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Contractors' Claims for Loss and Expense under the Principle 'Traditional' Forms of Irish Building Contract

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Abstract

Contractor's claims for loss and expense have long been a contentious issue on many building contracts. Claims are usually resolved during the final accounting process, but where negotiations fail, they frequently become disputes, with the parties adopting a legal route to resolve their differences. This review examines the topic of contractors' claims in the context of 'traditionally' procured building contracts in the Republic of Ireland and focuses on the RIAI 'Yellow' and the GCCC Public Works PW-CF1 Contracts. The study examines the grounds on which a claim for compensation may be made under these two contracts and describes the administrative procedures to be observed. The principles underlying the evaluation of claims are discussed, identifying the various heads of claim which may apply in particular circumstances. The study concludes with a discussion of various issues in connection with contractual claims under the two forms of contract.

The study is intended as an aid to Irish students undertaking undergraduate and conversion masters courses in quantity surveying and construction management related disciplines.

Introduction

The cost plan may be based upon countless data from previous schemes, the Contract Bills measured against a precise set of rules, but the claim is too often settled by going to war. (Trickey, 1983)

A contractor is entitled to payment for work including variations and may also be entitled to claim for additional time and money (Murdoch and Hughes, 2008). Contractors' claims may be described as requests for the reimbursement for additional costs resulting from certain employer or employer's agents' acts, which delay or disrupt the contractor's progress, and which otherwise would not be recoverable under the contract. They typically arise due to administrators' instructions, late information, postponement, employer interference and/or other employer's default. Claims are an almost inevitable consequence where construction projects are procured through competitive tendering procedures based on less than perfect tender documentation.

The word 'claim' captures the adversarial nature of the construction industry. March (2009) comments on the emotive impact of *'contractors 'claiming' for everything possible and exploiting every opportunity and loophole in the contract. ... [and] that much of the disquiet between developers and contractors has resulted from excessive use of these procedures.'* In practice, however, claims often display failings by both parties, such as where a delay is initially caused by the employer's team, and is then complicated by some misunderstanding, shortcoming or mismanagement by the contractor, sub-contractors, or both.

Claims are usually resolved during the final accounting process, but where negotiations fail, they frequently become disputes, with the parties adopting a legal route to resolve their differences. During 'normal' and buoyant periods of the construction cycle claims may, at best, be viewed as an inconvenience, during difficult economic periods they may present serious difficulties and result in an increase in expensive legal disputes. Anecdotal evidence suggests that the incidence of claims and disputes rose during the recent recession, as many contractors attempted to claw back money on underpriced and uneconomic tenders. Opinions regarding the perception that contractors had become more claims conscious have been reported by McCaul (2011) who quotes an architect's view:

Even guys that you could have relied on in the past, [are submitting more claims] ...clients are becoming much more aware of the cut and thrust of the Industry and clients don't really appreciate getting taken advantage of all the times on claims and extras. There are legitimate contractors who submit legitimate claims, that is about 10% of the Industry. There are others who would have been that way, but have been forced not to be like that. Otherwise they will not be at the table to get the contracts

[Interviewer] There is a feeling that you are now going to have to exploit drawings and contract documents. It is the practice among companies to set somebody down to comb through the contract documents and see the weakness and exploit them.

Claims occur due to the nature of construction works. Employers typically want construction projects to be built in the shortest possible period and at the least possible cost. Contractors aim to construct at the minimum cost, and where a project is delayed or disrupted by the employer they want fair compensation for the additional costs incurred. Claims may arise due to various failures to effectively manage the procurement process such as: failing to adequately plan the project at pre-contract stage; providing inadequate information at the time of tendering; using inappropriate tendering procedures; ordering extensive variations on site; employing deficient nomination procedures, and causing delay due to other design team deficiencies. Risks and unforeseen events also give rise to claims.

The Royal Institution of Chartered Surveyors (RICS, 2001) comment that it is the quantity surveyor's responsibility is to *'determine a proper ascertainment in accordance with the conditions of contract and the circumstances that have prevailed.'* They note that while contractors 'press hard' and sometimes overstate their cases, that the quantity surveyor must not be seen as *'being at the other end of a tug-of-war rope to the contractor'* in an attempt to minimise the reimbursement of such claims. The surveyor, as an official of the contract, must act in a fair manner to both sides and avoid the perhaps natural instinct to minimise fellow design team members' shortcomings.

This study deals with contractors' contractual claims for reimbursement for loss and expense arising from delays and disruption caused by the employer or his/her agents under the principle Irish forms of building contract where the design is provided by the employer. The focus is entitlement and procedure under the Royal Institution of Architects in Ireland (RIAI) 'Yellow' form of Contract (RIAI, 2012) where quantities form part of the contract, which is used on substantial private sector contracts, and the Public Works Contract PWC-CF1 version 1-9 published in January 2014 (Office of Government Procurement, 2014) which is for use on public sector contracts exceeding five

million euro in value. The Public Works Contract (PWC) is also widely referred to as the GCCC (Government Construction Contracts Committee) Contract.

Types of Claims

Ramus, Birchall and Griffiths (2006) categorise claims as being one of three kinds: common law claims; ex gratia claims, and contractual claims.

Common law claims

These seek damages for breach of contract at common law. Ramus et al. (2006) explain that these may arise from causes *beyond* the express terms of a contract, such as where an employer hinders the contractor's progress or where an architect is negligent in carrying out his/her duties thereby causing the contractor loss. Knowles (n.d) adds that the late granting of possession of the site, or the breaching of the implied condition not to interfere with the contractor's progress, may be breaches of contract. He recommends that employers draft contracts to provide for foreseeable breaches by the employer, his/her agents and the design team, as these would otherwise eliminate the employer's right to seek liquidated damages if a contractor failed to complete on time. As a result, most standard forms of contract provide for a range of employer default events, and these can therefore be dealt with under contractual mechanisms.

Occasionally common law claims may take the form of a *quantum meruit claim* which typically arises where a person has carried out work where no price has been agreed, or where the original contract has been replaced by a new one and payment is claimed for work done.

The RICS (2001) explain that the level of damages payable at common law should put the injured party '*so far as money can do it, to be placed in the same situation with regard to damages, as if the contract had been performed.*' The principles governing damages under common law were established in *Hadley v Baxendale* (1854), which provides that the injured party is entitled to damages: '*either arising naturally, that is, according to the usual course of things for such breach of contracts itself, or such as may reasonably be supposed to have been in the contemplation of both parties at the time they made the contract as the probable result of the breach*'. These may be summarised as direct and reasonably foreseeable costs.

Ex gratia claims

These *ex-contractual* claims are rare and commonly take the form of ‘sympathy payments’; employers have no legal obligation to make them. Ramus et al. (2006) explain that employers may feel a moral duty to pay a contractor in circumstances where, for example, the contractor has seriously underpriced an item whose quantity has been increased substantially by a variation. Ashworth, Hogg and Higgs (2013) comment that a sympathetic client may, on rare occasions, make such a payment if there has been a long-standing relationship, or because a contractor has provided a particularly satisfactory performance and has completed the contract on time, to the required standard within the agreed price, but has incurred a loss through misfortune, or no fault of its own.

Contractual Claims

These arise from the express provisions of the contract.

Ramus et al. (2006) explain that these are by far the most common form of claim and typically relate to ‘*fluctuations, variations, extensions of time and ‘loss and/or expense due to matters affecting regular progress of the works.’* This study focuses on the final issue, loss and/or expense due to matters affecting the regular progress of the works, which is generally regulated by what are known as claims clauses.

Knowles (n.d) explains that claims clauses set out in express terms the contractor’s entitlement to additional payment when particular risks arise. He adds that many claims events cover what would otherwise be breaches of contract by the employer or the architect acting on his/her behalf, for example, late issue of drawings. Various events giving rise to a contractual claim do not, however, amount to a breach of contract. For example, the ordering of variations typically does not cause a breach of contract, as this action is specifically catered for in most building contracts.

The RIAI contract does not contain a specific claims clause, but instead makes provision under various clauses for the contractor to be reimbursed in the event of suffering loss or expense caused by architects’ instructions or employer defaults. The Public Works Contract and many standard form contracts in use in the UK contain detailed claims clauses under which the contractor or the sub-contractor can claim against the other party for loss and expense suffered as a result of delay or disruption due to certain specified causes.

Deciding whether to sue at common law or claim under the contract

Although most contractors claim loss and expense for delay and disruption under the terms of a contract, they may also have a concurrent right at common law to claim damages for breach of contract. Murdoch and Hughes (2008) comment:

This feature of claims [employer's disruption] provisions means that, in many cases, an event that enables a claim to be made will also entitle the contractor to recover damages for breach of contract. In particular, it may amount to a breach of the employer's implied obligation of co-operation with the contractor ... If this is so, it is for the contractor to decide whether to sue for breach of contract at common law or to claim under the appropriate clause in the contract. The contractor's right to choose between these remedies can only be removed by clear words in the contract itself, and this would be most unusual.

They add that the amount payable is not affected by the choice of action as the English courts have held that the contract term 'loss and/or expense' equates to common law damages¹. They note however, that there are distinctions between the two actions, the main ones being:

- Although broadly similar the two causes of action are not identical. For example, an architect's instruction to postpone work may give rise to a disruption claim under the contract, but such an instruction would seldom be a breach of contract. However, if an employer failed to provide access to the site as promised, this is a clear breach of contract, but not all contracts make this the subject of a claim.
- Contractual claims are settled by the contract administrator, usually assisted by the quantity surveyor, and these are paid through interim certificates. Damages for breach of contract are awarded by a court or an arbitrator.
- The conditions of contract will usually require the contractor to comply with specific procedures such as serving written notice backed up by details, these must be strictly complied with. If they are not, then the contractor may be restricted to common law rights to sue for damages. Knowles, (n.d.) adds that '*a common law damages claim will be a matter for agreement between the parties, failing which, the matter will be referred to arbitration or litigation.*'

¹ This comment is supported by Keane (2001) who views it as being the position of the Irish courts – see below

- As a general rule, a claim under a specific provision of the contract can be made as soon as the event occurs and the loss is suffered. By contrast, a contractor who sues for breach of contract will normally have to wait a considerable period to get to court or arbitration.

The RIAI Contract

Individual contracts vary widely as to the grounds on which a claim may be based. Murdoch and Hughes (2008) explain that any contractual claim made must be based upon some specific provision of the particular contract, and that the contractor must incur loss which would otherwise not be reimbursed under the contract. They add no valid claim arises where contractors experience unexpected difficulties, or where the work turns out to be more expensive than was originally estimated.

Grounds for contractual claims

There is no specific claims clause *per se* in the RIAI form, however two key provisions, Clause 2 and Clause 29(b), entitle the contractor to recover additional monies resulting from disruption and delay to the works.

Clause 2

This clause sets out the scope of the contract and caters for losses or expense incurred due to compliance with architects' instructions. It states:

If compliance with an Architect's Instruction will involve the Contractor in loss or expense beyond that provided for in or reasonably contemplated by this contract the Contractor shall so inform the Architect; then, unless such instruction was issued by reason of some breach of this contract by the Contractor the amount of such loss or expense shall be ascertained by the Architect and be added to the contract sum.

Keane (2001) comments that such claims must relate to items of loss and/or expense that could not be claimed under the variations clause (Clause 13). Examples of possible claims arising under this clause would include instructions dealing with:-

- the ordering of variations; (Clause 2(a))

- the correction of discrepancies or divergences between the drawings and the bill of quantities; (Clause 2 (b))
- the removal of materials from the site and the substitution of other materials therefore; (Clause 2 (c))
- the opening up for inspection of any work covered up (Clause 2 (d)), - unless of course, this reveals that the work was not in compliance with the contract;
- the postponement of any work to be executed (Clause 2 (e)); Keane (2001) comments that this power is '*provided to deal with circumstances which might have altered since the commencement of the contract.*' It appears that this provision may encompass the whole of the work.
- any other matters appertaining to the proper execution of the contract (Clause 2 (i)).

Clause 30 (g), dealing with delays and extensions of time, provides that a contractor is entitled to an extension of time where '*the Contractor has not received in due time necessary instructions from the Architect for which he has specifically applied in writing*'. Keane (2001) comments that architects must therefore ensure, that they provide timely information to the contractor. This is usually set out in a Schedule of Information Requirements. He adds that '*claims for delay and expense under this heading will not be viewed sympathetically by the Employer and might well result in a claim against the Architect.*'

The architect may also issue instructions under the provisions of various clauses within the contract. For example, appointments under Clause 16 'Nominated Sub-Contractors' and Clause 17 'Nominated Suppliers', are typically made on foot of an architect's instruction.

The procedure for dealing with provisional sums under Clause 18, requires the issue of an architect's instruction on the expenditure of the sum. *ARM 4* (Construction Industry Federation and Society of Chartered Surveyors, 2009) defines provisional sums as '*a sum provided for work or for costs which cannot be entirely foreseen, defined or detailed at the time the tendering documents are issued.*' The general position is that the contractor must make due allowance in the programme for the execution of such works. However contractors often claim for additional time and loss and expense if the extent of the works required significantly exceeds that suggested by the provisional

sum, or provisional quantities included in the bill of quantities. Such situations may arise where ground conditions prove to be more difficult than those described and quantified in the bills of quantities. Standard methods of measurement used in the UK differ from Irish methods and Murdoch and Hughes (2008) comment that the 'standard' UK JCT contract provides that loss and expense may be recoverable in situations where the provisional sum relates to 'undefined work' or where the approximate quantities were not an accurate forecast of the amount of work required. It is suggested therefore that 'catch-all' contingency sums should be avoided and more defined risk provisions inserted instead.

Clause 29 (b)

This clause in effect allows the contractor to recover loss and expense as a result of an employer's default. It states:

If any act or default of the Employer delays progress of the Works then the Contractor shall within five working days of the act or default give notice in writing to the Architect to this effect and any time lost from this cause shall be ascertained and certified by the Architect and the Employer shall pay or allow to the Contractor such damages as the Contractor shall have incurred by the delay.

The scope of this provision is broad and provides for a variety of events that would otherwise constitute a breach of contract. Claims typically arise from three events listed in Clause 30 of the Contract (Delay and extension of time), these are: failure to grant possession; disruption caused by the employer's direct employees, and other matters of employer default. An example of 'other matter of default' could be where the employer fails to honour architect's certificates, which permits the contractor, subject to notice, to suspend work, and if the default continues, to subsequently determine its employment under the contract.

Other Clauses Permitting Claims for Loss and Expense

Clause 28 of the contract deals with late possession. The final sentence of the clause reads: '*If the Date for Possession is deferred by the Employer then the Contractor shall be entitled to receive from the Employer compensation for any loss incurred due to dislocation of the Contractor's organisation ...*'. Keane (2001) comments that any delay in handing over possession of the site may entitle the contractor to both an extension of time, and to compensation under this clause. He adds that the 'dislocation of the contractor's organisation' and the impact on the contractor's ability to obtain other work may be extensive, if for example, the delay postpones a planned April start until

September. Each case must be judged on the particular facts. Keane adds that it is in everybody's interests to ensure '*that the site is available (or as much of it as is necessary to allow a start to be made) before the contract is signed.*'

Delays by other contractors, artists or tradesmen engaged by the employer are covered by Clause 20 where '*the Employer ... shall indemnify the Contractor against all claims whatsoever arising from the employment of such specialists.*'

Claims Procedures

Having established that the contractor has been delayed or disrupted by the employer and has incurred loss under the terms of the contract, the next stage is to successfully pursue a claim. The RIAI Contract provides for the reimbursement of loss and expense arising from various architects' instructions and certain employers' defaults.

Regarding architects' instructions, paragraph 4 of Clause 2, requires the contractor to 'inform the Architect' if '*compliance with an Architect's Instruction will involve ... loss or expense beyond that ... reasonably contemplated by this Contract.* Likewise, Clause 29(b) provides that '*if any act or default of the Employer delays progress of the Works then the Contractor shall within five working days of the act or default give notice in writing to the Architect to this effect.*' In both cases the architect must then establish the amount of such loss to be reimbursed to the contractor.

Although Clause 2 is not specific regarding the timeframe within which the architect should be informed, it would be prudent to do so as soon as possible, preferably in writing. Ashworth, et al. (2013) comment that problems arise when claims are notified or submitted late, as there may be little opportunity to check the details in these situations. They add that contract administrators and employers may view such claims unfavourably.

Keane (2001) stresses the importance of the contractor notifying the architect, as required, under Clause 29(b) within five working days of the occurrence of the event which may, or has caused the delay. He suggests '*that failure to do so might not necessarily deprive the contractor of his right, but it would be prudent to avoid the risk.*' He offers the following advice regarding claims:

- 'the claim should be made at the time the loss or expense is occasioned and not at the final account stage.

- the claim should be specific, and not an all-embracing claim, and
- The claim must relate to items of loss and expense that could not be claimed under Clause 13 (variations).’

Regarding late claims, Murdoch and Hughes (2008) comment that contract administrators may simply ignore notice that does not comply with the contract’s time limits, and the contractor may be left with little option other than taking legal proceedings for breach of contract.

Murdoch and Hughes (2008) comment that the contract administrator may require additional information from the contractor in order to decide whether the claim is justified or to establish the value of the claim. Knowles (n.d.) quotes Vinelott J.

The contractor must clearly co-operate with the architect or the quantity surveyor giving such particulars of the loss or expense claimed as the architect or quantity surveyor may require to enable him to ascertain the extent of that loss or expense: clearly the contractor cannot complain that the architect has failed to ascertain or to instruct the quantity surveyor to ascertain the amount of direct loss or expense attributable to one of the specified heads if he has failed adequately to answer a request for information which the architect if he or the quantity surveyor is to carry out that task. [Stanley Hugh Leach v London Borough of Merton (1985) 32 BLR 51]

This process may require contractors to reveal otherwise confidential information regarding wages, bonuses and head office overheads etc. (Ramus et al., 2006). Knowles (n.d) adds that it is clear that the contractor’s evidence must prove, on the balance of probabilities, ‘*that matters for which the employer is responsible has directly caused him to suffer loss and/or expense.*’ Amounts ascertained should be included in the following interim certificate.

Evaluation of Claims

Where a contractor’s claim is accepted in principle, it must then be evaluated. Although it is the responsibility of the architect to determine the value of the claim, the evaluation is usually based on the recommendation of the quantity surveyor following negotiations with the contractor. Murdoch and Hughes (2008) comment that the evaluation of loss and/or expense claims ‘*is seldom an easy task*’ and add that it demands a deep knowledge and experience of construction, a careful study of the contract conditions, an appreciation of their legal application, and a knowledge of the relevant case law. The RICS (2001) emphasise that ‘*the ascertainment of loss and/or expense is an exercise in calculating as precisely as possible that which is incurred by the contractor directly and solely due to the matters listed in contract.*’

It may be said that claims evaluation under the RIAI form of contract follows the ‘loss and expense’ approach adopted by a number of UK contracts including the JCT contract. Murdoch and Hughes (2008) comment that the English courts have ruled that terms such as “direct loss and/or expense”, require a similar valuation approach to that used to in determining an award of damages for breach of contract. They add that this process requires compensation, *‘not only for out of pocket losses, but also for loss of profit.’* They also comment that such an award must comply with the normal rules of remoteness of damage for breach of contract.

Keane (2001) adds that while the word 'direct' does not occur in the RIAI form, a number of English cases have examined the distinction between ‘direct’ loss and ‘consequential’ loss. He explains that the courts will examine the facts carefully where a contract seeks to exclude the recovery of consequential loss. He claims that *‘if the damages result directly and naturally from the event in question, the Courts will hold that the loss is direct, and any consequential or indirect loss will not be recoverable.’*

Keane adds that

The various cases have established; that interest would be payable on a loss and expense claim if payment were delayed; ... that the phrase ‘loss and expense’ can be equated to damages at common law; ... that an allowance can be included for office overheads; ... and finally, that loss of profit would be a permissible item for loss and expense claims, but only if the Contractor could prove that he could have employed his resources profitably elsewhere.

Keane describes *“loss” ‘as any monies that the Contractor should have received, but which he did not receive, because of one or more of those events listed in the conditions of the relevant contract. He adds that “expense” refers to any cost to the Contractor, which is more than it would otherwise have been, because of the events referred to above.’*

The RICS (2001) identify various heads of claim which may become reimbursable: (a) extended and/or increased preliminaries; (b) reduced labour outputs; (c) extra waste or abortive purchase of materials; (d) inflation; (e) increased head office overheads; (f) loss of profit and, (g) finance charges. They state that the following items which are frequently claimed by contractors are generally not admissible: (h) cost of accelerating the works unless specifically required by the employer and (i) cost of preparing a claim.

Additional Preliminaries

Many contractors adopt the approach of ‘getting the time first and the money will follow’ and contract administrators are often nervous about granting extensions because they fear a loss and expense claim as a probable consequence. Murdoch and Hughes (2008) comment that where a job is prolonged certain types of losses are likely to occur and that it is obvious that the cost of on-site overheads will be greater if the contract period is lengthened. Keane (2001) explains that these can often be calculated from items in the preliminaries section of the bill of quantities. These may contain items setting out the site staff costs, site accommodation and temporary offices, plant, security, scaffolding, temporary services etc.

Knowles (n.d) notes that traditionally, quantity surveyors often valued prolongation claims on a pro rata basis of the cost of the preliminaries divided by the original contract period. This formulaic approach may be convenient but it often produces inaccurate results. Errors may arise due to:

- the pricing strategy adopted by the contractor – in many cases the cost of preliminaries items are partially contained in the unit rates in the measured works sections of the bill. In such cases the rates contained in the preliminaries section will not reflect the actual cost of providing the various facilities. In practice preliminaries are occasionally left largely unpriced.
- many preliminaries items represent ‘point costs’ such as setting out and drying out the works, these are not time-related, and are therefore not affected by prolongation of the project. Other items such as scaffolding are only partly time-related, in that the erection, alteration and dismantling of the scaffold are point activities, while the hire cost is time related.
- The formula approach typically does not reflect what *actual* costs are incurred. These costs vary considerably during the course of a project and can peak when a project is operating at maximum intensity. Delays caused during these periods are unlikely to be covered by a pro-rata preliminaries allocation.
- Preliminaries do not cover disruption and the knock-on costs of inefficient or underutilised resources. For example direct labour or subcontractors may have been diverted or underutilised during the delay period.

Labour Disruption

Murdoch and Hughes (2008) emphasise that a claim for loss and/or expense is based *not* on delay in completion of the works, but on the fact that the regular progress of those works have been disrupted.

The Society of Construction Law Delay and Disruption Protocol (Society of Construction Law, 2002) defines disruption as: ‘(as distinct from delay) disturbance, hindrance, or interruption to a contractor’s normal working methods, resulting in lower efficiency.’ Disruption can affect non-critical, as well as critical activities, and is witnessed as a reduction in productivity through standing or idle time of labour and plant; part-time utilisation of labour and plant; out of sequence operations; additional costs resulting from plant, and operatives being brought back after having already left the site.

Disruption can be difficult to quantify (Hackett 2007, Keane 2001). Hackett notes that quantifying disruption requires the measurement of labour/resources productivity. He adds that ‘*the parties usually cannot agree on even the crude level of disruption, or indeed the on the actual time lost due to the various small interruptions/stoppages.*’ He argues that the most convincing way of assessing disruption is to compare productivity during a normal period with that in an ‘affected’ period. This echoes the *Society of Construction Law’s Delay and Disruption Protocol’s* (2002) approach which states:

The most appropriate way to establish disruption is to apply a technique known as the ‘Measured Mile’. This compares the productivity on an un-impacted part of the contract with that achieved on the impacted part. Such a comparison factors out issues concerning unrealistic programmes and inefficient working. The comparison can be made on the man hours expended or the work performed.

Nevertheless, there are few hard and fast rules about the calculation of disruption or loss of productivity, and the difficulty remains that it is impossible to *prove* what the work would have cost if the disrupting event had not occurred. Evaluating disruption costs therefore often require professional judgements based on the best information available.

Regardless of the difficulties in valuing disruption these do not relieve the employer from making a proper assessment. Knowles (n.d) quotes the following statement of Davies J.

It is clearly impossible under the facts of the case to establish with anything approaching mathematical accuracy the damages sustained by the plaintiffs, but it seems to me to be clearly laid down there by the learned judges that such an impossibility cannot ‘relieve the wrongdoer of the necessity of paying damages for his breach of contract’ and that on the other hand the tribunal to estimate them whether jury or judge must under such circumstances do ‘the best it can’ and its conclusion will not be set aside even if the amount of the verdict is a matter of guess work. [*Wood v Grand Valley Railway Co.*, (1913) 30 O.L.R. 44]

Ramus et al (2006) comment that quantity surveyors operating in a commercial context should satisfy themselves as to the reasonableness and adequacy of a contractors claim, adding that in many instances a degree of calculation or formulaic assessment may be necessary.

Hackett (2007) sets out the following example of ascertaining the loss of output from records.

A variation to part of a foundation of a building delays the erection of one bay of the precast concrete frame. This prospect is predicted well before it takes place and the clerk of works and the contractor, at the request of the architect agree records of output both before and after the period of disruption These are as follows:	
(a) Recorded cost of an erection gang per week	€3,500.00
(b) Recorded output of the gang prior to the disruption	1.50 bays per week
(c) Recorded output of the gang during disruption	1.15 bays per week
(d) Output of the gang assumed at tender stage deduced from the contract bill prices	1.30 bays per week
(e) After discussion with the clerk of works it is decided that the contractor did not manage the disrupted work as well as he should have done. Had he done so the output would have been	1.25 bays per week
Thus the reasonable cost per bay during disruption is (a)÷(e) (€3,500.00/1.25)	€2,800.00
Whereas the cost per bay before disruption (i.e. that which should have prevailed had disruption not taken place) is (a)÷(b) (€3,500.00/1.50)	€2,333.00
Therefore the direct loss and/or expense is £ 467 per bay (€2,800.00 - €2,333.00) and this is the contractor’s entitlement	

Fig 1 Example of a Calculation of a Disruption Claim Adapted From Hackett (2007)

Materials

The RICS (2001) comment that extra waste may arise due to moving of materials, stores or compounds, following the occurrence of a 'relevant' event. Trickey and Hackett (2002) comment that the most common claims for the extra cost of materials are usually based on materials becoming surplus to requirements due to, for example, (a) a variation order and (b) extra costs for protecting materials during periods of delay. They add that the extra cost of ordering small quantities of materials and additional waste associated with variation orders should be included in the valuation of the particular variation.

McGovern (2011) notes that surplus materials may arise where an employer changes or omits part of the works. He notes however, that '*in an inflationary market contractors will put in place purchase agreements with suppliers at the outset of the contract to manage material price variation risks.*' He suggests that employers '*may have to take possession of such materials if they form part of the works being omitted*'. Trickey and Hackett (2001) suggest, however, that where a contractor orders materials at an *unreasonably early stage*, that he/she runs the risk of not being able to recover the cost of the materials if they are not subsequently required. They add that in any event, a contractor has no claim for loss and expense where surplus materials have been ordered from a Bill of Quantities containing excess quantities.

Trickey and Hackett (2001) comment that evaluating surplus materials is straightforward. It involves verifying that the costs of the invoiced materials are reasonable, and that they are adjusted to take account of any credit for returns, and/or cancellation charges. They add that there may be little or no recoverable credit for purpose-made materials and components.

Regarding extra protection, Trickey and Hackett (2001) note that contractors will not be able to claim the cost of replacing materials which have deteriorated during a prolonged period. However contractors may be able to claim for the extra costs associated with extending the protective measures.

This head of claim is rarely encountered in practice, and it is more likely that such costs will form part of the variation account.

Inflation

According to March (2009) inflation will automatically be taken into account in loss and expense settlements where a contract contains a fluctuations clause. He argues, however, that if the contract is a firm price arrangement and the client causes delays, then '*in principle, the contractor is entitled to be reimbursed for increased costs due to inflation.*' The contractor is likely to have to pay higher costs for labour and materials during a period of prolongation particularly where this occurs during periods of rising demand in the construction cycle. Trickey and Hackett (2001) comment that the amount of inflation qualifying as loss and expense is '*never easy to calculate with precision.*' These calculations are typically carried out on a formula or indices basis.

Head Office Overheads

Ramus et al. (2006) explain that head office overheads refer to the costs of maintaining head and branch offices, plant and material yards, rent, rates, directors' and staff salaries, office running expenses, travelling expenses, professional fees, and depreciation. During the normal course of a business these overheads are recovered by calculating their anticipated cost over the financial year and identifying an average percentage to be applied to estimates thereby allowing the overheads to be recovered.

Murdoch and Hughes (2008) comment that contractors are likely to incur additional costs when works are disrupted because head office management time and effort are often diverted. These costs are recoverable, provided they are fully documented in the claim. They add that where a project is *prolonged* the contractor may also seek additional *general* head office overheads on the grounds that (a) the contract is producing a lesser contribution to head office overheads than tendered for and/or (b) the organisation is now being prevented from taking on other work which would contribute to the recovery rate. Such losses are extremely difficult to ascertain and Ramus et al (2006) note 'for many years' surveyors often dismissed such claims on the grounds of unforeseeability, i.e. that they were indirect and too remote from the cause.

The decision in *Peak Construction Ltd v McKinney Foundations Ltd (1970)* ruled that such losses are admissible, provided the contractor can show that other work could have been secured. Murdoch and Hughes (2008) stress that the contractor must, nevertheless, prove such losses. Ramus et al. (2006) explain that there are two ways of doing this: (a) by assessing the actual costs incurred, and

they recommend that this should be done wherever possible, or (b) using a formula approach where it is not practicable to assess the losses.

There are a number of formulae which are used to evaluate head office overheads. Murdoch and Hughes (2008) explain that these typically involve calculating a notional daily or weekly contribution to profit and overheads which is then multiplied by the period of the delay. They identify two formulae in common use in the UK: Hudson's, formula, and Emden's formula, of which Hudson's formula appears to be the one more commonly used in practice. This formula relates the contract value to annual turnover as a means of apportioning head office overheads, and is expressed as:

$$\frac{\text{Overheads/profit percentage}}{100} \times \frac{\text{Contract sum}}{\text{Contract period}} \times \text{Period of delay}$$

March (2009) comments that the weakness in this approach is that it relates to the tender, which is based on value, rather than actual costs. Equally, it assumes that the overheads for the contract are constant throughout its running period. The following matters should also be borne in mind:

- Not all overheads are affected by prolongation or disruption;
- Part or all of the overhead allocation may be incorporated in the individual rates when pricing the Bills of Quantities.

Loss of Profit

Ramus et al. (2006) refer to this as profit which the contractor was prevented from earning as a direct result of an employer's default event, for example, not being able to take on other work because of the prolongation of the delayed project. This process is very similar to a claim for additional general overheads discussed above and the two items are often dealt with together. Again, the difficult task of proving such losses falls on the contractor.

Financing Charges/Interest

Ramus et al. (2006) explain that finance charges and interest charges typically arise where the contractor has to borrow money, or use its own capital to finance the claimed loss and expense.

They note that the decisions in the cases of *F.G. Minter Ltd v Welsh Health Technical Services Organisation* (1980). and *Rees and Kirby Limited v Swansea City Council* (1985) established that the contractor is entitled to such costs when the settlement of a claim is delayed by the employer². They add that the appropriate reimbursement would be the interest rate paid, or rates for providing finance, which would typically be those charged by the contractor's bank or certified by the contractor's auditors.

Global Claims

According to Knowles (n.d) The correct manner of presenting a claim is to link the cause with the effect. He notes however that contractors often attempt '*to short cut the need to link cause and effect by use of the global claim. All causes of delay under the global claim method are lumped together and one overall delay given as a consequence.*' Ramus et al. (2006) comment that global claims are often presented when contractor claim that it is not practical to provide a breakdown of the loss incurred against each employer's disruption event. They suggest that contractors may review the project as a whole, identifying a number of disrupting events and then provide an overall costing for all these events. Knowles (n.d) considers that the status regarding global claims is that, whenever it is practicably possible to itemise causes of delay and their individual effects, this should be done. If, on the other hand, the causes of delay are of an extremely complicated nature, or the compounding effects of several causes cannot be distinguished one from another, then a global claim may, if the court so decides, be acceptable.

The Public Works Contract

Securing cost certainty is a key objective of public sector clients undertaking construction projects and has underpinned recent initiatives to improve performance within the sector. The Capital Works Management Framework launched by Department of Finance in 2004 comprises a series of four 'pillars' which sets out practice and procedure for the delivery of construction projects. It incorporates contractual provisions, guidance material and technical procedures covering the planning, implementation and review phases of projects. According to the National Public

² Murdoch and Hughes (2008) cast some doubt as to the extent of the legal authority for these decisions but note that they have since been applied to other cases.

Procurement Policy Unit (NPPPU) (2007) the Framework aims to establish an *‘integrated methodology and a consistent approach to the planning, management and delivery of public capital works projects with the objectives of greater cost certainty, better value for money and more efficient project delivery.’* The Public Works Contracts, PWC-CF1, in the context of this study, is a key component of the Framework.

The PWCs have been designed, primarily, *‘to deliver cost certainty, enable lump-sum fixed-price contracts to be awarded, rebalance risk, achieve value for money; and deliver projects more efficiently’* (NPPPU, 2007). The NPPPU claims that it is possible to achieve these aims by requiring design teams to provide comprehensive design information; contracting authorities to allocate known risks in a considered and balanced manner and, contractors to implement improved management practices. The NPPPU also claims that the forms of contract will support these objectives through being expressed in *‘ordinary language designed to be easily understood’*, having an improved structure and defining roles *‘so there should be few disputes about who is to do what and when.’*

PWC-CF1 was introduced in February 2007 and supersedes the Government Authorities and Local Authorities (GDLA) contract, which, in its approach to claims, was almost identical to that of the RIAI contract discussed above. Fahy and Forde (2014) comment that the PWCs *‘are largely original documents rather than modified versions of well known forms of contract used elsewhere’* and they *‘contain many novel concepts’*. They add that this originality means there are no sources to consult when disagreements arise over how the contract’s provisions are to be interpreted. The dispute resolution procedures included in the PWCs are private and confidential with the result that *‘those involved with interpretation of the PWC have tended to operate in a vacuum’*. They also note that this lack of binding interpretation is being complicated by frequent revisions to the contract. They say that their *‘experience has been that in any dispute subclauses 10.6 and 10.7 which set out the mechanisms by which the Contract Sum may be altered, always come up for discussion very frequently with contrasting views as regards their interpretation.’* These subclauses are at the heart of this study.

Commenting on these matters, The Society of Chartered Surveyors Ireland (SCSI) (2014) noted that unidentified changes to the forms of contract were far too frequent and are undermining familiarity with, and are generating mistrust of the contract. The Society also notes that *‘the lack of precedent*

from the resolution of previous disputes’ is hindering the building up of a knowledge base regarding the contract.

Contractors’ claims are dealt with under Clause 10 of the PWC. This clause contains the following nine subclauses: 10.1 Compensation Event; 10.2 Contractor to Pay Employer’s Cost of Checking Quantities; 10.3 Contractor Claims; 10.4 Proposed Instructions; 10.5 Employer’s Representative’s Determination; 10.6 Adjustments to Contract Sum; 10.7 Delay Cost; 10.8 Price Variation, and 10.9 Employer’s Claims. This study is primarily concerned with subclauses 10.1, 10.3, 10.6 and 10.7.

Grounds for contractual claims

The Department of Finance’s objective of securing greater cost certainty is apparent from the outset of the Contract. Article 4 of the Articles of Agreement states that:

The Contractor has included in the initial Contract Sum allowances for all risks, customs, policies, practices, and other circumstances that may affect its performance of the Contract, whether they could or could not have been foreseen, except for events for which the Contract provides for adjustment of the initial Contract Sum.

The explanation notes to Schedule 1K of the Contract defines unforeseeable as a

A condition, circumstance or occurrence is **unforeseeable** if an experienced contractor tendering for the Works could not have reasonably foreseen it on the Designated Date, having inspected the Site and its surroundings and having satisfied itself, insofar as practicable and taking into account any information in connection with the Site provided by the Employer, as to all matters concerning the Site, including its form and nature and its geotechnical, hydrological and climatic conditions.

This is a clear expression that the Contract Sum will not change except for the occurrence of specific risk events set out in the Contract. The NPPPU (2007) advises that these risks should be allocated to the party which is best able to manage them. The risk events which may be retained by the employer are set out in Schedule Part 1 Section K, which is discussed below.

Clause 10 of the Contract ‘Claims and Adjustments’ deals with contractors’ claims, together with variations and extensions of time. These are considered to be *Compensation Events*.

Subclause 10.1 ‘Compensation Event’ provides that contractors will be compensated, i.e. gain additional payment, where the contract so provides, only if the contractor is blameless, has

minimised unavoidable cost, and has fully complied with the notice and information procedures. It reads:

10.1.1 Subject to and in accordance with this subclause 10.1, if a Compensation Event occurs the Contract Sum shall be adjusted [upward or downward] by the amount provided in subclause 10.6. However, if the adjustment is an increase it shall only take effect to the extent that all of the following apply to the Compensation Event:

- 1 The Compensation Event is not a result of the Contractor's or Contractor's Personnel's act or omission or the Contractor's breach of the Contract
- 2 The Contractor makes all reasonable efforts to avoid and minimise the adverse effects of the Compensation Event.
- 3 The Contractor has complied with this clause 10 in full [including giving notices and details within the time required]
- 4 The Contract does not provide otherwise.

10.1.2 The Contractor's sole remedies for a Compensation Event shall be those stated in the Contract.

The Contract envisages that the Contract Sum can only be adjusted on the basis of a Compensation Event. The Compensation Events are set out in Schedule Part 1 Section K of the Contract which contains twenty one events that may be Delay Events and/or Compensation Events, depending on whether they indicated by a 'yes' or 'no' in the Schedule. Seventeen of the events are potential Compensation Events. The following Tables 1 and 2 are extracted from the Schedule in Part 1K. Table 1 identifies twelve default Compensation Events where employers bears the risk. Table 2 contains a further five risks which the employer, may retain, or alternatively, allocate to the contractor.

In brief, the twelve default Compensation Events are: change orders; unnecessary opening up; work suspension of the work by the employer; or contractor; incorrect site or setting out information; early employer occupation of works; late instructions; failure to provide access; failure to give a work item or other thing required by the contract; unforeseeable interference by employer's personnel; rectifying loss / damage insured by the employer; and other, unspecified, employer default.

1. The Employer's Representative gives the Contractor a Change Order
2. The Employer's Representative directs the Contractor to search for Defects or their cause and no Defect is found, and the search was not required because of a failure of the Contractor to comply with the Contract
3. The Employer's Representative directs the Contractor to suspend work under subclause 9.2
4. The Contractor suspends work in accordance with subclause 12.3
5. There is a factual error in information about the Site or setting out information in the Works Requirements. [This does not include an error of interpretation]
6. The Employer takes over part of the Works before Substantial Completion of the Works and any relevant Section
7. The Employer's Representative does not give the Contractor an instruction required under subclause 4.5.4 within the time required under subclause 4.11.2 when the Contractor has asked for the instruction in accordance with subclause 4.11.1
8. The Employer does not allow the Contractor access to and use of a part of the Site in accordance with subclause 7.1
9. The Employer does not give the Contractor a Works Item or other thing as required by the Contract when the Contractor has asked for the instruction in accordance with subclause 4.11.1
10. Employer's Personnel interfere with the execution of the Works on the Site, and the interference is unforeseeable and not in accordance with the Contract
11. The Employer instructs the Contractor under subclause 3.2.3 to rectify loss of or damage to Risk Items for which the Contractor is not responsible
16. A breach by the Employer of the Contract delaying the Works that is not listed elsewhere in this table.

Table 1 Compensation Events in the PWC CF-1 Form of Contract

The employer also has the option of allocating the following risks to the contractor as Compensation Events: incorrect quantities exceeding €500 in value; archaeological finds; unforeseeably adverse ground conditions or obstructions; unforeseeable buried utilities, and delays caused by utility companies. These are risks which would previously have been borne by the client and their transfer to the client has caused considerable disquiet within the industry.

17. A difference between the Contract value of the Works according to the quantities and descriptions in the Bill of Quantities [taking into account the method of measurement identified below when it applies] and the Contract value of the Works described in the Works Requirements, because the Bill of Quantities, when compared with the Works Requirements: includes an incorrect quantity or includes an item that should not have been included or excludes an item that should have been included or gives an incorrect item description And the difference for an item in, or that should have been in, the Bill of Quantities is more than €500
18. An item of value or archaeological or geological interest or human remains is found on the Site, and it was unforeseeable
19. The Contractor encounters on the Site unforeseeable ground conditions or man-made obstructions in the ground, other than Utilities
20. The Contractor encounters unforeseeable Utilities in the ground on the site
21. Owners of Utilities on the Site do not relocate or disconnect Utilities as stated in the Works Requirements, when the Contractor has complied with their procedures and the procedures in the Contract, and the failure is unforeseeable

Table 2 Optional Compensation Events in the PWC CF-1 Form of Contract

There are four Delay Events identified in Schedule IK which are not Compensation Events, these are: weather events; strike/lockout; court order not caused by the employer, and rectifying loss/damage insured by the contractor. Force majeure and national material and labour shortages, which are both grounds for granting an extension of time under the RIAI form of contract, do not qualify as Delay Events in the Public Works Contracts.

Claims Procedures

The procedures for submitting claims under the PWC contract are set out in subclause 10.3, which requires strict notification and information follow-up procedures. Section 10.3.1 reads

If the Contractor considers that under the Contract there should be an extension of time or an adjustment to the Contract Sum, or that it has any other entitlement under or in connection with the Contract, the Contractor shall, as soon as practicable and in any event within 20 working days after it became aware, or should have become aware, of something that could result in such an entitlement, give notice of this to the Employer's Representative. The notice must be given according to subclause 4.14 and prominently state that it is being given under subclause 10.3 of the Contract. Within a further 20 working days after giving the notice, the Contractor shall give the Employer's Representative details of all of the following:

- (1) all relevant facts about the claim
- (2) a detailed calculation and, so far as practicable, a proposal, based on that calculation, of any adjustment to be made to the Contract Sum and of the amount of any other entitlement claimed by the Contractor
- (3) if the Contractor considers that the programme contingency referred to in subclause 9.4 should be used or that there should be an extension of time, the information required under subclause 9.3, and, so far as practicable, a proposal, based on that information for any use of the programme contingency or any extension to the Date for Substantial Completion of the Works and any affected Section.

The Contractor shall give any further information about the event or circumstance requested by the Employer's Representative.

This subclause requires the contractor to submit a formal written claims notice within twenty working days of becoming aware, or should have become aware, of the occurrence of a Compensation Event. This claim must be followed up within a further 20 working days with: all relevant details; a detailed valuation of, or proposal in relation to the claim, and a proposal for the use of the Programme Contingency or application for an extension of time. Further information may be requested by the employer's representative. The notice must state that it is given pursuant to

subclause 10.3 of the Contract and must comply with the provisions of subclause 4.14 (Communications; purposefully interpreted).

Subclause 10.3.1.(3) refers to the Programme Contingency which may be applied in these situations. This has the effect of reducing the overall extension of time and delay payment which the contractor will become entitled to. This issue is discussed further below. The Programme Contingency applies only in the event of a Compensation Event and does not apply to extensions of time for sections of works.

Subclause 10.3.2 establishes a time bar in relation to the providing notice. Knowles (n.d) describes such clauses as forming a *'condition precedent to the contractor's entitlement to levy a claim. In other words, if the procedure is not followed then the contractor will lose his rights to levy a claim under the conditions of contract.'* Clause 10.3.2 reads:

If the Contractor does not give notice and details in accordance with and within the time provided in this subclause 10.3, except where the Contractor has been required to and has given a proposal complying in full with subclause 10.4 [notwithstanding anything else in the Contract] the Contractor shall not be entitled to an increase to the Contract Sum or extension of time or use of the programme contingency referred to in subclause 9.4 [and the Employer shall be released from all liability to the Contractor in connection with the matter].

The requirements in relation to strict notice do not apply where the contractor has complied with a request for a proposal pursuant to subclause 10.4

Clause 10.3.3 provides that where the claim has a continuing effect the contractor must update and provide information on a monthly basis setting out the delay and cost already incurred and if practicable proposing a final adjustment to the Contract Sum and Date for Substantial Completion. Clause 10.3.4 requires the contractor to keep detailed contemporaneous records of the claim and make these available to the employer's representative.

One of the main criticisms of the PWC contract is the perceived bureaucracy involved in its administration, There is a view supported by recent undergraduate research within Dublin Institute of Technology that both consultants and, in particular, contractors have had to deploy additional resources to administer the contract. This has drawn some interesting commentary from the industry.

McNamara (2011) investigated the notifications and submissions required under the contract. Respondents to his survey of twenty one industry participants commented on, amongst other issues, losing entitlements as a result of becoming time-barred. One claimed:

From the contractor's viewpoint, the administration of these provisions is extremely onerous and expensive. The man hours required to provide detailed notices and back-up in the tight time frames concerned, takes away from attention to the actual construction of a project on site. Effectively, a new layer of staff is required on a project to handle the administration efficiently.

Another respondent identified the impact on the contractor's productivity:

The contract dictates that change orders have to take priority and notifications need to be issued as early as possible to negate the risk of time-bar. This means that other work can suffer given the urgency with which change orders must be dealt with.

The link with disputes was identified in this contribution:

Condition precedent clauses are ... very expensive for the contractor to comply with. It is difficult to provide sufficient programme and cost information within the strict timeframes stated in the contract. The process leads to conflict with design team members.

Other contributors referred to '*a constant barrage of notices*,' difficulties in obtaining accurate information and details from subcontractors in time, the inflaming of adversarial attitudes and the undermining of the relationship between the contractor, consultants and the employer. (McNamara, 2011) These concerns have more recently been expressed by the SCSI (2014)

There is an overwhelming view that process is now dominating project delivery. Unfortunately, there are examples on some projects of the contract forcing both employers and contractors to adopt an overly legalistic approach to the project. The emphasis is then on the process, paperwork and documentation often to the detriment of the build and quality of the finished building. This can, and indeed has led to projects being executed in a confrontational and antagonistic manner.

There is a heavy administrative burden in managing the contract and in particular the cumbersome procedures of change orders. ... can be incredibly time consuming and usually outside of the periods envisaged in the contract.

Subclause 10.3 has drawn particular criticism from the SCSI (2014) who argue that contractors may be deprived of their costs by failing to '*observe an extensive list of requirements that are somewhat difficult to understand and difficult to comply with entirely*' whereby the employer '*is enriched by the contractor's labours*'. In addition, the Society notes that some contractors claim that the notice

provisions only commence claims when the ‘*contractor considers that he has a contractual claim*’ and this may be a considerable time after the event. The Society adds that contractors can, in effect, store up claims, release them all at once, thereby ambushing the employer’s representative and making it almost impossible for him/her to respond within the required twenty days.

Evaluation of Claims

The PWC-CF1 contract employs a very different approach to valuing contractor’s claims for reimbursement than the RIAI form. The provisions for adjusting the Contract Sum are set out in subclauses 10.4, 10.5, 10.6 and 10.7.

Subclause 10.4 Proposed Instructions

Clause 10.4 provides that the employer’s representative can require the contractor to submit proposals regarding a proposed instruction. The contractor must respond within twenty working days and set out: a ‘*detailed calculation*’ of any resulting adjustment to the contract sum; information regarding any resulting delay, and/or a proposal for using the Programme Contingency and/or request for an extension of time. The employer’s representative may also require any contractor’s documents needed in relation to the proposed instruction or a timeline for their production. If there is a proposal to omit work the contractor may be requested to submit a revised programme and if appropriate, a proposal regarding an earlier date for Substantial Completion (NPPPU, 2007)

Instances where proposed instructions may be required include where a client is considering instructing change orders, or is seeking an ‘up front’ lump sum quotation relating to a Compensation Event. As such, it is similar to an ‘accepted quotation’ arrangement which may be made under other forms of contract. It is suggested that where an employer’s representative accepts such a proposal, that this would be exhaustive of the contractor’s right to claim for additional further loss and expense not included in the proposal.

Subclause 10.5 Employer’s Representative’s Determination

The employer’s representative has twenty working days to respond to a claim under subclause 10.3 or a proposal under subclause 10.4 and must: (a) seek additional information or revised proposals, (b) accept the claim or proposal, or (c) reject the claim or proposal.

Where additional information or a revised proposal is sought the contractor must provide this within ten working days, and the employer's representative must make a determination within a further ten working days. The employer's representative cannot seek further information at that stage. Where a claim or proposal is accepted the employer's representative must notify the contractor of that acceptance and expend the Programme Contingency or grant an extension of time and/or adjust the Contract Sum. Where a proposal is rejected the contractor must be notified that the proposed instruction will not proceed. (NPPPU, 2007)

Clause 10.5.2 provides that the employer's representative '*may [but is not bound to] determine an extension of time for a Compensation Event that is a breach of the Contract by the Employer on its own initiative even if the Contractor has not made a claim or proposal under subclauses 10.3 or 10.4.*'

The NPPPU (2007) notes that employer's representative may make his own determination on any extension of time, use of the Programme Contingency or adjustment to the contract sum despite the contractor not having made any claim or proposals under the normal 'condition precedent' channels. The Unit comments that this authority is:

a very important potential relaxation of the otherwise exacting provisions of the Contract in relation to notice of claims. It will arguably impose an added responsibility on the ER to decide in each case where he feels an extension of time or adjustment to the Contract Sum is appropriate, whether or not to grant it where the Contractor would otherwise have lost his entitlement because of a failure to give notice.

This provision seems to contradict the 'condition precedent' requirements stated earlier in subclause 10.3 and introduces a degree of uncertainty as to whether strict compliance with the notice, information and ascertainment procedures set out in that subclause is obligatory.

Subclause 10.6 Adjustments to the Contract Sum

The operation of subclause 10.6 is fundamentally important to the administration of claims and operates where a proposal for an instruction has not been sought. Its focus is on valuing varied work after the event. The opening sentence reads: '*Adjustments to the Contract Sum for a Compensation Event shall only be for the value of any additional, substituted and omitted work required as a result of the Compensation Event under this subclause 10.6 and any delay cost under subclause 10.7.*'

Fahy and Forde (2014) consider this sentence to be ‘*very significant and merits careful consideration.*’ They suggest that this sentence means that there are only the following two means of adjusting the Contract Sum:

1. due to the impact of the Compensation Event on the work to be completed, and
2. due to the impact of the Compensation Event on the time for completion.

That is, the Contract Sum will only be adjusted for varied or delayed work. The subsequent rules governing varied work i.e. ‘additional, substituted, and omitted work’ generally correspond with the valuation rules for variations included in the RIAI, with the main difference being the additional detail in how cost reimbursement ‘daywork’ claims are handled.

The terms ‘additional’ and ‘omitted’ work present little difficulty, however Fahy and Forde (2014) consider the term ‘substituted’ as comprising not only ‘*a mix of addition/omission but it also covers work carried out under different constraints.*’ They are of the view:

All of the subclauses of 10.6 provide for the valuation of substituted work and it is suggested that this must include for changes in constraints under which the work is carried out where change can be imposed by any one of the Compensation Events in a particular contract

It appears, therefore, that original work which may have been delayed or disrupted due to changed conditions brought about by the Compensation Event may be covered by this term. If this interpretation is correct the disrupted work could be valued by applying the appropriate valuation rules set out in subclauses 10.6.2 to 10.6.4, these are: adjusted contract rates, fair valuation, and on the basis of cost reimbursement. Fahy and Forde comment that the valuation rules are in hierarchical order, but that cost reimbursement under subclause 10.6.4 is an alternative to the other methods and is only applied at the employer’s representative’s discretion. This option is valued on the basis of rates inserted by the contractor in Schedule Part 2D of the Contract.

With regard to the valuation of additional or substituted work under subclause 10.6.4 Schedule Part 2D requires contractors’ tender submissions to include:

- hourly rates for craftspeople, general operatives and apprentices;
- percentage additions to the cost of materials, and

- percentage additions or deductions to the cost of plant

The Department of Public Expenditure and Reform (DPER) (2013) advise that these ‘*should not be less than 75% of the wage rates provided by the Registered Employment Agreements.*’ The rates inserted by contractors form part of the tender assessment and contract award criteria. Fahy and Forde (2014) remark that this leads contractors to tender unrealistic rates in Schedule Part 2D, with the result that where work is valued on this basis that it is likely to be carried out at a loss. They indicate that the default valuation rates for labour under this subclause are approximately 50% of the actual costs of employing operatives.

The second matter referred to in the opening sentence of subclause 10.6 brings into play the Programme Contingency.

Programme Contingency

Contractors are required under subclause 9.4.2. to include “*in the initial Contract Sum and shall allow in its programme a contingency for delay to the Date for Substantial Completion of the Works caused by Compensation Events.*”

The Programme Contingency applies only if the event is a Compensation Event. Subclause 9.4.4 rules that it does not apply to extensions of time for sections of the works, or to Delay Events which are not Compensation Events. Therefore if a Delay Event is not a Compensation Event, a weather event for example, an extension of time is allowable in full. In effect the Programme Contingency reduces the allowable time for extensions of time and for delay payments. Compensation Events cumulatively reduce, or exhaust, the Programme Contingency.

The Programme Contingency comprises two thresholds which are entered in Schedule 1 Part K. Subclause 9.4.3 governs how the Programme Contingency operates:

- (1) Unless delay exceeds the first threshold, there are no extensions.
- (2) If delay exceeds the first threshold but is less than or equals the sum of the first threshold and twice the second threshold, extensions equal half of the result obtained by subtracting the first threshold from delay.
- (3) If delay is more than the sum of the first threshold and twice the second threshold, extensions equal delay minus the first threshold minus the second threshold.

These rules are expressed by the following formulae

Rule 1: If $D \leq T_1$ then $E = 0$

Rule 2: If $T_1 \leq D$ but $\leq (T_1 + 2T_2)$ Then $E = (D - T_1)/2$

Rule 3: If $D > (T_1 + 2T_2)$ Then $E = D - T_1 - T_2$

Figure 5 below sets out various examples of entitlements to extensions of time for delays caused by Compensation Events where the first threshold 1 (T_1) is 15 days and the second threshold (T_2) is 20 days.

Delay	Extension	Compensation Entitlement Per Day
15	0	0
16	½	50%
35	10	50%
55	20	50%
56	21	100%

Figure 2 Example of operation of a Programme Contingency

The Table indicates that the duration covered by the Programme Contingency $T_1 + 2T_2$ is 55 days. No compensation is paid until day 16. 50% of the agreed or proven rate for compensation will then be paid between day 16 and day 55. Thereafter full compensation will be paid. It should be noted that the minor works contract contains only one threshold.

Hussey (2009) regards the Programme Contingency as the most '*innovative and ingenious of all the provisions contained in the contract.*' and argues that the mechanism will '*hugely discourage the making of claims*'. He remarks that on the face of it, this mechanism appears to be 'generous' to the contractor, because if no compensable delays occur, the contractor keeps the premium included in its tender to cover the Programme Contingency. He explains however that contractors 'never' allow for the full price of this provision as the rates tendered to cover the Programme Contingency forms part of the tender assessment process and contract award criteria. He concludes that '*the tenderer who succeeds is likely to have nominated a very low sum for his daily cost.*'

The SCSl (2014) regards the Programme Contingency as ‘*most unusual*’ and call for it to be removed from the contract. They support Hussey’s (2009) observation regarding its pricing and claim that this enables employers to ‘*take an unfair advantage*’. They note instances of excessive contingencies relative to the contract period and claim that the mechanism promotes inefficiency by ‘*prompting design teams/ employers to use up the contingency where there might not otherwise be a delay.*’

Subclause 10.7 Delay Cost

Subclause 10.7 governs how delayed work is to be administered and contains six provisions relating to: (1) reimbursement, (2) concurrent delays, (3) delays which overlap holiday periods, (4) disruption and knock-on effects. The final two subclauses, 10.7.5 and 10.7.6 are relatively straightforward and non-contentious and are not examined in detail. The former provides that there will be no delay cost paid for an extension of time to a section of the work, while the latter deals with the application of daily delay rates where multiple daily rates are included in the Schedule Part 2D. (Fahy and Forde, 2014)

Subclause 10.7 1 sets out the reimbursement provisions, it states:

10.7. 1. If the Date for Substantial Completion of the Works has been extended because of a Compensation Event [and not otherwise, and subject to subclause 10.7.2], there shall be added to the Contract Sum an amount for delay cost, either (whichever it says in the Schedule, part 1K)

(1) for each Site Working Day for which the Date for Substantial Completion of the Works has been extended because of the Compensation Event, the daily rate of delay cost tendered by the Contractor in the Schedule, part 2D or

(2) the expenses [excluding profit and loss of profit] unavoidably incurred by the Contractor as a result of the delay to the Date for Substantial Completion of the Works caused by the Compensation Event in respect of which that date has been extended under the Contract.

This clause provides that compensation will only be paid after Substantial Completion has been extended on account of a Compensation Event. The compensation provisions are discussed below.

The contractor will then be reimbursed at either

- the daily rate tendered by the contractor in Schedule Part 2D multiplied by the extension of time, or

- the expenses unavoidably incurred by the contractor, excluding profit and loss of profit.

The method of evaluation is entered by the employer in Schedule 1 Part K. If neither option is indicated the first option, daily tender rates, applies.

The favoured approach, reimbursement according to daily tendered rates, provides clients with a fair indication of their potential financial exposure should they delay the contractor. The contractor, however, must predict the likely delay costs, spanning a range of possibilities from the best to worst case scenarios and commit to a single recovery rate. The actual cost, of course cannot be predicted in advance and bearing in mind the comments made in relation to the Programme Contingency above, it is likely that the contractor will be tempted to price these at an unrealistically low level. The Schedule states that if the tendered amount is left blank it will be read as zero. Nevertheless such rates may be priced high, O'Leary (2009) is of the opinion that under this evaluation option that there is *'no opt out clause for the employer, nor is there any requirement for this delay cost to be either reasonable or fair.'*

The NPPPU (2007) comment that:

the insertion by the Contractor of a delay rate in the Schedule and its use by the Employer in compensating for relevant delays that may occur, greatly simplifies the entire process of payment for delays to a contract. When taken in conjunction with the provision in subclause 10.7.4 to the effect that the Contractor has no other entitlement for delays, it should act so as to avoid global and other claims for prolongation of contracts that have dogged the industry over the years.

The counter argument to this approach, that it encourages contractors to tender unrealistic rates, has been made above by Hussey (2009). The SCSI (2014) adds that contractors are *'very exposed if inadequate provision is made'* (for delays).

The second option, 'expenses unavoidably incurred' applies only in the event that the daily tendered rates option is *not* indicated in tender documents. It is suggested that where this arrangement is stipulated that the contractor would have to prove the cost incurred by the various elements of the contractor's organisation arising from the particular Compensation Event for which an extension has been awarded. This approach may suggest that the 'proven damages' approach discussed in relation to the RIAI contract above, could be used.

The Contract, however, removes a number of the heads of claim which could generally apply in RIAI contracts. This particular subclause, 10.7.1 (2), specifically excludes entitlement to profit and loss of profit as elements of a claim. The 36 month fixed-price nature of the contract effectively eliminates labour and material price fluctuation (inflation) claims on all but the largest of building contracts. In addition the requirement to notify, detail and determine compensation claims within the timeframe set out in the contract removes the requirement to seek interest and financing costs in respect of the late settlement of claims.

Reimbursement Issues

Subclause 10.7.2 refers to concurrent delays and rules that if there are one or more causes of a delay, one of which is not a Compensation Event, the contract sum will not be adjusted for the period of concurrent delay, i.e. no delay cost is payable. Howley and Lang (2008) comment that this measure removes any dispute or ambiguity about which delay is the dominant delay and whether compensation is due to the contractor as a result of the dominant delay.

Subclause 10.7.3 provides that '*expenses unavoidably incurred*' are to be paid if an extension of time extends the works by a period of seven consecutive days or more into a period of non-working days (holidays), provided these do not exceed the rates tendered in Schedule 2D. Compensation for delays is for site working days which are defined in subclause 1.1. as '*a day on which, according to the Contract and the Contractor's programme most recently submitted to the Employer's Representative, the Contractor is to execute the Works on the Site.*'

The introduction of the Programme Contingency raises a number of issues. There will be, no doubt, many projects during which Compensation Events delay the contractor, but the operation of the Programme Contingency will absorb the delay and no extension of time will be required. Contractors are not entitled to any compensation for delay until the first threshold of the Programme Contingency has been exhausted. Where longer delays occur the contractor will be entitled to half of their tendered or unavoidably incurred costs for the period of the delay covered by the second threshold.

The Programme Contingency in effect introduces a float period. If the float is large it becomes probable that there will be no extensions of time. The Programme Contingency therefore reduces the likelihood of extensions of time and their value if there are any. In such cases contractors may

tender a very low premium as the daily delay cost in Schedule Part 2D in order to submit a competitive tender. Where delays are caused the contractor will have to bear significant losses for costs incurred during the extended period.

Disruption and knock on costs

A further key provision governing entitlements is contained in subclause 10.7.4. It states:

Except as provided in this subclause 10.7 [notwithstanding anything else in the Contract] losses or expenses arising from or in connection with delay, disruption, loss of productivity or knock-on effect shall not be taken into account or included in any increase to the Contract Sum, and the Employer shall have no liability for such losses or expenses resulting

Fahy and Forde (2014) comment that this subclause is '*widely regarded as one of the most contentious provisions*' within the contract. The subclause appears to exclude employers' liability for loss or expense relating to delays, disruption, loss of productivity or knock-on effect. The *Public Works Contracts Training Manual* (NPPPU, 2007) states that '*there is no entitlement to recovery of disruption costs or loss of productivity costs.*' McGovern (2011) observes that there is '*an apparent lack of understanding at present that claims submitted as delay, disruption, loss of productivity or knock-on effect cannot be considered by the Employer's Representative.*'

Fahy and Forde (2014) however, comment that this provision is open to two different interpretations one of which appears to allow recovery of disruption costs, loss of productivity or knock-on effect. They state:

The real question in relation to subclause 10.7.4 is whether its application is restricted to subclause 10.7 or whether it has more general application throughout the Contract and specifically if it applies to subclause 10.6. If it does not apply to subclause 10.6 then clearly a Contractor could bring a claim for disruption, for example on the basis of changed constraints giving rise to substituted work under subclause 10.6. If 10.7.4 has general application. If 10.7.4 has general application then it means that that no such claim for disruption or acceleration or loss of productivity or knock on effect could be brought under subclause 10 .6.

They present various arguments regarding the meaning of this subclause and it is clear that this issue is not resolved at present. They suggest, however, that the argument for a narrow interpretation is '*sufficiently strong to allow a conciliator or an arbitrator to proceed on that basis.*' They make following points in support of this position:

- a provision in a contract to the effect that a Contractor would not be compensated for as a result of disruption, or for example an instruction to accelerate, would be a big statement and, if not unprecedented, would certainly be very unusual.
- If it was intended to exclude disruption, acceleration, etc., in this manner it would be relatively easy to achieve. It would simply be necessary to move 10.7.4 from its current position and, with some very minor changes, place it immediately after the first sentence in subclause in order to give it general application.

Concluding Discussion

The evaluation of contractors' claims for loss and expense is perhaps the most contentious issue in the post-contract financial management of building projects. Loss and expense claims are somewhat inevitable given the organisation of the industry, but many claims are also avoidable to a greater or lesser extent and are therefore frequently viewed as an embarrassing failure to effectively manage the delivery of the project. The RIAI and the Public Works Contract envisage possible variations, changes in scope, and delays occurring for various reasons during the contract. Both permit the contract price and/or period to be adjusted in these circumstances and set out procedures on how claims are to be assessed and evaluated by the contract administrator.

The procedures for settling claims under the RIAI Contract reflect its more flexible approach to design changes than the PWC. Under the RIAI Form, contractors typically submit claims as and when they arise during the course of the contract. These should be settled promptly in order to maintain proper cash-flow and effective cost control, and the employer and contractor should be informed of the financial and programme implications as soon as possible. Nevertheless, claims are often assessed on a *pro tempore* basis with 'provisional' valuations being included in interim certificates pending their settlement, typically during the final accounting stage. This approach allows contract administrators and quantity surveyors to view the project 'in the round' when the full impact of change and delays become clearer. In these situations the quantity surveyor can assess claims in the context of the other financial variables in the final account: prime cost and provisional sums, contingencies, variations, and fluctuations (if applicable). There is usually a degree of swings and roundabouts in this accounting process. It should be noted that in many cases loss and expense claims arise from variations and where possible these should be allocated to the particular variation. Evaluating delay and disruption is difficult, and where the quantity surveyor takes this 'wait and see' approach he/she will need to ensure that realistic estimates are included in cost reports/valuations in order to avoid the final accounting process throwing up any nasty surprises.

The Public Works Contract's 'condition precedent' and time-bar procedures rule out a 'wait-and-see' approach. This has drawn criticism from the SCSI (2014) which argues that the contract's insistence on immediate notice, information and determination procedures is counterproductive and generates adversarial relationships between the employers' representatives and contractors. It also appears that the wording of these procedures may not be watertight. The SCSI's submission to the Department of Finance raises the doubt as to when a claim may be lodged, suggesting that this may be a considerable time after the Compensation Event occurs. Subclause 10.5.2 also provides for an alternative discretionary approach to determining claims, regardless of the procedures set out in subclause 10.3.

On the face of it, however, the PWC provides for a greatly simplified means of reimbursing loss and expense where a contractor is delayed by an employer or the employer's agents. In the first instance, a risk premium to cover delay should automatically be included in the Contract Sum by virtue of the Programme Contingency. This premium should be calculated by assessing a probable delay period and its associated cost. The Programme Contingency, itself, should represent a genuine assessment of the length of potential delays. The Contract and *Guidance Note* GN 1.5 (DPER, 2013) both set out illustrations of a Programme Contingency which contains twenty and thirty day thresholds, and as such could be seen as being indicative of how employers or consultants might complete Schedule Part 1K. This builds in a substantial float period which should be reflected in the premium charged which should, therefore, also be substantial.

Evidence suggests, however, that programme contingencies are frequently being overestimated. McGovern (2011) states: '*first and second thresholds [are] not generally being exhausted*'. The SCSI (2014) comment: '*there is evidence of inappropriate use of programme thresholds with little, if any, reference to the guidance notes.*' They add these are '*sometimes equating up to 30% of the overall programme period.*' Foley (2013) reports Philip Crampton, President of the Construction Industry Federation, who has called for threshold levels to be reviewed and set '*at more realistic levels.*' This suggests that programme contingencies are more than adequate and should therefore enable a contractor to complete on time, avoid liquidated damages *and* possibly retain all or part of the premium to cover potential delay risk. This could, in theory, present windfall opportunities, and would certainly provide a powerful incentive to contractors to manage the process and to take early and effective action to avoid situations which might delay or disrupt the works.

However, the situation is not entirely under the contractor's control. The reality of competitive tendering forces a contractor to submit a bid which is capable of beating its competitors. The process requires contractors to carefully examine all resource costs, overheads and risk provisions to arrive at a tender, which is both profitable *and* competitive. A key area in which a contractor can gain a competitive advantage is in the pricing of risk items, particularly Delay and Compensation Events covered by the Programme Contingency. Where a contractor assesses that a risk is unlikely to arise, such as the probability of an apparently generous first threshold not being exhausted, then the contractor will consider this to be an acceptable low-level risk, and will price it accordingly. This effectively removes the safety net apparently provided by the Programme Contingency.

A more significant constraint on the pricing of the Program Contingency and further delay is their method of reimbursement, which in most instances is on the basis of tendered rates per day of delay. The rates are applied at 50% once the first threshold has been exhausted and in full when the second threshold has been expended. The difficulty for contractors is that these rates form part of the Most Economically Advantageous Tender (MEAT) assessment process, and as such directly affect the contractor's chances of winning the project. This is a necessary measure from an employer's perspective, as otherwise the process would be open to blatant abuse. Contractors are conscious, therefore, that the tendered rates must be competitive, and where long programme contingencies are included, there may be little or no rationale for pricing these at realistic rates. Hussey (2009) has indicated above (p.31) that the Programme Contingency operates to discourage claims. Another view might see it as an attempt to 'buy out' substantial delay risks, and in depressed markets this is typically at minimal cost to the employer.

The Programme Contingency example set in the Contract and *Guidance Note* referred to above would, in effect require a contractor to bear a compensable delay risk extending up to eighty working days, i.e. nearly four months when holiday breaks are taken into consideration. Given this example, in the event that a serious delay arises requiring an eighty day extension of time; a contractor would gain thirty days compensation at tendered rates. It is almost certain that it will suffer considerable losses in these circumstances which are *not* of its making. While a contractor may be able to absorb these costs on a single project, where this experience is repeated on a number of projects the cumulative effects may be catastrophic. In this light the Programme Contingency appears less of a carrot and more of a stick.

With regard to disruption and knock-on head office costs, subclause 10.7.4 of the Contract appears to disallow these entirely, and it is likely that many quantity surveyors will take McGovern's view (p.35 above), and disallow disruption and as a matter of course. However, Fahy and Forde (2014) raise doubts over the meaning of this subclause and its relationship to subclause 10.6. They regard the term 'substituted' work as including work carried out under different conditions, thereby justifying the valuation of such work beyond 'bill' rates and introducing a cost reimbursement element for the work.

In conclusion, where a contractor is delayed or disrupted by an employers' or employer's representative's action it will seek fair compensation for the additional costs incurred. Contract conditions regulate how this is to be administered. Contracts such as the RIAI are relatively flexible in this regard and the contractor would become entitled to proven foreseeable loss and expense. Contracts which emphasise cost certainty, such as the PWC, often seek to restrict the ability to recover such loss and expense. No contract, however, appears to be entirely watertight in this regard and loopholes will be found in even the most carefully drafted document. It is in the nature of things, that where recovery of loss is initially prevented the aggrieved party will look for other means of recovery and this could involve considerable additional costs to both.

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