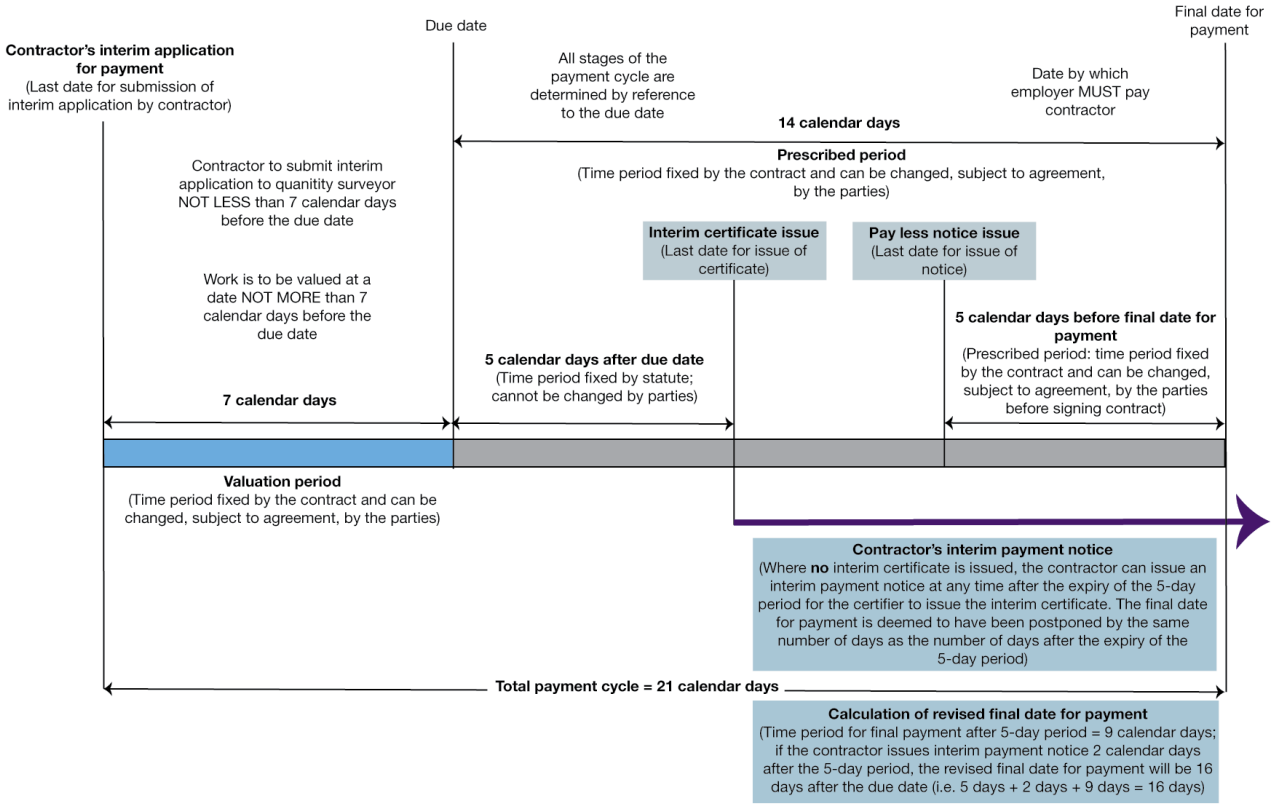

Figure 3: Payment timeline – JCT Intermediate Building Contracts 2011 (all forms of contract)

Note:

Applicable to:

- JCT Intermediate Building Contract 2011
- JCT Intermediate Building Contract with Contractor's Design 2011.

1.10.4 Interim payments up to practical completion

For the period up to the date of practical completion of the works, the due dates for interim payments will be the monthly dates specified in the contract particulars.

1.10.5 Interim payments on and after practical completion

The due dates for interim payments on or after the date of practical completion of the works are to be based on the following:

a a date not less than 14 [calendar] days after the date of practical completion and thereafter;

b the specified dates at intervals of 2 months.

The last due date is either the date of:

a expiry of the rectification period or

b (if later) issue the certificate of making good.

1.10.6 Interim application

The requirements in respect of interim applications for payment by the contractor are set out in the contract conditions. The provisions are the same as those in the JCT Standard Building Contracts.

1.10.7 Interim certificates and valuations

Time periods and requirements in respect of interim certificates and interim valuations are defined in the contract conditions. The provisions are the same as those in the JCT Standard Building Contracts.

1.10.8 Failure by the contractor to issue an interim application

As with the JCT Standard Building Contracts, if the contract administrator is to avoid a contractor's later payment application (i.e. made after the expiry of the five [calendar] day period following the due date) becoming an interim payment notice, it is essential that they immediately request the quantity surveyor to make an interim valuation and to ascertain the amount to be stated as due to the contractor in an interim certificate – so that the interim certificate can be issued before the expiry of the five [calendar] day period after the due date.

1.10.9 Failure by the certifier to issue an interim certificate

The contract conditions describes the consequences where the certifier has failed to issue an interim certificate within five [calendar] days of the due date. The provisions are the same as those set out in the JCT Standard Building Contracts.

1.10.10 Pay less notices

The provisions for raising pay less notices are the same as those in the JCT Standard Building Contracts.

1.10.11 Interim payment

The time periods, protocols and procedures relating to interim payments are exactly the same as those set out in the JCT Standard Building Contracts.

1.10.12 Failure by the employer to pay all sums due to the contractor

The consequences should the employer's fail to pay a sum, or any part of it, due to the contractor are the same as those in the JCT Standard Building Contracts.

1.11 Payment under the JCT Minor Building Works Contract 2011

1.11.1 Generally The provisions relating to payment, certificates and notices is the same for all the JCT Intermediate Building Contracts. That is:

- JCT Minor Works Building Contract 2011 and
- JCT Minor Works Building Contract with Contractors Design.

The clause numbers used in this practice information relate to the JCT Minor Works Building Contract 2011. Accordingly, there may be a difference in clause numbers between the different forms of contracts.

1.11.2 Roles

Roles under the JCT Minor Building Works Contract 2011 in respect of valuations and payments are as follows:

- employer: payer
- contractor: payee
- contract administrator: certifier

As can be seen, there is no specific role under the JCT Minor Building Works Contract 2011 for the quantity surveyor. Despite this, employers will often engage a quantity surveyor to advise the certifier on the amounts to be included in interim certificates. 1.11.3 Payment timeline The payment timeline under the JCT Minor Works Building Contracts is illustrated in Figure 4.

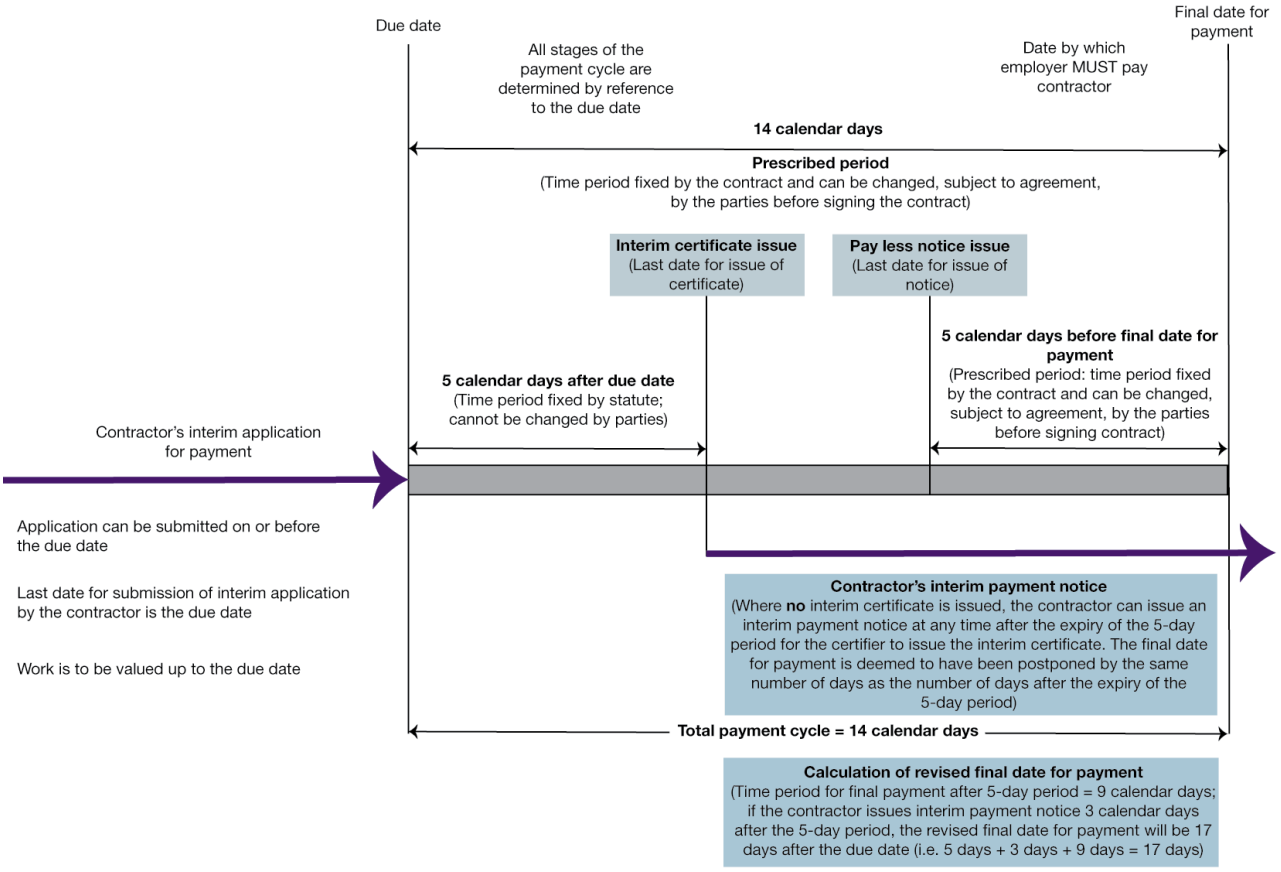

Figure 4: Payment timeline – JCT Minor Works Building Contract 2011

1.11.4 Interim payments up to practical completion

The contract conditions provide that the due dates for interim payments shall be the dates occurring at intervals of four weeks calculated from the date for commencement of the works.

It further states that the certifier must issue an interim certificate within five [calendar] days of each due date.

Total value as at the due date of:

- **a** work properly executed, including the value of any variation and/or provisional sum works that has been properly executed and instructed under a contract administrator's instruction
- **b** materials and goods that have reasonably and properly been brought on to site for the purpose of the works and are adequately protected against weather and other casualties

Less:

- **a** the total sums stated as due to the contractor in previous interim certificates and

b any sums paid in respect of any payment notice given after the issue of the latest interim certificate. On each interim certificate shall be stated the sum due from the employer and the basis on which the sum had been calculated. The final date for payment for each interim certificate is prescribed as 14 [calendar] days from the due date.

1.11.5 Interim payments on and after practical completion

The contract conditions specify that the due date for the first interim payment following issue of the practical completion certificate occurs seven [calendar] days after the date practical completion is certified as having been achieved; and the certifier is to issue an interim certificate within five [calendar] days of the due date.

Thereafter, unless otherwise agreed by the contractor and the employer, interim payments are to be made at two monthly intervals up to the expiry of the rectification period.

For each interim certificate, the sum due from the employer and the basis on which the sum had been calculated is to be stated.

The final date for payment for each interim certificate is prescribed as 14 [calendar] days from the due date.

1.11.6 Failure by the certifier to issue an interim certificate

The consequences should the certifier fail to issue an interim certificate within five [calendar] days of the due date are set out in the contract conditions.

The consequence is that the contractor may at any time after the five [calendar] day period following the due date issue an interim payment notice to the contract administrator, stating the sum that they consider to be or have been due to them at the due date, together with details showing how the sum applied for has been calculated.

Unless a subsequent pay less notice is issued by the employer, the sum to be paid by the employer shall be that stated in the interim certificate issued to the contractor.

1.11.7 Pay less notices

The procedure for raising pay less notices are the same as those in the JCT Standard Building Contracts 2011 and JCT Intermediate Building Contract 2011.

1.11.8 Failure by the employer to pay all sums due to the contractor

Procedures for dealing with the employer's failure to pay a sum, or any part of it, due to the contractor by the final date for payment are the same as those in both the JCT Standard Building Contracts and the JCT Intermediate Building Contracts.

1.12 Payment under NEC3

1.12.1 Generally

The NEC has given effect to the amendments to the *Construction Act* by making key changes to Option Y (UK) 2 in the main NEC3 contracts. Although the NEC3 contracts incorporate the key elements of the amendments to the Construction Act, the changes are far less extensive than the changes made by the JCT in its 2011 suite of contracts.

1.12.2 Roles

Roles under NEC3 in respect of valuations and payments are as follows:

- employer: payer
- contractor: payee
- project manager: certifier

As can be seen, there is no specific role under NEC3 for the quantity surveyor. Despite this, employers will often engage a quantity surveyor to advise the certifier on the amounts to be included in interim certificates.

1.12.3 Payment timeline

The payment timeline under NEC3 is illustrated in Figure 5.

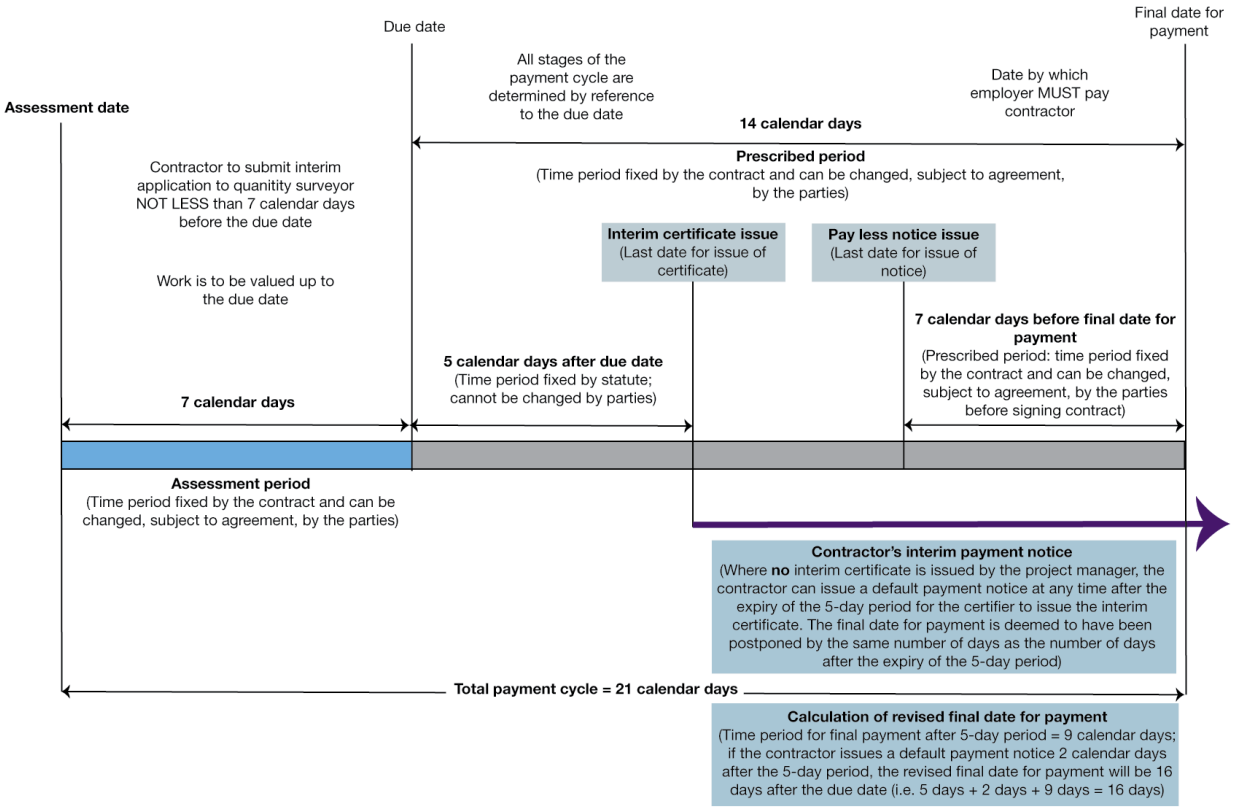

Figure 5: Payment timeline –NEC3 (April 2013)

1.12.4 Interim payments

The payment certificate which is issued by the project manager (or employer, contractor or service manager, depending on which NEC3 contract is being used) constitutes the payment notice for the purposes of the Construction Act. It must specify the amount due at the payment due date and the basis on which that amount was calculated.

1.12.5 Failure by the certifier to issue a certificate/payment notice

If the payer (i.e. the project manager (or employer, contractor or service manager)) fails to issue a certificate/payment notice, then the provisions of section 110B of the Construction Act will apply in such circumstances. Section 110B provides that if no payment notice is issued by the contractor (the payee), then:

a If the payee (the contractor) has already made an application for payment specifying the sum the payee considers to be due and the basis on which that sum is calculated, the sum applied for will become due or

b If the payee has not already made an application for payment, the payee can issue a payee's default notice specifying the sum the payee considers to be due and the basis on which that sum is calculated.

However, the absence of an express term confirming this position may potentially lead to uncertainty.

1.12.6 Pay less notices

If the employer wishes to pay less than the sum set out in a certificate/payment notice, the employer must notify the contractor of the amount the employers considers to be due and the basis on which that amount is calculated. This notice must be issued not later than seven days before the final date for payment.

1.12.7 Failure by the employer to pay all sums due to the contractor

If the employer's fails to pay a sum, or any part of it, due to the contractor by the final date for payment, the contractor has the right to suspend the works until the matter is resolved.

1.13 Payment under short NEC3 contracts

The short NEC3 contracts operate on a different basis to the main NEC3 contracts, because the payee (e.g. the contractor) is expressly required to make an application for payment (under the main NEC3 contracts, it is optional for the payee to make an application for payment).

The short NEC3 contracts have been amended so that the payee's application is now the payment notice and must specify the sum the payee considers to be due and the basis on which that sum is calculated if the payer (e.g. the employer) wishes to pay less than the sum set out in the application for payment, the payer must notify the payee of the amount the payer considers to be due and the basis on which that amount is calculated.

1.14 Payment under the Scheme for Construction Contracts

In brief, the payment mechanism set out by 'the Scheme' is as follows:

1 What sum will be due?

Before discussing the payment process, how is the sum due to be calculated? The Scheme provides that interim payments are calculated as:

- a an amount equal to the value of the work performed from the commencement of the works to the end of the 'relevant period'
- b **plus** where the contract provides for payment of materials, and amount equal to the value of materials
- c **plus** any other sum the contract provides as being payable to the payee);
- d **less** the total of all sums paid by the payer to the payee under the contract.

The 'relevant period' means a period that is specified in the construction contract, or where no such period is so specified or calculable, a period of 28 days. In this example, the final payment payable under a relevant construction contract will be the difference between the contract price and the total of any interim or stage payments.

2 When is the due date?

- a For interim payments, the sum shall be due on whichever of the following dates occurs the latest:
  - i seven calendar days after the 'relevant period' expires or
  - ii the making of a claim by the payee. (See Figure 6A.)
- b The final payment payable under a relevant construction contract will be due on whichever occurs the later:
  - i the expiry of 30 calendar days following completion of the work, or
  - ii the making of a claim by the payee (See Figure 6B.)

3 When is the 'final date for payment'?

– 17 calendar days from the due date.

4 Payment process:

- a Payment notice:

Within five calendar days after the due date, the payer (or the specified third person) must give a payment notice to the payee specifying the amount the payer (or the specified third person) considers to be due on the due date and the basis for that sum.

The sum stated in the payment notice is the 'notified sum'.

Note:

i If a specified third person is giving the payment notice, then the payer must have previously notified the payee that the specified third person is authorised to give the notice. It would be preferable for notification to be given in the building contract.

ii Payment notice must also be issued if the payer or specified third person considers that nothing is due.

b Payment notice served by the payee:

If the payer (or specified third person) fails to serve a payment notice within five calendar days after the due date, the payee can issue a payment notice. This is more commonly referred to as a 'default payment notice'. In this case, the final date for payment is postponed by the same number of days between the date the payer's (or a specified third person's) payment notice was due, and the date the payee's default payment notice is served. If the payer does fail to provide a payment notice, then the sum claimed in the payee's notice is the 'notified sum'.

c Pay less notice:

If the payer intends to pay less than the notified sum then the payer (or specified third party) may serve a 'pay less notice'.

Note:

i The pay less notice must be given no later than seven calendar days before the final date for payment.

ii The pay less notice must specify the sum the payer or specified third person considers as being due on the date the pay less notice is served and the basis on which that sum has been calculated.

iii If a payer considers that nothing is due on the date the pay less notice is served, a pay less notice must still be served specifying that no sum is due and the basis on which this has been calculated.

iv Stages two and three (the payment notice and the pay less notice) cannot be combined.

v The pay less notice will be appropriate for payers where:

- a defect is found after the payment notice was issued or
- when the payer or specified third person has failed to serve a payment notice in time, or at all.

d Sum to be paid:

The payee should receive the sum specified in the payment notice or pay less notice by the final date for payment.

If this sum is not received, the payee would be entitled to:

i suspend all or part of its obligations under the building contract, subject to giving the payer seven calendar days' notice of its intention to suspend. The payee will be entitled to their reasonable costs and expenses incurred as a result of suspending performance or

ii commence proceedings.

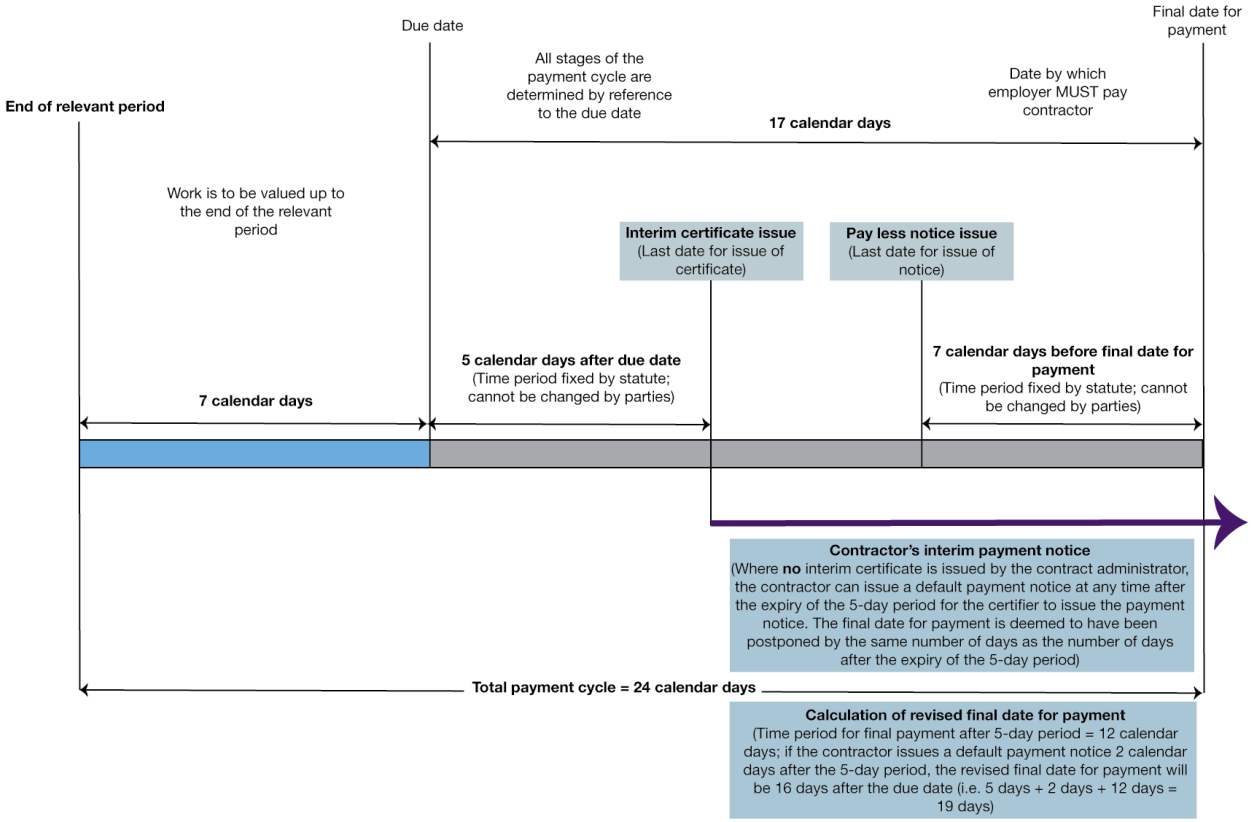

Figure 6A: Payment timeline – Scheme for Construction Contracts – interim payments

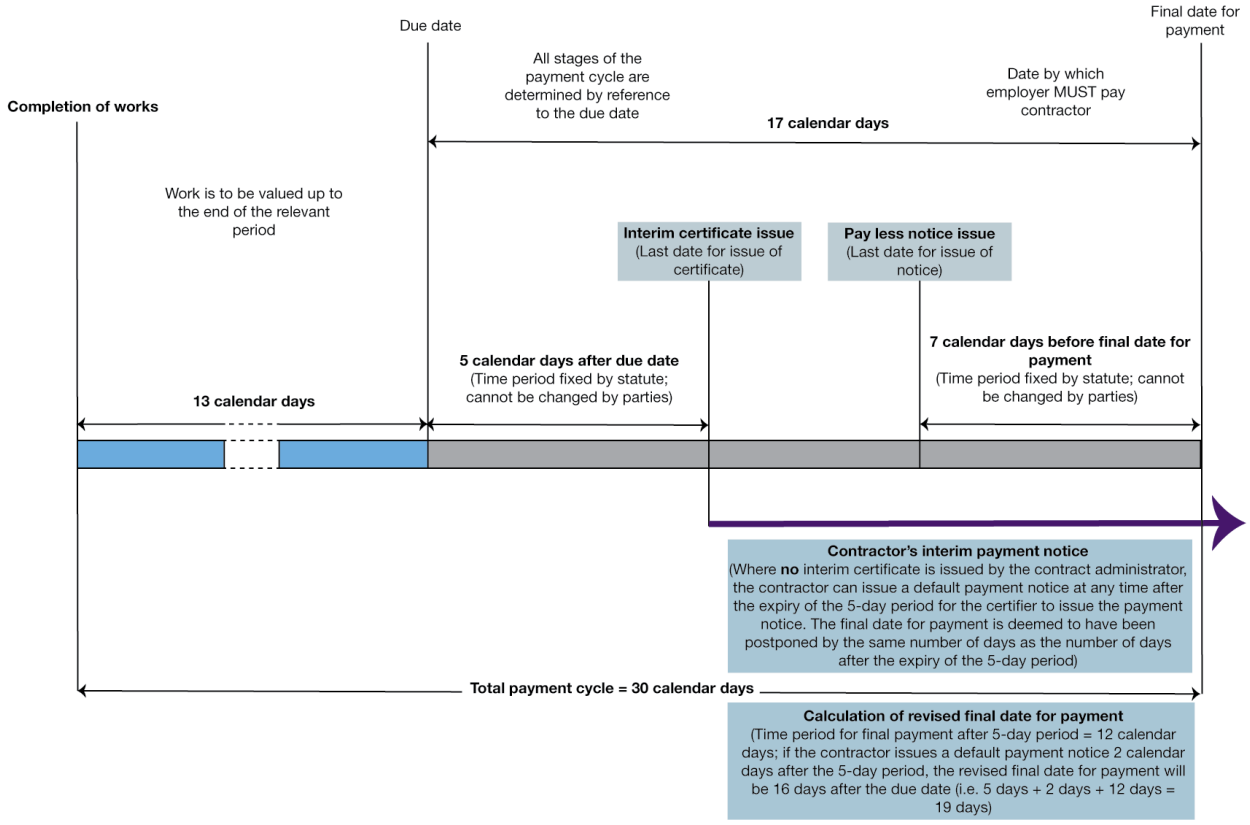

Figure 6B: Payment timeline – Scheme for Construction Contracts – final payment

1.15 Breakdown of contract sum

Valuation and payment should be the subject of careful strategy and planning.

Most standard contract conditions provide for monthly payments which are based upon the value of work completed in the previous month.

Alternatively, activity schedules, stage payments and milestone payments can be used whereby a pre-agreed sum is paid only when work has reached a certain stage or milestone. This information is usually provided at tender stage by the tenderer who needs to invest time and effort into ensuring that the stage or milestone payment plan is calculated to maximise cash flow.

The process of valuing instructions involving variations or changes to the contract can be time consuming.

1.15.1 Bill of quantities

Bill of quantities can be:

a (Firm) bill of quantities:

A bill of quantities (sometimes referred to as 'BoQ') is documents prepared by the quantity surveyor that provides project specific measured quantities of the items of work identified

by the drawings and specifications. The quantities may be measured in number, length, area, volume, weight or time. Preparing a bill of quantities requires that the design is complete and a specification has been prepared.

b (Approximate) bill of quantities

An approximate bill of quantities (or notional bill of quantities) can be used on projects where it is not possible to prepare a firm bill of quantities at the time of tendering, for example, if the design is relatively complete, but exact quantities are not yet known. However, this will tend to result in more variations during construction and so less price certainty when the investment decision is made.

Some contracts allows for re-measurement of approximate quantities (for example, this is common on cut and fill on roadworks). Here, quantities are simply revised and payments made accordingly without the need to instruct a variation.

If an approximate quantity turns out not to have been a realistic estimate of the quantity actually required, this may constitute a relevant event giving rise to claims for an extension of time and loss and expense.

1.15.2 Priced activity schedule

An activity schedule is a list of the activities which the contractor expects to carry out in completing their obligations under the contract. When it has been priced (a priced activity schedule) by the contractor, the sum for each activity or each group of activities is the price to be paid by the employer for that activity or group. The total of all the activities and groups is the contractor's price for providing the whole of the works.

A contract based on a priced activity schedule is basically a lump sum contract.

When preparing their tender the contractor considers the full scope of works, breaks this down into a number of identifiable activities and then prices each activity. If the employer has a number of specific activities which they wish the contractor to price, then the employer may list these activities in the enquiry document. It is essential that the activity descriptions are clear and complete so the entire works are included within the overall activity descriptions and the work included within any one particular description can be readily identified.

Since payment is normally based on completion of each activity or group, and not before, each activity description should define the measure to be adopted to confirm completion. This form of payment mechanism is adopted in many standard contract conditions, since it significantly reduces administration.

It is used in particular in design and construct contracts, where the contractor has control over the definition of the project. It is also used in construct-only contracts where the design has been completed before submission of the contractor's price.

The NEC uses an activity schedule in option A and option C.

The IChemE Red Book 3rd edition uses a similar mechanism in Schedule 8 which requires instalments to be paid on completion of defined tasks, when evidence of completion of each task has been provided.

The FIDIC Yellow and Silver Books allow payments to be made by instalments against a schedule of payments, which may be defined by reference to actual progress. This therefore would allow an activity schedule to be adopted.

1.15.3 Stage and milestone payments

A contract that provides for stage payments (sometimes called milestone payments) is one where payments are not scheduled by time but by a stage (or 'milestone'). This means that payments are due when the stipulated performance of a pre-defined event or section of work has been achieved.

1.15.4 Contract sum analysis

A contract sum analysis is an elemental breakdown of the contract sum, normally based on the elemental framework defined by the RICS *New rules of measurement: Order of cost estimating and cost planning for capital building works* (NRM1).

1.15.5 Cost reimbursable contracts

A cost reimbursement contract allows for payment of all incurred costs, often within a predetermined ceiling. Cost reimbursement contracts are required when the uncertainties of performance will not permit a fixed price to be estimated with sufficient accuracy to ensure a fair and reasonable price is obtained. NEC3 Option E is a cost reimbursable contract.

Cost reimbursement contracts require considerable monitoring by the contract administrator and the quantity surveyor.

1.16 Components of a valuation

1.16.1 Generally

Most valuations, irrespective of the contract conditions being used, will involve consideration of some or all of the following components:

- work executed
- variations/changes
- expenditure of provisional sums
- adjustment of prime cost (PC) sums/prices
- adjustment of provisional quantities
- site materials/materials on site

- materials and goods off-site
- contractor's design fees
- loss and expense
- acceleration costs (NEC3 only)
- costs and expenses relating to the contractor's right of suspension
- costs in connection with specified clauses (JCT only)
- costs in connection with 'confirmed acceptance of an acceleration quotation' (JCT only)
- overheads and profit
- fixed-price addition/adjustment
- risk analysis and
- director's adjustment.

Along with adjustments in respect of:

- advance/advanced payments
- work not properly executed (i.e. not in accordance with the contract)
- disallowed costs (NEC3 only)
- fluctuations
- errors in setting out
- retention and
- amounts previously paid.

1.16.2 Work executed

Work executed encompasses two components as follows:

- preliminaries and
- work executed by the contractor.

1 Preliminaries:

Preliminaries address and communicate to the contractor items that are not directly related to any component, element, or work section (i.e. measured works). For example, management and staff, site establishment, temporary services, security, safety and environmental protection, control and protection, common user mechanical plant, common user temporary works, the maintenance of site records, completion and post-completion requirements, cleaning, fees and charges, site services and insurances, bonds, guarantees and warranties. The information provided will enable the contractor to ascertain the price for, among other things, management of the building project, site establishment, security,

safety, environmental protection and common user mechanical plant, as well as the employer's completion and post-completion requirements.

A full description of the items to be included in the preliminaries can be found in the current edition of RICS' *New rules of measurement: Detailed measurement for capital building works* (NRM2).

Main contractor's preliminaries exclude costs associated with subcontractors' preliminaries, which are most commonly included in the subcontractors' costs.

Preliminaries items are of four kinds, namely, cost-related, time-related, single-payment or a combination of two or more of these. The quantity surveyor will agree which preliminary items fall into which category at the commencement of the contract.

Preliminaries are a cost significant aspect of any building project; and often equate to 10% to 20% of the contract sum. Therefore, for the purposes of valuation, it is essential that the quantity surveyor obtains from the contractor a full and detailed breakdown that clearly identifies the items; showing how the contractor's price for each item within and the total price for preliminaries have been calculated.

From the detailed price breakdown of preliminaries, the quantity surveyor will be able determine fixed priced items (e.g. one-off payment items) and time-related items (e.g. payment items related to the programme).

Fixed-priced items should be further divided into set-up and removal costs where appropriate. For example, the price for providing access scaffolding will include erection costs, maintenance costs, costs for modifications, and dismantling and removal costs. A mixture of fixed- and time-related costs.

Preliminaries contained within the pricing document are easily quantifiable; and it is advisable to agree the costs of identified individual preliminary items at the commencement of the contract or when payment of individual preliminary items will become applicable. In valuing the amount of work executed, the quantity surveyor must also consider making adjustments to time-related preliminary costs where the contractor is behind programme. See paragraph 3.8. On some contracts the quantity surveyor and the contractor's quantity surveyor merely agree to consider all items to be time related and simply divide the total costs of the preliminaries by the duration of the contract, such practice is not advisable and should be discouraged.

2 Work executed by the contractor:

The amount for work executed by the contractor to be included in a valuation is to be for 'work properly executed by the contractor' only – i.e. work executed by the contractor that is fully in accordance with the contract.

The value of work executed by the contractor will be readily ascertainable from the pricing document, for example the:

- bill of quantities

- work schedules
- priced activity schedule
- contract sum analysis and
- stage or milestone payment schedules.

Note that the contract administrator would be within their powers to refuse to cover work which they feel has not been properly executed – i.e. work that is not in accordance with the contract. Mindful of this, it is recommended that the quantity surveyor request details of any non-conforming work from the certifier before undertaking each valuation.

a Bill of quantities

i Valuation of the measured work

Valuations are to include an assessment of the work properly executed using the quantities and rates within the bill of quantities. This assessment will normally be carried out using rates within the bill of quantities. However, where the item is only partially executed, adjustment to the rates will be necessary having due regard to the location and circumstances of the work.

Where assessment is to be made against an 'elemental bill', the quantity surveyor should begin with the 'facilitating works bill' and proceed in order through all the succeeding elements which contain items of work which have been wholly or partially carried out.

The total valuation of each bill (by group element) or bill sub-section (by element or sub-element) is to be recorded, indicating by use of bill item references (cost codes) what is included in each amount. This is so that each amount can then be verified and substantiated subsequently, should any query arise. If the whole of a group element, element or sub-element has been completed, it is only necessary to show its total.

Notes made during the inspection of the works by the quantity surveyor are used to assess the approximate quantity and value of any partially completed items, elements or sub-elements. The completed work as a percentage of the whole should be indicated opposite bill item references (cost codes).

The basis of valuing works using bill of quantities based on other work breakdown structures is the same as for elemental bills. For example, with work section bills the quantity surveyor should start with the first work section bill and proceed in order through all the succeeding work sections which contain items of work which have been wholly or partly completed.

Prices contained in the 'bill of quantities' should be used in the valuation of the work completed by the contractor, regardless of whether the contractor has under-priced or over-priced the work when compiling their tender.

ii Provisional quantities

The quantity surveyor should take regular measurements during the construction of all work for which there is an approximate quantity in the bills. If measurements are taken

regularly, the quantities for these items will be up-to-date and available for valuations, or to check against the contractor's submission. The rates for the work are contained in the bill of quantities and adjustments made in valuations for partially completed work.

iii Contractor designed work

Contractor designed works (often referred to as contractor design portion or CDP) include any works that require the contractor to undertake its design, whether directly or via a subcontractor. Prices contained in the 'bill of quantities' should be used in the valuation of the design work completed by the contractor.

iv Credits

Credits are refunds sometimes offered by the contractor to the employer in return for the benefit of taking ownership of materials, goods, items, mechanical and electrical plant and equipment, etc. arising from demolition or strip out works. Refunds are to be recovered when they are removed from site, in the next valuation.

v Bill of approximate quantities

Valuations are to include an assessment of the work properly executed using the rates within the bill of approximate quantities. The quantities are subject to remeasurement as the extent of work is defined by the designers.

vi Work schedules

Where a valuation is to be based on a work schedule, the proportion of work properly executed in respect of each activity or item defined in the schedule is valued; with the value of work properly executed for each activity and item added together to provide the total value of work properly executed.

vii Priced activity schedule

Payment is based on completion of each activity or group of activities, and not before.

viii Contract sum analysis

Where a valuation is to be based on a contract sum analysis, the proportion of work properly executed in respect of each activity or item defined in the contract sum analysis is valued; with the value of work properly executed for each activity and item added together to provide the total value of work properly executed.

Price information that shows how the sums included in the contract sum analysis is often obtained from the contractor during post tender negotiations. Such information will aid the quantity surveyor in valuing the works executed.

ix Milestone payment schedules

Similar to valuations based on priced activity schedules, payments are due when the stipulated performance of a pre-defined event or section of work (i.e. a milestone) has been

achieved, and not before. However, milestone payment activities will normally be larger than those defined in a priced activity schedule.

- x Stage payment schedules

The stage payment will be included in valuations when the scope of work to which the stage payment relates has been completed and so indicated by the contract administrator.

1.16.3 Variations/changes

The value of works completed under a written instruction can be included within the valuation. Such instructions may or not have a financial implication.

The term 'instruction' is a generic term for directions, orders and certain other categories of information that the contract conditions expressly provides and may be issued or given to the contractor. In most standard forms of building contract the word is normally used to refer to orders given to the contractor by the contract administrator, whose power in relation to the type of such instructions will be restricted by the express provisions of the contract conditions.

Instructions may be said to fall under five categories:

- The ordering of additions, omissions, alterations, modifications and/or substitutions to the design, quality or quantity of the work or the kinds and standards of goods and materials for use in the works.
- The provision of information, procedural or clarifying instructions necessary for the works to be carried out and completed.
- Changes in the timing, sequence or method of working.
- Expenditure of sums which the employer has reserved the right to expend as works progress (i.e. expending provisional sums and prime cost (PC) sums).
- Actions in relation to work found or at lease thought not to be in accordance with the contract.

Although most standard contract conditions specify that all instructions must be issued in writing, some standard contract conditions contain detailed provisions regarding what is to happen if, for example, the contract administrator purports to issue an instruction which is not in writing. This is a necessary provision and recognises the common situation where the contract administrator gives an oral (or verbal) instruction. If the contract administrator confirms it, the instruction takes place from the date of the confirmation (i.e. the date on which the written instruction is issued). If the contract administrator does not confirm, the contractor must confirm within a prescribed number of days (e.g. seven calendar days under the JCT Standard Building Contracts) and it will take effect after the expiry of a further prescribed period (e.g. a further seven calendar days under the JCT Standard Building Contracts) if the contract administrator does not by then dissent. Note that the prescribed periods are not necessarily the same under the different standard forms of building contract.

Most standard contract conditions require that effect be given in interim certificates and payment notices to the measurement and valuation of variation or change instructions. For this to be done, each instruction must be valued, either accurately or approximately, as soon as possible after issue.

The burden of other work may cause delay in dealing with instructions, but it may prove risky to have to resort to guesswork in consequence. It is wise, therefore, to give priority to them, even if only to the extent of an approximate evaluation of the net effect of each instruction before each valuation date.

The question of how to deal with the effects of omissions on the elemental or work sections within pricing documents is bound to arise. There are two alternatives:

Alternative 1: To ignore the instructions when dealing with the measured or defined work, the omissions being allowed for when adding the nett value of the instructions.

Alternative 2: To take the omissions into account when valuing the measured or defined work and adding the value of additions only against the heading of instructions.

In practice, a combination of the two alternatives will serve best; with alternative 1 being be used as a general rule and alternative 2 used where a complete element, work section or group of items in the pricing document are affected by an instruction.

When dealing with instructions in the context of valuations, the following simple rules should be followed. For simplicity, instructions can be categorised in accordance with the following:

1 Pre-agreed items – where the instruction has been agreed in terms of content, price and time before being instructed.

2 Items agreed in terms of price but not in terms of effect on the contract.

3 Instructed to be carried out and to be evaluated in terms of the contract.

Items identified by the contractor as variations/changes but not instructed at the time of valuation.

All instructions should be identified in the quantity surveyor's valuation in a separate section so that they can be easily identified.

a Pre-agreed items – for the purposes of valuations, items in this category are easily dealt with by following the rules of valuation under 'work executed'. It is relevant to keep the instructed items separate even if the work within the Instruction is the same as that within measured or defined work.

b Items agreed in terms of price but not in terms of effect on the contract – the price for work in this category, having been agreed, can be dealt with as for pre-agreed items. The quantity surveyor has to seek further information from the contract administrator and the contractor regarding effect on contract. There may be no easy answer in respect of this item.

c Instructed to be carried out and to be evaluated in terms of the contract – the instruction must be evaluated using the valuation rules set out in the contract conditions. The quantity surveyor must seek agreement with the contractor for the way in which any instruction is accounted for at an early stage. Remember, the contractor will be seeking to maximise their interim recovery in respect of the item until final agreement is reached. In an ongoing situation the contractor will be basing their level of recovery on the amount which they have to pay out (to their work package contractors, suppliers and consultants) and for an interim valuation the quantity surveyor should seek from the contractor the same information, invoices, etc. so that they can make a judgement using the same information.

d Items identified by the contractor as variations/changes but not instructed at the time of valuation – only instructions properly instructed under the terms of the Contract are to be valued and included in a valuation. Payments for non-instructed item should not be included in the quantity surveyor's/cost manager valuation, as a fundamental provision in conditions of contract is that the contract sum can only be adjusted via a formal instruction by the contract administrator.

Under NEC3, a project manager's instruction changing the works information can invoke the compensation event mechanism within the contract conditions. If it is held that a compensation event has arisen, or will arise, as a result of a project manager's Instruction the contractor may be entitled to submit a quotation to address the compensation event.

Further guidance on valuing variations and changes is provided in the current edition of RICS' *Valuing change*.

1.16.4 Dayworks

When it has been decided by the quantity surveyor that valuation of an instruction is to be undertaken using daywork vouchers, and they have been signed by the person empowered to do so by the employer, the quantity surveyor has no power to substitute their own estimate of the resources it should have taken to do the work.

It is common practice for employer's representatives to annotate daywork sheets with the phrase 'for record purposes only' (or similar phrase) when signing and dating them – often inferring that the quantity surveyor should review and amend the resources recorded if their estimation is less. Such a statement is irrelevant, as daywork sheets signed and dated by properly authorised persons constitute a proper and accurate record of the resources used by the contractor to complete an item of work – irrespective of the phrase 'for record purposes only' having been inserted. For that reason, as long as the daywork sheets have been signed and dated by properly authorised persons, the quantity surveyor has no power to substitute their own estimate of the hours it should have taken to do the work.

Where the quantity surveyor agrees that works are to be valued on the basis of dayworks, they must check that daywork sheets have been signed by properly authorised persons (e.g. both the contractor's site manager and the contract administrator), check that the time charge rates for labour and plant, and the percentage additions to prime costs are in accordance with those quoted by the contractor in the contract.

1.16.5 Expenditure of provisional sums

The adjustment of provisional sums is subject to instruction.

1.16.6 Adjustment of prime cost (PC) sums/prices

The adjustment of prime cost (PC) sums/prices is subject to instruction by the contract administrator.

1.16.7 Adjustment of provisional and approximate quantities

The adjustment of provisional quantities (also known as approximate quantities) is subject to instruction by the contract administrator.

1.16.8 Site materials/materials on site

Most contract conditions comprise a clause that deals with payment to the contractor for on-site materials and goods. However, before including in the valuation it would be wise for the quantity surveyor to check the contract conditions to see if it can indeed be done, as well as to determine the prerequisites for incorporation.

The common restrictions on what materials and goods can be included in a valuation are as follows:

Materials and goods must:

1. Be delivered to or adjacent to the works. Delivery to the contractor's off-site storage facility is not enough, unless that facility is adjacent to the works. 'adjacent' means lying near or contiguous to the works.
2. Have been reasonably, properly and not prematurely brought to or adjacent to the works. The word 'prematurely' is probably best interpreted by reference to any programme or progress schedule in existence or to the (optional) master programme.
3. Must be adequately protected against weather and other casualties. 'Other casualties' includes theft and certain other risks referred in the contract conditions.

Note that under the provisions of most contract conditions these materials and goods become the employer's property once they are certified and paid for – provided that the contractor has a valid title to them; although the contractor remains responsible for loss or damage to them.

1.16.9 Materials and goods off-site

Under the JCT Conditions of Contract

Most versions of the JCT Contract Conditions provide for materials and goods stored off-site to be included in interim payments. They can be included so long as the conditions of

payment set out in the contract conditions relating to off-site materials and goods have been fulfilled. The materials or goods must be referenced as 'listed items' – either uniquely identified or not uniquely identified – in the contract particulars.

'Listed items' are materials, goods and/or items pre-fabricated for inclusion in the works. They must be listed as such items by the employer in a list supplied to the contractor and annexed to the pricing document (i.e. to the bill of quantities, the specification, the work schedules, or priced document, as applicable).

The contract clauses deal with off-site materials and goods and give the certifier discretionary power to include in interim certificates and payment notices the value of such materials and goods subject to the conditions laid down. It is intended to cover the increasing use of pre-fabricated products and building components off-site, and to enable the contractor to get paid for them prior to their coming to site. That is prior to the time when they would normally be eligible for payment as site materials.

Certificates and notices for payment of such off-site materials or goods are, however, at the discretion of the certifier, who cannot even consider certifying unless specific conditions set out in the contract conditions have been fulfilled.

The law as to when property in materials and goods passes is that it depends on the intention of the parties to the sale contract.

There is one important situation in which the certifier must refuse to certify materials and goods; this is where there is a 'retention of title' clause in the supply contract. Retention of title is considered in greater detail in Part 3 of this practice information. It has become common for suppliers to include in their terms of supply a clause stating that they retain ownership of the materials and/or goods until the materials and/or goods have been paid for and in some cases such clauses provide that ownership shall be retained by the supplier until all debts due from the buyer to the supplier have been paid.

Once materials and goods have been built into the works (i.e. they cannot be removed without damage to the structure, fabric, finishes or services installations to the building), ownership passes to the employer, in spite of any reservation of title clause.

It is essential that the certifier establishes from the written sale contract on what conditions property passes. Another common provision would normally be that it only passes on payment. This must create problems when the goods and materials are not owned by the contractor but he is obtaining them from a supplier (or also perhaps from a subcontractor who in turn may be getting them from a supplier). The ramifications and the problems involved are obvious.

As a further complication, in ensuring the basic point that the employer becomes the owner of off-site materials and/or goods when he has paid for them, there is the problem that the contractor or subcontractor or supplier, after receiving payment and passing ownership to the employer gets into financial difficulties and the materials and/or goods are at the time still in their possession.

In an attempt to overcome some of the difficulties associated with the early payment of materials or goods off-site, the employer will request a vesting certificate from the supplier or sub-contractor. See subsection 3.7: Vesting of materials.

Note that there is no provision under the JCT Minor Building Works Contract 2011 for payment to be made for off-site materials and goods. After the off-site materials and/or goods have been paid for by the employer they become their property and cannot be removed from the premises where they are stored at the date of payment; except for use in the works.

The contractor is responsible for storage costs while off-site; for loss or damage while off-site; and for handling costs at the storage premises and getting them to the works; and for insurance.

The contractor will need to discuss their insurance obligations in respect of off-site materials with their insurance brokers who may well wish to investigate the nature and security of any premises where such materials and goods are to be stored prior to dispatch to the works, before they can obtain the insurance required to satisfy the terms and contract conditions.

Once materials and goods have been delivered to and placed on or adjacent to the works, they are treated as site materials (or on-site materials and goods).

Under NEC3

NEC3 provides that 'Whatever title the Contractor has to Plant and Materials which is outside the Working Area passes to the Employer if the Supervisor has marked it as for the Contract.' This action identifies them for payment.

1.16.10 Contractor's design fees

Where the contractor is responsible for both the design of the whole, or parts, of a building they will be entitled to be paid for design fees incurred for the design completed at the due date.

1.16.11 Loss and expense

Loss and expense may be included within an interim valuation. However, the basis of the loss and expense in a contract must be established before any monies are included in an interim payment. Note that payments for loss and expense are not subject to retention.

1.16.12 Acceleration costs

Under the NEC3, agreed acceleration costs may be included within an interim valuation. However, the basis of the acceleration costs must be established and the acceleration instructed by the project manager before any monies are included in an interim payment.

1.16.13 Costs and expenses relating to the contractor's right of suspension

The intervention of the *Local Democracy, Economic Development and Construction Act* 2009 means that where the employer has failed to pay all sums due, including any VAT properly chargeable in respect of the sum due, to the contractor by the final date for payment; the contractor – subject to giving the required notice period – has the right to suspend the works. The contractor is also entitled to recover all costs and expenses as a consequence of suspending the works from the employer, including loss of interest.

Any costs and expenses incurred by the contractor as a result of the contractor exercising their statutory right of suspension are to be included within interim payments. Obviously, it is for the contractor to demonstrate such expenses and costs.

1.16.14 Costs and expenses relating to the contractor's right of suspension

In accordance with section 112 of the Housing Grants, Construction and Regeneration Act 1996, standard building contracts provide for the contractor's right to suspend performance of 'any or all of' their obligations under the contract for non-payment.

They further provide for the employer to be liable to pay to the contractor exercising the suspension right a reasonable amount in respect of costs and expenses incurred as a result of the exercise of the suspension.

Costs and expenses incurred by the contractor as a result of the exercise of the suspension are to be included in the valuation by the quantity surveyor, as and when they become due to the contractor.

1.16.15 Overheads and profit

Overheads are the contractor's costs associated with head office administration, proportioned to each building contract on which they work. Profit is the contractor's return on capital investment and services provided. Both overheads and profit are normal based on percentage additions, a proportion of which is to be included in each valuation.

1.16.16 Fixed price addition/adjustment

Notwithstanding that most standard contract conditions allow for fluctuations, it has become increasingly common for employers to seek price certainty – by requesting contractor's to include a fixed price addition/adjustment in their tender price in return for no future adjustment for fluctuating price levels.

The contractor's fixed price addition/adjustment can be recalculated as a percentage of works cost – i.e. the contract sum less all of the defined, less provisional sums, overheads and profit, fixed price addition/adjustment, risk and any director's adjustment.

A portion of the contractor's fixed-price addition/adjustment should be included in the quantity surveyor's valuation.

1.16.17 Risk allowance

If the pricing documents comprises a risk allowance that is payable to the contractor in return for accepting certain risks should they materialise, a portion of the contractor's risk allowance should be included in the quantity surveyor's valuation and the certifier's interim certificate or payment notice.

1.16.18 Director's adjustment

A 'director's adjustment' is a reduction or addition to the contractor's tender price, derived by the contractor's estimators, offered by the directors of the contractors.

A portion of the director's adjustment should be included in the quantity surveyor's valuation.

1.16.19 Price adjustments

1 Advance payments

Most standard contract conditions contain a clause relating to 'advance payment'. These are optional clauses which makes provision for the employer to make an advance payment to the contractor. If the employer and the contractor agree that an 'advance payment' should be made by the employer to the contractor, the amount agreed and the date for payment must be inserted in the contract particulars to the contract together with a schedule showing the times and amounts of repayments from the contractor to the employer.

A form of (protection) bond is available if required by the employer – called an 'advance payment bond' or an 'advance payment protection bond'. It is difficult to envisage a situation in which a bond would not be required by the employer for an advance payment of this kind. The provisions in the JCT Standard Building Contracts 2011, the JCT Design and Build Contract 2011 and the JCT Intermediate Building Contract 2011 are identical. They require any reimbursement due to the employer on an advance payment to be deducted in the interim certificate or payment notice. The bond must be provided by a surety (i.e. a bank) that meets the employer's approval.

If the contract particulars require the contractor to take out an advance payment protection bond then the advance payment is conditional upon the contractor providing a bond in accordance with the procedures set out in the contract conditions.

NEC3 also provides an optional clause which makes provision for the employer to make advanced payment to the contractor.

2 Work not properly executed

Under standard contract conditions, note that the contract administrator would be within their powers to refuse to certify work which he feels has not been properly executed – i.e. that is not in accordance with the contract requirements.

The value of work not properly executed by the contractor is to be deducted from the contractor's interim application by the quantity surveyor, if notified at the time of undertaking their valuation, or by the certifier prior to issuing their interim certificate or payment notice, whichever is applicable.

The contract administrator should advise the quantity surveyor in writing of work which, although having been carried out, is not in accordance with the contract. The value in the contract for this work should not be included within an interim valuation. The quantity surveyor, when compiling their valuation, assumes that all work completed is in accordance with the contract. It therefore follows that they must then deduct the value of work which is not.

The quantity surveyor should compile a list of the work and values deducted and include the list with the notes passed to the contractor.

The previous two paragraphs assume that, in deducting for work that is not in accordance with the contract, the work will be required to be redone or amended. However, the work not in accordance with the contract may be accepted by the contract administrator and a reduction in value allowed for it.

This reduction is shown as a deduction to the valuation.

3 Disallowed costs

Under NEC3 contract conditions, note that the project manager would be within their powers to refuse to certify work which they feel has not been properly executed – i.e. that is not in accordance with the contract requirements.

4 Fluctuations

The cost to the contractor of labour, plant and materials used in the works will alter during the contract period. It might fall but, more usually, it will rise. In the absence of any provision in the contract, the contractor would have to take the risk. In order to cover themselves, the contractor would probably make an estimate of the likely rise in costs before inserting their price in the tender; higher tender figures and subsequent contract sums will result.

It is thought to be an advantage to the employer, as well as giving the contractor some guarantee of recovering their costs, to insert a clause in the contract to recover some or all of the increases if and when they occur; rather than price the risk. Most standard contract conditions allow for this to be done by providing clauses that may be included or deleted as the parties agree.

For example, both the JCT Standard Building Contracts and the JCT Design and Build Contract have a selection of three alternative provisions:

a Fluctuations Option A: This allows contribution, levy and tax fluctuations – a bare minimum provision to take account of statutory adjustments to items such as national insurance contributions.

b Fluctuations Option B: This allows labour and materials cost and tax fluctuations. Under this provision the contractor can recover full fluctuations on the construction work, but not their preliminaries.

c Fluctuations Option C: This allows fluctuations in accordance with price adjustment formulae rules specified in the contract conditions. Details of price changes are issued monthly. There is usually provision for making part of the contract sum not subject to this formula (i.e. the non-adjustable element). With this exception, full fluctuations are recovered by the contractor.

The JCT Intermediate Building Contract allows for the contractor to recover fluctuations contribution, levy and tax changes only, whereas there is no provision for dealing with fluctuations under the JCT Minor Building Works Contract.

The sums ascertained in respect of fluctuations are to be included in the contractor's interim certificate, the quantity surveyor's valuation and the certifier's interim certificate or payment notice.

Where the operation of the fluctuations clause and the subsequent calculation indicates a reduction, a deduction will have to be made to the valuation.

The sums ascertained in respect of fluctuations are to be included in the contractor's interim certificate, the quantity surveyor's valuation and the certifier's interim certificate or payment notice.

5 Errors in setting out

Setting out is the procedure whereby the dimensions of a building are transferred to the site by means of theodolites, measuring tapes, etc. The principal walls of a building or position of piles are indicated by pins, lines and profiles.

The process calls for great accuracy and on larger and complex works a specialised engineer may carry out this part of the work.

Under the JCT Standard Building Contracts, the contract administrator is responsible for the accuracy of the drawings and for providing sufficient information to enable setting out to be completed. However, they are not responsible for the accuracy of the setting out itself. That is the contractor's responsibility. Consequently, if errors have been made in setting out by the contractor, these errors may not be amended (at the sole cost to the contractor). A deduction may be made to the contract in lieu. In such cases, with the consent of the employer, the contract administrator may instruct the contractor not to rectify the setting out and an appropriate deduction be made in lieu to the contract sum.

NEC3 implies that the contractor is responsible for setting out the works in accordance with the employer's works information, but does state who verifies that the setting out is correct.

If the works information is found to be incorrect, the project manager will need to issue a project manager's instruction to change the works information.

6 Retention

Retention should be deducted from the gross valuation at the rate stated in the contract conditions.

Retention is applied in terms of the contract conditions.

7 Amounts previously certified

Although it may be obvious, the total of the sums stated as due to the contractor in previous interim certificates, payment notices or pay less notices are to be deducted from the gross valuation.

It is important to check the amount certified or notified by the certifier and not to assume that the amounts within the quantity surveyor's previous valuation have been used.

However, payment to the contractor by the employer as distinct from certification/ notification by the certifier is a different matter. Payment to the contractor is determined by the employer, and the quantity surveyor should ignore the amounts paid. The quantity surveyor's valuation should refer to the total value to the due date less the amount certified or notified by the certifier. Retention held at interim valuations is partially released at practical completion (or of the works and where the employer takes partial possession of part of the works.

1.17 Retention

1.17.1 What is retention?

Retention is a sum of money (the retention fund) held by the employer as safeguard against defective or non- conforming work or materials provided by the contractor. It is to safeguard the employer against latent defects (i.e. defects that may subsequently develop during the rectification period, or defects liability period, which were not identified at practical completion) and the contractor's possible failure to complete the contract.

The retention fund is normally based on a percentage of the contract sum. In some contracts, the amount of retention calculated on a percentage basis is capped. Note that not all items comprising the contract sum are subject to retention. Therefore, before carrying out a valuation, it is essential that the quantity surveyor checks the rules for ascertainment of retention applicable to the contract.

The retention fund is built-up from the quantity surveyor's valuation of work in progress at each payment interval. These provide the contract administrator with the amounts to be incorporated in interim certificates and notices of payment, whichever is applicable.

Notes

1 Under some contract conditions 'retention' is referred to as a 'reserve'.

2 Under some contract conditions 'rectification period' is referred to as 'defects liability period' or 'maintenance period. Used in this context, 'maintenance period' does not imply that the contractor is to maintain the works during this period; their obligations being similar to those required during the 'rectification period' or the 'defects liability period'.

3 Unless specifically defined in the standard contract conditions, or in any bespoke schedule of amendments or supplemental conditions to the standard contract conditions incorporated into the contract, the term 'snagging' has no contractual effect and binds neither the employer nor the contractor. Note that the contractor is under no obligation to take notice of a 'snagging list', only to fulfil their obligations under the contract.

Although it is too much to expect that the expression will be obliterated from site conversation, the contract administrator, the employer's agent and/or the project manager should be meticulous in using the correct terms to avoid confusion.

1.17.2 Retention fund – safeguarding the contractor

The employer's interest in retention is fiduciary as trustee for the contractor. The requirement of the general law is that the employer is to set aside retention monies in a separate bank account (e.g. in an escrow account). The purpose is to safeguard the contractor's money in the event of the employer becoming insolvent. Failure to put money aside may result in a mandatory injunction to do so. An employer who uses the retention fund for their own ends as distinct from ensuring it is held safe for the contractor's benefit, would be in breach of trust.

There are a number of ways in which contractors can safeguard cash flow and enhance their financial security. The main two methods are the use of escrow accounts and retention bonds. Escrow accounts are useful in providing a ring-fenced fund to provide security for payments due to the contractor throughout a project.

While retention bonds are an inventive way of increasing cash flow, while also providing the security an employer will expect in relation to defects following practical completion.

1 Escrow accounts:

Escrow accounts can enhance financial security where there are doubts over an employer's ability to meet payments due to a contractor. An escrow account ring fences an element of an employer's money in a place where the contractor can see and use the money as security for interim payments.

Typically, the way the account works is that the employer will be obliged to deposit an agreed sum (usually the equivalent of 2 or 3 months' projected interim payments) in an independent

deposit account held by a third party (normally a solicitor's client account), who holds the money in an interest-bearing account as stakeholder for both parties.

That third party will be instructed (by way of a tripartite escrow agreement) to hold the money in the escrow account until whichever is the earlier of:

a payment to the contractor of all sums due to it under the final account for the work (or, if there is a dispute as to the final account, payment to the contractor of all sums properly due and payable to it following the determination of that dispute) or

b in the event of an earlier termination of the building contract, payment to the contractor of the sums due to it under the building contract up to that point.

In the event of non-payment of an interim certificate by the employer, the contractor may then require the third party to release the unpaid amount from the escrow account in payment of the money owed to the contractor. If such a release from the escrow account is made, then the employer will be under an obligation to pay that amount back into the escrow account within a set number of days (say, five working days). A failure to do so will entitle the contractor to suspend or terminate its employment under the building contract.

When all the money that is owed to the contractor has been paid, the third party is under a duty to pay the escrow money back to the employer, together with any accrued interest.

For ultimate security, the payment mechanism under the building contract can be linked to an escrow account, so the interim payments from the employer are automatically made from the escrow account by each final date for payment, with the employer under a duty to top up the escrow account within a certain number of days.

Using an escrow account can be of great benefit to contractors worried about an employer's financial standing. The mechanism ensures that the contractor's interim applications are paid promptly, serves to provide an early- warning system to the contractor that the employer may be struggling financially and maintains the contractor's remedy either to suspend or terminate its services under the building contract.

1.17.3 Retention bonds

Retention bonds are referred to in most standard contract conditions.

1 What is a retention bond?

In the context of building contracts, a retention bond is an agreement between an employer and a third party known as a surety provider, which acts as a guarantor between the two parties. The bond agreement states that in return for the employer not holding cash retention, the surety provider will undertake to pay the employer up to the amount that it would have had by way of cash retention should the contractor fail to carry out the works or remedy defects.

A retention bond can be considered as a win-win: the employer has the monetary protection they require and the contractor keeps hold of its cash. However, it is most likely

the contractor will pass on the cost of obtaining the bond to the employer through their tendered price.

2 Why use a retention bond?

Offering a retention bond in place of cash retention can result in substantial cost savings for the contractor. The money that would have been held in cash retention remains in the cash flow of the contractor improving its financial position. In addition, the retention bond will normally contain a fixed expiry date so there is no confusion about when the contractor has been released from its obligations. There is also no chasing by the contractor for the release of cash retention at the end of the works.

There are three types of retention bond: conditional or default and on demand. This practice information relates to conditional bonds where the surety is provided by an insurance company. Contractors should beware of on demand bonds (where their bank acts as the surety provider and sets the bonded amount against their borrowing capacity) which allow the employer to demand payment under the bond without having to prove default by the contractor.

3 How much does a retention bond cost?

The cost of a retention bond is non-refundable and will depend on the financial performance of the contractor applying for it. However, the cost is usually between 1% and 10% of the bond value subject to a minimum charge. The level of security required from the contractor will depend on its financial standing versus the value of the bond.

A retention bond is usually offered at the beginning of a project in place of cash retention; however, it is also possible to introduce it during the course of a project to release retention monies which have previously been withheld.

4 Why should an employer accept a retention bond?

A retention bond provides an employer with the equivalent level of security as cash retention while improving the financial stability of the contractor by making the cash retention available.

The contractor also has the additional benefit of knowing that a contractor that is able to offer a retention bond has had its financial standing vetted by the surety provider.

There is no reason for a contractor not to accept a retention bond.

5 What happens if the retention bond is called?

The retention bond will generally provide for the contractor to be notified of the alleged defect and offered the opportunity to rectify it within a fixed period of time. If the employer is not satisfied, he can 'call' the bond by providing evidence of default to the surety provider. If the surety provider is satisfied that the alleged default is proven, it will pay out and then seek recovery from the contractor.

Once a bond has been called, it is likely to affect the premium of future bonds and/or the ability of the contractor to obtain them at all.

1.18 Ascertainment of retention

1.18.1 JCT Standard Building Contracts and Design and Build Contract 2011

The contract conditions set out the rules for the ascertainment of retention and the periods for payment of retention to the contractor by the employer.

The clauses provide that the employer may retain a percentage of the total value of work, materials and goods ascertained, with the items subject to retention specified, as well as the items that are not subject to retention.

Unless such other rate is stated in the contract particulars to the contract, the retention percentage is 3%.

Retention may be deducted from so much of the total amount as relates to:

a work where the works or (where there are sections) the section(s) of which forms part have not reached practical or sectional completion and

b site materials and listed items.

The amount of any interim certificate issued after practical or sectional completion will be subject to deduction of one- half of the retention percentage applicable to amounts in interim certificates/payment notices issued before practical completion. This abatement by one half results from the fact that on practical completion one moiety (‘a half’) of the amount of retention then held by the employer is released to the contractor so that it would be inappropriate to deduct the full retention percentage on the amounts certified for payment after that date.

Where, either before or after practical completion, sectional completion or partial possession has been taken by the employer and a half or complete release of retention has taken place, the total retention percentage is reduced by a corresponding amount.

The intention of the JCT is that the retention percentage, which will be applied in calculating the amount due, does not depend on the date of the issue of the interim certificate or payment notice. It depends on whether work has not yet reached practical or sectional completion (full retention percentage), has reached practical or sectional completion (half retention percentage) or whether a certificate of making good has been issued, when there will be nil retention.

1.18.2 JCT Intermediate Building Contract 2011

Under the JCT Intermediate Building Contract the money withheld by the employer is not referred to as ‘retention’, as in JCT Standard Building Contracts and JCT Design and Build

Contract 2011, although it is treated in the same manner – the employer pays a default percentage.

The default percentage to be paid by the employer is 95%, although it is possible to change this in the contract particulars.

The 5% that has not been paid by the employer is released in the following manner:

1 2.5% within 28 days of the date of practical completion and

2 2.5% after 28 days from the date of final certificate.

Note that the final 2.5% is released after the issue of the final certificate and not at the end of the rectification period or issue of the certificate of making good as under the JCT Standard Building Contracts and JCT Design and Build Contract.

1.18.3 JCT Minor Building Works Contract 2011

There is no provision under JCT Minor Building Works Contract 2011 for retention to be held by the employer.

1.18.4 NEC 3

Under NEC3 a retention free amount is stated in the contract data. Any amount above the retention free amount is subject to the percentage retention specified in the contract data.

The retention retained is halved:

1 in the assessment made on completion of the whole of the works or

2 in the next assessment after the employer has taken over the whole of the works if this is done before completion of the whole of the works.

The amount retained by the employer remains at this amount until the defects certificate is issued. No amount of retention is retained in the assessments made after the defects certificate has been issued.

1.19 Contract terms relative to valuations

1.19.1 Prime cost (PC) sums

Prime cost (or PC) sum means a sum of money included in a unit rate to be expended on materials or goods from suppliers (e.g. ceramic wall tiles at £36.00/m or door furniture at £75.00/door). It is a supply-only rate for materials or goods where the precise quality of those materials and goods are unknown. PC sums exclude all costs associated with fixing or installation, all ancillary and sundry materials and goods required for the fixing or installation of the materials or goods, subcontractor's design fees, subcontractor's preliminaries,

subcontractor's overheads and profit, main contractor's design fees, main contractor's preliminaries and main contractor's overheads and profit.

PC sums are expended on the written orders of the contract administrator in respect of materials or goods that are incorporated in the contract sum as a PC sum.

A separate section of the quantity surveyor's interim valuation should be created for all work carried out under the expenditure of PC sums.

1.19.2 Provisional sums

Provisional sum is a term used to denote a sum of money included in the contract by the employer, normally as an amount in the bill of quantities, Contract sum analysis or other pricing document. A provisional sum is provided to cover the cost of something that cannot be entirely foreseen or detailed accurately at the time tenders are invited. For example, the structural engineer may know that they require a retaining wall to be constructed, but does not know accurate dimensions or details. They may ask the quantity surveyor to make an estimate of the likely cost and insert that sum in the bill at tender stage.

During the progress of the contract, the contract administrator may issue an instruction, together with full details of the retaining wall, to the contractor. When the retaining wall has been constructed, the quantity surveyor will deduct the provisional sum from the contract sum and add back the value of the retaining wall ascertained in accordance with the contract provisions for the valuing of variations.

Provisional sums can only be expended and adjusted on the written orders of the contract administrator. The valuation of work instructed under this method may be dealt with by reference to the other sections.

A separate section of the quantity surveyor's interim valuation should be created for all work carried out under the expenditure of provisional sums.

The current edition of RICS' *New rules of measurement: Detailed measurement for capital building works* (NRM 2) defines two types of provisional sum – 'defined' and 'undefined'.

1 Defined provisional sum – means a sum provided for work that is not completely designed but for which the following information shall be provided:

- the nature and construction of the work
- a statement of how and where the work is fixed to the building and what other work is to be fixed thereto
- a quantity or quantities that indicate the scope and extent of the work and
- any specific limitations and the like identified.

2 Undefined provisional sum – means a sum provided for work that is not completely designed, but for which the information required for a defined provisional sum cannot be provided.

Note that, unless incorporated into the contract conditions, the terms 'defined provisional sum' and 'undefined provisional sum' are only applicable to contracts based on (firm or approximate) bill of quantities measured in accordance with NRM 2. Where the terms have not been defined in the contract conditions, but used (e.g. in the bill of quantities or contract sum analysis) to distinguish between the types of provisional sums, they are simply referred to as provisional sums irrespective that they have been referred to as defined and undefined provisional sums.

1.19.3 Provisional quantities

In otherwise accurately measured bill of quantities it is common to find some quantities noted as 'provisional' – i.e. 'provisional quantities' (sometimes called 'approximate quantities'). They usually refer to items that were unknown or uncertain in extent when the bill 'was prepared, and should not be confused with bill of quantities or items that describe 'approximate quantities'. Provisional quantities may, for example, be given to items of work such as substructure or drainage where the extent of the work that will have to be done simply cannot be properly or reasonably accurately measured.

It is not uncommon for the quantity surveyor to include items in the bill of quantities for the excavation of rock or running sand or for the necessity to excavate below the water table. The quantity is only given as an estimate. As the work proceeds, it is remeasured at the rates which the contractor has inserted against the item in the bill of quantities. Provisional quantities are also taken for such things as cutting holes through walls, floors and ceilings for building engineering services. They are often taken from a schedule supplied by the building services engineer and are commonly referred to as 'builders' work'.

Remeasurement of provisional quantities invariably results in an adjustment to the contract sum. Therefore, the measurement of any items for which a provisional quantity has been given are subject to variation instructions.

2 Practical application (Level 2 – doing)

2.1 Introduction

Valuation and payment are formal contractual processes and, therefore, must be processed strictly in accordance with the contract conditions.

It must be recognised, however, that there are a large number of different contract conditions that are used in the construction industry today. For this reason, the process maps included in Part 2 are based on the valuation rules contained within the JCT Standard Building Contracts and JCT Design and Build Contract. Notwithstanding this, when dealing with non-JCT Contract Conditions, the activities described in the process maps should be adhered to where appropriate.

It is the responsibility of the both the certifier, and the quantity surveyor to check which contract conditions are applicable to the building project and to ascertain the valuation and payment rules to be used.

Detailed provisions relating to the interim valuation procedure are contained within the appropriate conditions of contract. These procedures can vary according to the conditions of contract being used, as well as due to bespoke amendments, if any, introduced by the parties (i.e. via a schedule of amendments to the contract conditions). Always refer to the conditions of contract, including any amendments and if in doubt discuss with the project director and/or the employer.

The purpose of interim valuations is for the cost manager to advise the 'certifier' (i.e. contract administrator, employer's agent or project manager, as appropriate) the value of work assumed to be properly executed in accordance with the contract.

The proper way to prepare a valuation is to value, on each occasion, the amount of work that has been completed by the contractor since the commencement of the works (which can comprise pre-construction phase activities, such as design development by the contractor, before commencement of construction phase), and the value of unfixed site materials and off-site materials and goods, if applicable, on the 'due date'; adjusted by the relevant deductions to give the 'gross valuation'. From the gross valuation, the total of any previous payments made to the contractor to leave the amount due for payment by the employer.

By following this procedure strictly, any under-valuation or over-valuation of either work executed, unfixed site materials or off-site materials and goods in the last valuation will be automatically corrected.

Quantity surveyors/cost managers should not attempt to value the work executed, the materials and goods delivered to site, or off-site materials and goods since the last valuation in isolation.

Note

The term 'contract administrator' used in this practice information means any person responsible for the administration of the building contract. The term includes: architect, contract administrator, employer's agent (used by JCT Contract Conditions) and project manager (used by NEC3 contract conditions).

2.2 Valuation process

There are six fundamental stages to preparing an interim valuation, which are summarised in Figure 7.

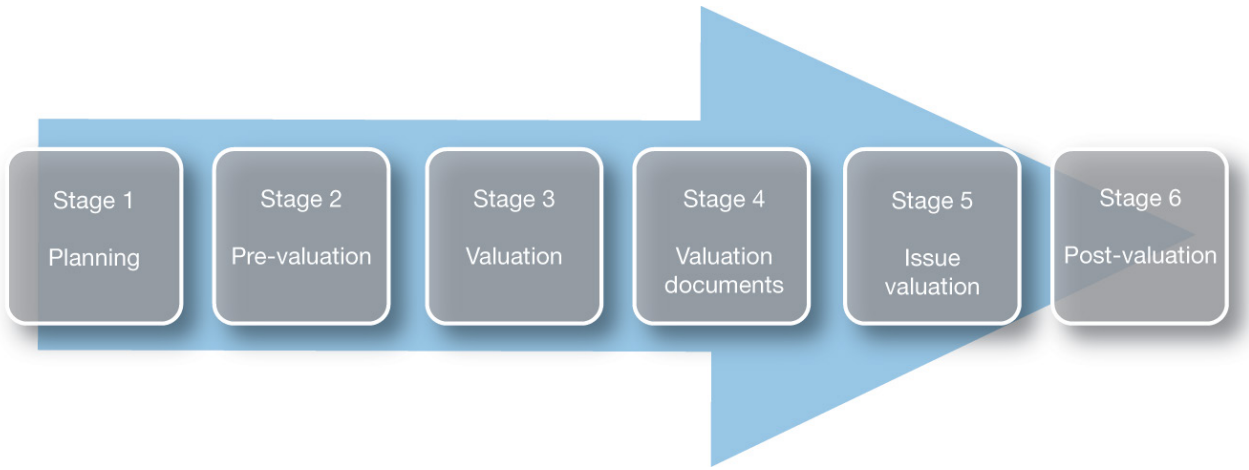

Figure 7: Stages in preparing an interim valuation

Checklists for interim valuations are provided to support the preparation of valuations. These checklists are found at appendix B (Stage 1: planning) and C (Stages 2 to 6: interim valuation process) of this practice information.

2.3 Step 1: planning

Before commencement of the contract, the quantity surveyor should complete the following actions:

Process

1. understanding requirements
2. employer's specific requirements
3. review pricing document

4 liaise with contractor

5 liaise with consultants and

6 liaise with clerk of works.

1 Understanding requirements:

- Check contract signed by both employer and contractor.
- Comprehend the interim valuation and payment provisions in the conditions of contract.
- Determine if interim valuation and/or payment provisions amended by amendment to conditions of contract (see note A).
- Identify payment method (see note B).
- Establish fluctuations provision applicable to contract, and how applied.
- Identify items subject to retention and not subject to retention.
- Identify 'prescribed period' for payment (see note C).
- Determine key dates for each interim payment (see notes D and E).
- Produce 'schedule of payment dates' (see notes F and G)
- Determine if any materials are subject to off-site valuation.
- Ascertain method for valuing materials subject to off- site valuation.

Notes on understanding requirements

a Have amendments been made to the standard form of contract that have bearing on valuations and payments (i.e. review any schedule of amendments, special conditions or supplementary conditions to contract conditions)?

b Are payments to be based on periodic payments, stage payments, milestones, activity schedule or other method?

c The prescribed period is the period from the due date to the final date for payment although the prescribed period is given in standard conditions of contract, the parties can change it.

d Key dates are:

e last date for contractor to submit interim application for payment

f valuation date

g due date

h last date for issue of payment notice or interim certificate, as appropriate

i last date for issue of 'pay less notice' and

j final date for payment.

k Determine key dates for all contract periods – e.g. for construction period, rectification period and final payment. The periods for interim payments after practical completion are often different to those during the construction period.

l The schedule of payment dates may have been agreed between the parties before executing the Contract and appended thereto. Where only the 'due date' for each period has been stated, make sure that the 'schedule of payment dates' incorporates the 'due dates' stated in the contract conditions.

m Design a 'schedule of payment dates' form appropriate to conditions of contract.

2 Employer's specific requirements

- Agree schedule of payment dates with employer (see note A).
- Determine if the contractor is to submit 'interim applications' or if valuation is to be prepared by the quantity surveyor (see note B).
- Establish whether the employer requires valuations to be built-up under various headings.
- Confirm whom the employer requires the contractor's invoice to be made out to.
- Verify method for valuing materials subject to off-site valuation.
- Ascertain form of 'vesting certificate' to be used (see note C).

Notes on employer's specific requirements

a To be agreed by both the employer and contractor.

b If required by the conditions of contract. For example, this is an option in the JCT Standard Building Contract 2011, in which the responsibilities of the quantity surveyor are defined.

c If the employer does not have a prescribed 'vesting certificate', they should be advised to seek legal advice.

3 Review pricing document

- Determine how the contract sum is derived.
- Obtain a breakdown of preliminaries from the contractor (if not previously supplied) (see notes A and B).
- Identify any adjustments made in calculating the contractor's tender price, which now constitutes the contract sum (see note C).
- Determine which preliminaries items are one-off expenditure items, related to cost, and which are related to time.
- Determine structure and presentation for interim valuations (see notes D, E and F).
- Produce a template for presenting interim valuations (see notes D, E and F).
- Generate record of valuations and payments.

Notes on reviewing pricing document

a Make sure that the contractor's preliminaries are sufficiently broken down to allow proper assessment.

b Where the preliminaries have been developed using NRM 1 or NRM 2, the contractor's breakdown should be structured in the same way.

c For example, director's adjustments, or work package adjustments made in the summary of the bill of quantities, contract sum analysis, form of tender or elsewhere in the pricing document or in a covering letter.

d The quantity surveyor, after consultation with the employer, should prescribe the structure and presentation for interim valuations; and instruct the contractor to submit their interim applications for payment in the same manner. This will simplify the interim valuation process and make it easier to verify the contractor's interim application, leaving the contractor to decide on the structure.

e Make sure that items that do not attract retention are separated – to avoid the erroneous deduction of retention.

f Make sure that items that do not attract overheads and profit (OH&P) for the purpose of interim valuations (e.g. materials off-site) are separated – to avoid the erroneous addition of OH&P.

4 Liaise with contractor

- Agree a schedule of payment dates with the contractor.
- Issue a schedule of payment dates to the employer, contractor, consultants and the certifier (see note A).
- Inform the contractor whom the employer requires invoices made out to.
- Agree structure and presentation of the contractor's interim application for payment with the contractor.
- Inform the contractor of procedure for receipt and verification of invoices, daywork vouchers and other supporting information.
- Agree basis on which preliminaries will be incorporated into interim valuations.
- Agree basis on which sums in adjustments in the contractor's pricing document (and/or in the correction of errors) will be incorporated into interim valuations.
- Ascertain percentage addition for overheads and profit to be charged by the contractor for variations/changes (see note B).

Notes on liaising with contractor

a The certifier is the contract administrator. The employer may also be the certifier, but this is not usual.

b Unless agreed otherwise, the percentage addition charged by the contractor for overheads and profit in respect of variations/changes is to be the same or lower than that included in the calculation of the contract sum.

5 Liaise with consultants

- Remind the contract administrator (or employer's agent or project manager) that they (or their authorised deputy) have responsibility for verifying daywork vouchers.
- Explain method to be used to notify the quantity surveyor of any work or materials/goods not in accordance with the contract.
- Confirm, in writing, that the quantity surveyor will not adjust interim valuation for work not in accordance with the contract that is notified after the valuation date stated on the schedule of payment dates, in writing.

6 Liaise with the clerk of works/site inspector (JCT) or the supervisor (NEC3)

- Discuss importance of diligence and accuracy in checking records of resources used by the contractor (see note A).
- Issue schedule of payment dates to clerk of works/site inspector (JCT) or the supervisor (NEC3) (see note B).
- Arrange with the clerk of works/site inspector (JCT) or the supervisor (NEC3), if required, to receive labour record (which is required for checking wages fluctuations).

Notes on liaising with the clerk of works/site inspector or the supervisor

a Impress on clerk of works/site inspector (JCT) or the supervisor (NEC3) (or any person to whom the responsibility has been given to record contractor's resources, time, materials, plant, etc.) that diligence and accuracy in checking on resources used is crucial and that, therefore, they must keep a reliable daily record. Inform them that you will be visiting the site to make spot checks unannounced.

b Acquaint clerk of works/site inspector (JCT) or the supervisor (NEC3) with the valuation dates programmed. Request that you are notified of all items of work likely to become hidden so that you can ensure that records are made, ready for measurement.

2.4 Step 2: pre-valuation

Step	Process
2.1	Receive contractor's interim application for payment

Notes on receiving contractor's interim application for payment

a Obtain confirmation, in writing, from the contract administrator that all works are in accordance with the contract.

b Each month, it is good practice to send timely reminders to the contractor's quantity surveyor of the date on which contractor's interim application of payment is to be received.

c Check conditions of contract for process to be adopted if the contractor fails to submit interim application of payment by the required date.

2.5 Step 3: valuation

Step	Process
3.1	Fair assessment
3.2	Ascertain valuation
3.3	Collect information

1 Fair assessment

- Meet the contractor's quantity surveyor at site.
- Inspect the works (see notes A and B).
- Assess, through visual inspection, the extent of:
  - – work assumed to be properly executed in accordance with the contract and
  - – site materials (or materials on-site)
- Produce photographic record of works (see notes C and D). [Optional]

Notes on fair assessment

a Tour site with the contractor's quantity surveyor, and jointly assess the extent of works completed. Make notes of findings and/or key points.

b It is important (and necessary) to visit the site of the works. First, to assess the overall progress of the works and, secondly, to assess the various aspects of the valuation in detail. It is also necessary to assess the materials on site for incorporation in the works. The details and quantities should be checked.

c When considered appropriate, make a photographic record of work executed; with all photographs clearly annotated. The time and date of each photograph is also to be recorded.

d Maintain copy photographic records in the valuation folder.

e Obtain all documents from the contractor's quantity surveyor, all documents required to support contractor's interim application for payment.

2 Ascertain valuation

- Determine sums to be included in the gross valuation (see notes A, B, C, D and E).
- Calculate the gross valuation.
- Ascertain adjustments to gross value (see note F).
- Calculate the net valuation.
- Calculate the balance due (see note G).
- Record adjustments made to contractor's interim application for payment; together with reasons for such adjustments (see note H).
- Agree valuation with contractor's quantity surveyor (see notes J, K and L).

Notes on ascertaining valuation

The quantity surveyor's assessment should be an accurate calculation of work completed for a component or element applied to the value of the work in the contract. While the quantity surveyor's assessment should be as accurate as possible, inaccuracy should not exceed:

- where the contract sum is not more than £2,500,000: +/- 5%
- where the contract sum is more than £2,500,000: +/- 2.5%

a Ascertain sums to be included in the gross valuation in respect of:

i preliminaries

ii work executed, including contractor designed work, together with associated design fees and charges

iii design fees and charges (in the case of design and build contracts)

iv adjustment of provisional sums

v adjustment of prime cost (PC) sums/prices

vi variations/changes

vii site materials (check contract requirements)

viii materials and goods off-site (check contract requirements)

ix loss and expense

x costs and expenses relating to the contractor's right of suspension

xi costs in connection with specified clauses

xii costs in connection with 'confirmed acceptance of an acceleration quotation'

xiii contractor's risk allowances.

xiv overheads and profit and

xv other adjustments (e.g. director's adjustment).

b Calculations made in the course of the valuation must be recorded – being set out in a clear form and retained for future reference.

c The reason for changing any individual rate, price or amount within the contractor's interim application must also be recorded – again, being set out in a clear form and retained for future reference.

d Although common sense, records of decisions will prove invaluable should the contractor challenge payments through adjudication during the course of the contract.

e The value of daywork vouchers must not be included in the valuation unless the work included in them has been instructed, in writing, by the contract administrator.

f Adjust the gross value for:

i advance payments

ii work not properly executed (notified to QS, in writing, by contract administrator)

iii fluctuations

iv errors in setting out

v retention and

vi amounts previously paid/previous payments.

g Calculate the balance due (i.e. the payment due to the contractor)' by deducting the total amount of previous payments received by the contractor under previous interim certificates or payment notices or pay less notices, whichever is applicable.

h Produce a schedule of adjustments to the contractor's interim application for payment or clearly marked-up copy of contractor's 'interim application to show all adjustments made; together with reasons for such adjustments.

i Obtain written confirmation from contractor that they agree with the quantity surveyor's valuation.

j Important: obtaining written confirmation from the contractor must not impact on the contract administrator's obligation to issue a payment notice (or an interim certificate or a payment certificate, whichever is applicable) by the required date stated on the schedule of payment dates.

k It is universally accepted that interim payments are approximate only, and provided the amounts included for the various components are reasonable, no objection will be raised because they are not exact. For this reason the amounts shown in valuation forms, statements of retention, certificates and notices are always rounded to the nearest pound, as are the sums in the main money column of valuations.

3 Collect information

- Collect details applicable to the final account from contractor's quantity surveyor.
- Maintain information as a running record.

2.6 Step 4: valuation documentation

Step	Process
4.1	Check valuation
4.2	Complete valuation documentation
4.3	Record valuation

1 Check valuation

- Perform a final desk check of valuation.
- Perform independent arithmetical check of valuation.
- Notify contractor of any errors corrected as a result of the final desk check.

2 Complete valuation documentation

- Prepare the statement of retention values form (see note A).
- Prepare the valuation form.
- Check correctness of the statement of retention values and valuation forms.

2.7 Step 5: issue valuation

Step	Process
5.1	Assemble valuation documentation
5.2	Review valuation

5.3	Sign valuation
5.4	Issue valuation

1 Assemble valuation documentation

- Collate valuation documents (see note A).
- Append a copy of the practical completion certificate to valuation forms (see note B).

Notes on assembling valuation documentation

a Check that all valuation documents are in correct order – i.e. covering letters, valuation form and statement of retention, contractor's interim application for payment, together with the schedule of adjustments to the contractor's interim application or clearly marked-up copy of contractor's interim application (whichever is applicable).

b If all or part of the retention monies are to be released in valuation, append a copy of the practical completion certificate, the section completion certificate, the partial possession certificate, the certificate of making good, whichever is applicable, to the valuation form. This provides evidence that retention monies can be released.

2 Review valuation

- Give all valuation documents to independent person for review.
- Review of valuation by independent person (recommended).
- Adjust valuation (if required),
- Notify any changes in valuation to the contractor (see note A).

Notes on reviewing valuation

a Notify the contractor, in writing, of any changes in valuation.

3 Sign valuation

- Sign the valuation form.
- Sign covering letters to the certifier and contractor.

4 Issue valuation

- Issue the valuation to the contractor (see notes A and D).
- Issue the valuation to the certifier (see notes B, C and D).

Notes on issuing valuation

a Notify the contractor of the amount of the valuation (i.e. issue covering letter to contractor, together with the valuation form, the statement of retention, a copy of the contractor's original interim application with a schedule of adjustments to the contractor's interim application (or a clearly marked-up copy of the contractor's interim application for

payment), copies of relevant certificates, and any other applicable documents supporting the contractor's interim application for payment).

b Notify the certifier of the amount of the payment recommended for the purpose of the interim certificate or payment notice (i.e. issue the same documents issued to the contractor, including the covering letter to the contractor, together with the covering letter to the certifier)

c Copy of the covering letter to the contractor to be included as part of the valuation documents to certifier, but not vice versa.

d If permitted by the contract conditions, the covering letter can be converted to PDF or produced as an email and issued electronically with the valuation documents. Check the contract conditions to ensure that the electronic transmissions of valuations are permitted.

2.8 Step 6: post valuation

Step	Process
6.1	Maintain records
6.2	Manage discrepancies
6.3	Record payments

1 Maintain records

- Retain a record copy of all valuation calculations.

Notes on maintaining records

a Records to comprise copies of:

b signed copy of valuation issue letters

c signed valuation form

d statement of retention

e contractor's original interim application for payment, together with the schedule of adjustments showing all adjustments made to it or

f contractor's interim application for payment clearly marked-up to show all adjustments made

g all other documents used to prepare the valuation.

2 Manage discrepancies

- Obtain a copy of payment notice or interim certificate from certifier.
- Verify amount certified by certifier in payment notice or interim certificate.
- Record amount certified on record of valuations and payments form.

- Resolve with discrepancies, if any, between valuation and payment notice or interim certificate.

3 Record payments

- Ascertain amount paid by the employer.
- Verify the amount paid by the employer is the same as in the interim certificate, payment notice or subsequent pay less notice (see note A below).
- Record the amount actually paid to the contractor by the employer on the record of valuations and payments form.
- Resolve any discrepancies, if any, between the interim certificate, payment notice or subsequent pay less notice and amount actually paid to the contractor by employer.

Notes on recording payments

a Is it different to the amount shown on the interim certificate or payment notice; was a pay less notice issued to the contractor?

2.9 The importance of records

Always produce a schedule of adjustments to the contractor's interim application for payment or clearly marked-up copy of contractor's interim application to show all adjustments made; together with reasons for such adjustments.

Calculations made in the course of the valuation must be recorded – being set out in a clear form and retained for future reference.

The reason for changing any individual rate, price or amount within the contractor's application for payments must also be recorded – again, being set out in a clear form and retained for future reference.

Although common sense, records of decisions will prove invaluable should the contractor challenge payments through adjudication during the course of the project.

2.10 Final account

Any details that are applicable to the final account should be collected together as a running record.

2.11 Standard forms and covering letters

Standard valuation and payment forms have been developed for some Standard building contract conditions, but not all. In view of this, the quantity surveyor will need to develop their own forms where proprietary ones are not available. Where bespoke forms are developed by the quantity surveyor, it is recommended that they ask their legal adviser to review before implementing.

3 Practical considerations (Level 3 – advising)

3.1 Introduction

Part 3 provides practical advice on different aspects of the valuation and payment process.

Note

The term contract administrator used in this practice information means any person responsible for the administration of the building contract. The term includes: architect, contract administrator, employer's agent (used by JCT contract conditions) and project manager (used by NEC3 contract conditions).

3.2 Duty of care

Valuations should be treated almost as 'mini final accounts' as they generally reflect all the matters and items which appear in a final account. Interim valuations may now be subjected to the same scrutiny as final accounts as they may be the subject of adjudication provisions in contracts and as such each discrete valuation is required to be compiled with care.

3.3 Special situations

3.3.1 Termination of the employment of a contractor

There are special provisions relating to valuations in the case of the termination (or determination) of the employment of a contractor under most standard contract conditions.

The details of the requirements for valuations will depend on the circumstances of the termination (or determination).

3.3.2 Liquidated damages

Liquidated damages (also called damages and delay damages) are a sum of money stated in the contract as the damages payable in the event of a specified breach. The rate of liquidated damages must be a genuine pre-estimate of the loss likely to be caused by the breach, or a lesser sum. The genuine purpose must be to compensate the employer rather than punish the contractor. A penalty is not enforceable. However, if the rate of liquidated damages is considered to be a penalty, the employer may still pursue an action for their actual damages (unliquidated damages) at common law.

The advantages of liquidated damages are:

- they do not require proof of loss after the event
- they can simply be deducted by the employer under the contractual mechanism in the contract
- they are agreed in advance and stated in the contract so that the contractor knows the extent of their potential liability
- there is no need to prove actual damage after the event and it does not matter if the client's loss is greater or less than the rate stated in the contract, moreover, the specified rate in the contract is recoverable even if there is no actual loss to the client.

Liquidated damages are outside the scope of VAT. Therefore, clients should be advised to consider the implications of VAT and other taxes when they calculate the rate of liquidated damages.

NEC3 contracts refer to liquidated damages a 'damages', but the meaning is the same.

A liquidated damages clause is usually linked with an extension of time clause.

The general rule is that the contractor is bound to complete the work by the date for completion stated in the contract, as extended (if so). If they fail to do so, the employer is entitled to recover liquidated damages.

The employer is not entitled to liquidated damages if they, by their acts or omissions (including those of the agents administrating the contract – i.e. the contract administrator, the employer's agent or the project manager) causes the delay.

Failure by the contract administrator, to properly extend time or acts, etc. of the employer not covered by the events (e.g. relevant events under JCT contracts) listed in the extension of time clause will result in time being at large and liquidated damages being irrecoverable. The contractor's obligation is then to complete within a reasonable time and the employer is left to sue for unliquidated damages at common law.

When entitled to do so, the employer may recover liquidated damages from monies owed to the contractor.

The employer may ask the quantity surveyor to ascertain the amount of liquidated damages that they may recover from the contractor under the contract. However, under the JCT contract conditions, neither the contract administrator nor the quantity surveyor is to deduct the amount of liquidated damages which the employer is entitled to recover from the contractor from any valuation. It is for the employer to recover liquidated damages from the contractor, and the employer alone. Whereas, under NEC3 contracts, it is the contract administrator's (i.e. the project manager's) responsibility do ascertain the amount and to recover damages from the contractor.

3.4 Retention of title

Retention of title is also known as a 'Romalpa' or a 'reservation of title' clause. It is a clause reserving the seller's title to the goods until those goods are fully paid for. It imposes a duty

of care in respect of the goods on the buyer and purports to entitle the seller to recover the goods or trace the proceeds of sale.

Why is this important?

The legal rule is that sold and delivered goods and materials remain the property of the seller until the buyer pays the purchase price in full.

Construction contracts often involve a number of different parties. Deciding who owns various goods and materials at a particular point in time can be a surprisingly difficult task. People tend to assume that ownership (or title) in goods will not pass to a purchaser until the goods have been paid for. However, this is not the case and title will often pass at a much earlier stage.

When does title generally pass? Unless specified otherwise, the basic position in contracts for the sale of goods is that title passes from the seller to the buyer when the parties intend it to pass (section 17 *Sale of Goods Act* (SGA) 1979). Intention can be ascertained by considering the terms of the contract, the conduct of the parties and the circumstances of the case and in certain situations there are specific rules in section 18 of the Act that should be considered. In general, however, the latest that title will pass under the Act is when the goods are delivered.

The supply of goods and services is governed by the *Supply of Goods and Services Act* (SGSA) 1982. Title passes when the parties intend it to pass but there are no implied rules regarding intention. Many construction contracts for the supply of work and materials will be governed by the SGSA 1982.

1 What is a retention of title clause?

Under both the SGA 1979 and SGSA 1982 the ownership of construction materials is likely to pass when the goods are delivered to site. This may leave the supplier or seller in a dangerous position if the buyer defaults on payment or becomes insolvent after delivery.

A retention of title clause (or Romalpa clause, after the first case on the subject *Aluminium Industrie Vaasen v Romalpa Aluminium Ltd* [1976] 1 WLR 676) may be included in a contract to remedy the problem. It displaces the usual rule of law that title passes to the buyer at the time of delivery and states that ownership of goods does not pass from a seller to a buyer unless and until the seller is paid for those goods.

There are various different types of retention of title clauses. A simple retention of title clause will provide for the basic principle outlined above. However, there are other types of retention of title clauses that may be included in a contract.

An all-monies clause retains ownership until payment of all money owed by the buyer to the seller has been made. This type of clause renders it unnecessary, in the event of an insolvent buyer, to reconcile invoices against specific goods to establish what has been paid for, and what has not, and hence what the buyer owns, and what it does not. In the situation where the goods supplied to the buyer are to be sold on, a proceeds of sale clause aims to allow

the seller to claim the money paid to a buyer by a sub-buyer when the buyer has sold on the goods. This type of clause was held to be valid in the *Romalpa* case.

However, subsequent cases have held that proceeds of sale clauses may amount to a charge over the goods that will be ineffective if not registered at Companies House.

Unsurprisingly, all the main standard form construction contracts contain retention of title provisions governing ownership of goods.

2 The effectiveness of retention of title clauses and complicating factors

Retention of title clauses are undoubtedly useful in protecting a supplier's position. However, the effectiveness of the clause will often depend on what the buyer has done with the goods. It is possible that co-mingling may occur where the buyer has mixed the goods either with their own or those from another seller. Where it is possible to separate the goods the seller will retain ownership under a standard retention of title clause. However, if this is not possible the buyer and seller will own the goods together.

A retention of title clause is likely to be defeated if admixture or annexation has occurred. The former arises where the buyer mixes or combines materials with other materials in a non-reversible manufacturing process. The latter is where the materials have become fixed to the land and it is of particular importance in the construction industry.

If annexation occurs the materials become the property of the landowner, regardless of whether they have been paid for and the supplier cannot remove the materials. However, at which point materials become affixed can be a difficult issue to determine. In *Holland v Hodgson* (1872) the court said that it would depend on the facts of the case and the degree and object of annexation. Factors such as the degree of damage that removal would cause should be considered.

3 Other interesting issues

As highlighted above there is a question over whether a retention of title clause will amount to a charge over the company's property. If it does amount to a charge it must be registered with the Register of Companies. A charge that is not registered will be void and will not bind an administrator or liquidator.

A simple retention of title clause will not amount to a charge but it is possible that a complicated retention of title clause may do. If this is the case each contract would need to be registered and as such a clause should be carefully avoided to avoid this trap. Courts will focus on the particular wording of the retention of title clause when deciding whether it amounts to a charge.

Whether a retention of title clause amounts to a charge is particularly relevant in an insolvency situation. In an insolvency situation goods and equipment on a construction site will come under the immediate control of the insolvency practitioner.

The insolvency practitioner's powers will depend on the particular type of insolvency procedure. Nevertheless, under section 234 of the *Insolvency Act*, if the insolvency

practitioner believes or has reasonable grounds for believing that they are entitled to use and dispose of goods then they are not liable to the true owner for any loss or damage that results. However, if the insolvency practitioner is negligent, for example, by proceeding when they are aware that a retention of title clause exists, then they lose the protection of this section of the Act and is personally liable for loss and damage sustained by the true owner.

4 Conclusion

Any seller of goods, but especially one supplying materials to a construction project, should consider when title to the goods will pass. In the absence of an agreement to the contrary, title will pass at a time that could cause difficulties for the seller. Specific provision should be made for the transfer of ownership in the contract. A retention of title clause will help protect the seller's position in the event of non-payment or insolvency.

3.5 Sale of Goods Act 1979

Comprehensive statutory provisions regulating the sale of goods are contained in the *Sale of Goods Act* 1979, which applies in the UK.

The Act applies only to the sale of goods, and so has no direct application to building contracts. However, sales of building materials to the contractor and similar transactions are within the Act, which imply certain conditions and warranties as to fitness for purpose, merchantable quality, etc.

In general, a non-owner cannot transfer title of goods and nobody can give possession than themself. The principle has caused practical problems in building contracts, especially as regards to off-site goods and materials that have been paid for under the contract by the employer and the contractor is not the owner of the goods. Moreover, changing procurement methods over the last 10–15 years, with the main contractor primarily being a manager, implies that the main contractor is a non-owner of goods.

Consequently, it is important for the quantity surveyor to ask contractors to demonstrate that the goods and materials, both those fixed and unfixed, included in their applications for payment are free of any reservation of title.

3.6 Supply of Goods and Services Act 1982

The Supply of Goods and Services Act 1982 applies, among other things, to building contracts. It implies certain conditions and warranties in regard to materials and goods supplied under a building contract. These implied terms parallel those given by the *Sale of Goods Act* 1979 in respect of the sale of goods, e.g. the goods are to be of merchantable quality.

3.7 Vesting of materials and goods

Ownership of valuable materials and/or goods, particularly those stored off-site, becomes a hotly contested issue in the event of insolvency. The employer will often have paid for the materials and will therefore be seeking title; the receiver (or other appointed insolvency practitioner) and the supplier may also have claims.

The general rule is that title to goods, under a contract only for their supply, will pass upon their delivery, regardless of whether or not they have been paid for (see the *Sale of Goods Act* 1979). However, this general rule can be modified by the terms of the supply contract (and often is). Such amendments often provide that title does not pass until payment is received, regardless of delivery. These types of clauses are often referred to as 'retention of title' clauses.

Title to goods supplied under a sub-contract for supply and fit will depend entirely upon the terms of the relevant contract. There are no statutory implied terms regarding transfer of title in such cases.

There is a lot of case law and a fair amount of legislation surrounding retention of title clauses. The basic principles are that subject to the following, retention of title clauses are valid to deprive the client of title, even though the client may have paid a third party (the insolvent contractor) for the goods (see *Aluminium Industrie Vaassen v Romalpa Aluminium* [1976]). In other words the seller cannot pass on better title than they actually possess:

- under contracts for the supply of goods (not generally including construction contracts, which are usually contracts for the supply of goods and services), a seller in possession of goods with the consent of the owner may pass good title to those goods, despite the existence of a retention of title clause (see the *Supply of Goods Act* 1979)
- a right to goods will be lost where those goods have been irretrievably mixed or incorporated into other goods, despite the existence of a retention of title clause. For this reason, it was found that a retention of title clause over resin used in the manufacture of chipboard was ineffective (*Borden (UK) v Scottish Timber* [1981]), but a retention of title clause over an engine that had been bolted to a concrete slab was still effective, as the engine could be unbolted (*Hendy Lennox v Grahame Puttick* [1984])
- depending on the terms of the retention of title clause, it may have effect as a floating charge over the property. If this is the case, then in respect of limited companies, that charge needs to be registered at Companies House if it is to have effect as against third parties.

Special care is required to check that the contractor has good title to goods when including the value of unfixed materials (whether stored on- or off-site) in interim payments, especially where those goods are of high value. Simply asking the contractor will not be sufficient – and neither will asking their subcontractor. To be sure of the good transfer of title, it will be necessary to check down the supply chain until a contract for the supply of goods is identified, or a manufacturing process irretrievably incorporating or mixing the goods is found. The proper transfer of title should then be traced from this point up.

Particular caution is required when making payment for materials from abroad that have not yet been delivered into England. The insolvency laws of other legal jurisdictions are different to those of England, and generally override any contractual provisions.

Where there are concerns, payment for materials stored outside the jurisdiction of the English courts should only be made against an on-demand bond given by a reputable bank with a presence in England. An example is appended to the JCT DB 2011 form (at schedule 6, part 2). This provides for payment on-demand on the basis that it is conclusive evidence of the amount due where amounts have been stated in interim payments in respect of items listed before their delivery to site, and they are insured by the contractor to their full value. The bond expires on the delivery of the goods or materials to the site or adjacent to the works.

Another common method of securing off-site materials (although considered to be less reliable than an off-site materials and goods bond) is a vesting certificate. Typically these provide:

- confirmation that the goods stored off-site vest in the purchaser
- that the goods will be insured to their full value for the benefit of the purchaser and
- that they are stored separately and marked to identify ownership.

A common view is that vesting certificates amount to nothing more than promises which, in the case of insolvency, may not be enforceable. Where the goods or materials are being stored outside England and Wales only an on-demand off-materials and goods bond should generally be acceptable.

3.8 Valuing work not properly executed

3.8.1 Retention fund

Retention is a sum of money (the retention fund) held by the employer as a safeguard against defective or non-conforming work or materials provided by the contractor. It is to safeguard the employer against latent defects (i.e. defects that may subsequently develop during the rectification period, which were not identified at practical completion) and the contractor's possible failure to complete the contract – it is not to be used for work not properly executed, which is to be valued separately.

The retention fund is normally based on a percentage of the contract sum. In some contracts, the amount of retention calculated on a percentage basis is capped. Also note that not all items comprising the contract sum are subject to retention. Therefore, before carrying out a valuation, it is essential that the quantity surveyor checks the rules for ascertainment of retention applicable to the contract.

The retention fund is built-up from the quantity surveyor's valuation of work in progress at each payment interval. These provide the contract administrator with the amounts to be incorporated in interim certificates and notices of payment, whichever is applicable.

3.8.2 Retention fund – safeguarding the contractor

The employer's interest in retention is fiduciary as trustee for the contractor. The requirement of the general law is that employers should set aside retention monies in a separate bank account. The purpose is to safeguard the contractor's money in the event of the employer becoming insolvent. Failure to put money aside may result in a mandatory injunction to do so. An employer who uses the retention fund for their own ends as distinct from ensuring it is held safe for the contractor's benefit, would be in breach of trust.

3.8.3 Ascertaining amount of retention and valuing work not properly executed – safeguarding the employer

Issues can arise when practical completion is granted but there is a number of defects to be rectified and/or some outstanding works to be completed (often referred to as a 'snagging list') which the employer is willing to accept to achieve practical completion; particularly where the list is extensive. Should the contractor become insolvent, or simply refuse to remedy the defects and/or complete the outstanding works, during the rectification period, the employer needs sufficient monies to enable the defective and incomplete works to be rectified.

Notes

1 Unless specifically defined in a schedule of amendments to the contract conditions the term 'snagging' has no contractual effect and binds neither the employer nor the contractor. Note that the contractor is under no obligation to take notice of a 'snagging list', only to fulfil their obligations under the contract. Although it is too much to expect that the expression will be obliterated from site conversation, the contract administrator should be meticulous in using the correct terms to avoid confusion.

2 Alternative terms for rectification period include defects liability period, defects period, and maintenance period.

Therefore, at time of valuation, the amount of work assumed to be properly executed by the contractor in accordance with the contract must be valued by the quantity surveyor, as well as the value of rectifying the defects and completing the outstanding works not completed by the contractor. Distinction between these two categories is important, particularly where the valuation is to be based on an early final account settlement figure (which is sometimes agreed between the employer and the contractor without final recourse to the quantity surveyor).

For work assumed to be properly executed in accordance with the contract by the contractor, the amount of retention monies is to be calculated in accordance with the rules for ascertainment of retention provided in the contract conditions. Whereas, monies associated with defective and outstanding work must be excluded from the valuation (i.e. the cost of rectifying or completing the works listed in the 'snagging list').

Further valuations, as required, of work properly executed are undertaken by the quantity surveyor during the rectification period, when withheld monies can be paid to the contractor

for any defects rectified and/or outstanding works completed to the contract administrator's satisfaction (the site supervisor under NEC3 contracts).

Quantity surveyors must ensure that both the value of work that is not complete and the value of defective and outstanding work is ascertained separately and excluded from valuations; in addition to retention.

Adjustments for defective and outstanding work are to be valued at the rates and prices used to calculate the contract sum (e.g. in the pricing document: the contract sum analysis, bill of quantities, schedule of rates, or schedule of works).

3.8.4 Practical completion – definition

Practical completion is a phrase found in most standard forms of contract (particularly the JCT Standard Forms of Contract). Despite the enormous importance of this date, Standard forms of contract do not normally define practical completion. However, it is generally agreed that practical completion does not mean nearly complete.

Notwithstanding the above, employers often incorporate supplementary or special contract conditions to define the meaning of practical completion in respect of their project. Furthermore, some employers might invoke additional penalties, over and above liquidated damages, should the contractor have not completed and handed over certain documents at practical completion (e.g. operation and maintenance documents and/or health and safety file). Again, therefore, it is essential that the quantity surveyor understands the project-specific practical completion deliverables, and the consequences of non-conformance, before completing valuations.

The NEC3 contracts states that completion is when the contractor has:

1 done all the work required of the contractor in the works information and

2 corrected notified defects that would have prevented use of the works by the employer or others from doing their work.

3.9 Valuing preliminaries when contract in delay

When a building project is running late and no extension of time has been granted (or will not be granted due to delays caused by the contractor), how are preliminaries valued for the purpose of interim valuations and payments?

If no extension of time has been granted, the completion date is that stated in the contract documents (or the refixed completion date stated in a previous extension of time certificate). Until an extension of time is awarded and the completion date refixed, the quantity surveyor, without an instructed change to the contract completion date, should not make any informal assessment of any alteration to the completion date for valuation purposes. Quantity surveyors are not in the position to 'anticipate' revised completion dates.

Two simple methods of valuing preliminaries when the contract is in delay are explained here:

Assumptions:

Contract period: 100 weeks

Time elapsed to date: 50 weeks

Culpable delay declared: 10 weeks

Method 1:

The period of culpable delay is deducted from the time elapsed to date when assessing time-related preliminaries.

$$\frac{50-10}{100} \text{ x time-related preliminaries} = 0.40 \text{ x time-related preliminaries}$$

Method 2:

The period of culpable delay is added to the contract period when assessing time-related preliminaries.

$$\frac{50}{(100+10)} \text{ x time-related preliminaries} = 0.45 \text{ x time-related preliminaries}$$

Method 1 is recommended as it safeguards the employer in the event of contractor insolvency in that there should be sufficient money retained to fund the remaining period required to complete the works.

Both approaches mean that time-related preliminaries will never be 100% until related activities are closed out/achieved; consequently reducing the possibility for overpayment. They also avoid a judgement call on completion and supports fair valuation. In addition, they can be applied to activity-based preliminaries that span a period of time, but not the full contract duration (i.e. hire periods for specified plant) but cannot be applied for fixed charges.

Once the completion date has been formally extended then the option to stretch the valuation term is introduced; but this has to be considered in conjunction with any claim for loss and/or expense plus the valuation of preliminaries included in any agreed variation costs.

3.10 Payments ‘on account’

The term ‘on account payment’ means ‘a payment for an item of work or materials or goods for which no instruction has been issued by the contact administrator to date, but is anticipated’.

Payments on account are used by the quantity surveyor for any item in a valuation that cannot be agreed under the contract rules but, that both sides agree that some payment is due. This can mean:

- Work instructed – the quantity is not capable of measurement (e.g. soft spots).
- Work instructed – the rate is to be agreed – a provisional rate, which is subject to negotiation with a subcontractor or a supplier.

Normally, on account payments are not permitted where no instruction for the works exists. The standard contract conditions are very clear on this matter.

They state that the contract sum can only be changed by formal variation or change instruction from the contract administrator. However, the JCT Standard Forms of Contracts permit the contractor to confirm oral instructions from the contract administrator in writing. If the contract administrator does not respond to the contractor's notice, the contractor's written confirmation is treated as an instruction as though it had been issued by the contract administrator.

3.11 Valuation towards completion

Towards the end of a contract, it is important for the quantity surveyor to value the works giving cognisance to the work done and the work remaining to be done. This can distort a valuation as there can be a plethora of items that look complete but the effort required to get to 100% completion might be greater that the appearance of the work might indicate. As the works approach practical completion, it is important for the quantity surveyor to approach the valuation on a bottom-up and top-down basis (what is assessed as done and what is assessed to be done). This double check can affect a valuation – a quantity surveyor can be criticised for not thinking in terms of the bottom-up valuation if the contractor becomes insolvent in the closing stages of a contract.

3.12 VAT for construction services

When VAT is added to a sales invoice it is 'output tax' in the hands of the party raising the invoice (the contractor). To the recipient (the employer) of the invoice the same tax is 'input tax'.

The construction of a new building and work to an existing building, including design services in connection, is normally standard rated. There are, however, various exceptions to this. Information about these exceptions can be found in VAT Notice 708 (Buildings and Construction), issued by HMRC, which is continually updated.

This notice explains:

- When building work can be zero-rated or reduced-rated.
- When building materials can be zero-rated or reduced-rated.
- When the sale, or long lease, in a building is zero-rated.

- When developers are 'blocked' from deducting input tax on goods that are not building materials.
- When a builder or developer needs to have a certificate from their customer, confirming that the building concerned is intended to be used for a purpose that attracts the zero or reduced rate.
- When a customer can issue that certificate to a builder or developer.
- What happens when a certificated building is no longer used for the purpose that attracted the zero rate, the use for that purpose decreases or the building is disposed of.
- The special time of supply rules for builders.
- When a business, on using its own labour to carry out building work on a building or civil engineering structure that it occupies or uses, must account for a self-supply charge.

In a building project, VAT can result in payments of hundreds of thousands of pounds to HMRC. Therefore, it is essential that the amount of VAT is correctly accounted for by the contractor before it is settled with HMRC. It is the seller (the contractor) who calculates the amount of VAT to be added to their sales invoice.

Although VAT is not included in the quantity surveyor's valuation, the certifier might be required to include the amount of VAT payable by the employer to the contractor in their payment notice. It is essential, therefore, for the certifier to have a basic understanding of VAT for construction services; and be able to advise the employer to seek specialist VAT advice when needed. It is also advisable for the quantity surveyor to have a basic understanding of VAT for construction services, as they will often be the first person that either the certifier or the employer will turn to.

Appendix A

Summary of changes to the Housing Grants, Construction, Regeneration Act 1996 due to the Local Democracy, Economic Development and Construction Act 2009 in respect of payments

The existing provisions of sections 110 and 111 of the HGCR Act 1996 are amended by the LDEDC Act 2009, as follows:

1 New sections 110 1A, 1B, 1C and 1D

Section 1A confirms that it is not an adequate mechanism for determining payments due under a contract if it is conditional upon:

a the performance of obligations (not including payments (section 1B)) under another contract or

b a decision by any person as to whether obligations under another contract have been performed.

Unless the contract is an agreement for the carrying out of construction operations by another person (section 1C).

Section 1D confirms that it is not an adequate mechanism for determining payments due under a contract if it is to be determined by reference to a notice to the payee of what payments are due.

2 Replacement of sections 110 (2) and 111

The following changes to the HGCR Act 1996 materially alter the way that payments are made in respect of construction contracts:

a Section 110(2) is replaced by new sections 110 A and 110 B.

b Section 110 A requires that all construction contracts will have to provide for either the payer (1)(a), payee (1)(b) or a specified person (1)(a) to give a notice to the other party, not later than five days after the payment due date containing the following information:

- the sum that the party considers to be or to have been due at the payment due date (2)(a)(i) or (2)(b)(i) or (3)(a) and
- the basis upon which the sum is calculated (2)(a)(ii) or (2)(b)(ii) or (3)(b).

c The sum specified in the notice can be zero (4).

d If the contract does not comply with subsection (1), the Scheme for construction contracts applies (5).

e Section 110 B applies where the payer fails to provide a notice required by the contract ((1)(a) and (b)) and confirms that the payee may give the payer a section 110 A (3) compliant notice, at any time after the payer notice was due (subsection (2)).

f The final date for payment is adjusted; by the number of days after the payer notice was due the payee notice was given (3).

g The payee is not required, or permitted, to give two 110A (3) compliant notices in respect of the same pay period.

h Section 111 (notice of intention to withhold payment) is replaced by a new section 111 (requirement to pay notified sum).

i The payer must pay the notified sum (defined in subsection (2)), to the extent not already paid, on or before the final date for payment (1), unless the payer or specified person gives the payee a notice of the payer's intention to pay less than the notified sum (3). The notice must specify (4):

- the sum that the payer considers to be due on the date the notice is served and
- the basis on which that sum is calculated.

j The sum specified in the notice can be zero.

k A subsection (3) notice (5):

- must not be given later than the prescribed period (defined in subsection (7)) before the final date for payment and
- may not be given before an applicable payee notice.

l The payer need only pay the sum specified in the subsection (3) notice (6).

Appendix B: Bibliography

International Federation of Consulting Engineers (FIDIC) Contracts

JCT Design and Build Contract 2011

JCT Intermediate Building Contract 2011

JCT Intermediate Building Contract With Contractors Design 2011

JCT Minor Works Building Contract 2011

JCT Minor Works Building Contract with Contractors Design

JCT Standard Building Contract With Quantities Without Contractor's Design 2011

JCT Standard Building Contract Without Quantities 2011

JCT Standard Building Contract With Quantities 2011

JCT Standard Building Contract With Approximate Quantities 2011

NEC3 Engineering and Construction Contract April 2013

RICS' *New rules of measurement: Detailed measurement for capital building works* (NRM2)

Shorter NEC April 2013

Delivering confidence

We are RICS. As a member-led chartered professional body working in the public interest, we uphold the highest technical and ethical standards.

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