



## SCHEDULING AND EXECUTING THE PROJECT: DELAY, DISRUPTION AND CHANGE MANAGEMENT

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### Introduction

This paper considers some of the legal issues arising from the execution of the project. Virtually all construction projects are subject to variation, external factors and a range of risks that may lead to the re-scheduling of the project on a variety of occasions during the course of the project. These issues frequently manifest themselves in the form of delay or disruption to the works. This paper, therefore, considers some of the issues arising from delay and disruption, including the need to prove cause and effect, and thus the need for suitable records in order to reduce the chance of relying on, or awarding time on the basis of a global claim. Further, issues of float, concurrency, dominant cause, approximate cause and apportionment are considered.

Finally, a proactive avoidance procedure is discussed, known as change management. In essence, those managing projects could seek to avoid frequently encountered delay and disruption problems by planning and managing proactively the change that will inevitably occur to most construction projects. This approach is one of the key building blocks of the Society of Construction Law's Delay and Disruption Protocol.

### Delay Analysis

The ability to carry out delay analysis calls upon three fundamental skills. The first, is construction expertise from the perspective of the detailed putting together or sequencing of construction operations. Second, a knowledge of planning and delay law applicable to the substantive law of the contract. Finally, the ability to understand and or use the software that is available for planning projects. Most of this software is produced for the future planning of projects, although it is frequently called upon to carry out retrospective delay analysis, which it was not originally designed so to do.

This frequently means that a carefully carried out delay analysis calls upon a variety of people with each of these expertise working together in a team. A thorough delay analysis is therefore not the most economical of processes.

Apart from these 3 skills, records are of particular importance. Contractors usually keep some form of records during the course of the works. Notices may, or in some cases may not, be issued notifying the architect or engineer of delay or disruption. However, these notices and often the contractor's records do not fully capture or set out the detailed nature of the delay, and in particular the cause and effect in terms of identifying precisely the delaying event and the amount of time caused by that delaying event.

Further, most forms of contract require the delay event to impact upon the completion date before any extension of time can be issued. There will, therefore, always be some form of further analysis required; either it is carried out contemporaneously during the course of the works or most likely retrospectively, in order to determine what, if any, extension of time should be awarded. The delay analysis, whether carried out contemporaneously or at some later time, relies very much upon what actually happened on site, which in turn requires the keeping of detailed records.

There is, a surprising lack of case law on the many issues that arise from delay and disruption in construction projects. This may in part be due to the fact that many construction disputes have in the past been resolved by arbitration, and are more and more frequently now being resolved in short form adjudication processes (such as in England, Wales, Scotland, Northern Ireland, New South Wales in Australia and New Zealand) or by way of dispute review boards and dispute adjudication boards on larger projects internationally. From the cases that are available, one can neatly divide them into cases concerning the ability to strike out a claim because of failings in the pleadings, and those cases which deal with the substantive methodology issues.<sup>1</sup>

### The Pleading cases

The pleadings cases arise from an early application in the proceedings by the defendant to strike out all or part of the claimant's claim for delay and or disruption on the basis that the claim as pleaded does not adequately identify the cause and effect of the alleged delay and disruption. In other words, each delaying event (e.g. a single variation) does not identify the precise period of delay in days, and or identify a clearly quantifiable amount of money in respect of the consequences of that delay and disruption (quite apart from the direct costs of physically carrying out the variation to the works).

These cases are frequently considered under the label "global claims" or "rolled-up claims". The Society of Construction Law's Delay and Disruption Protocol describes a global claim as:-

"A global claim is one in which the Contractor seeks compensation for a group of Employer Risk Events but does not or cannot demonstrate a direct link between the loss incurred and the individual Employer Risk Events".

The first case in this area is *J. Crosby & Sons Limited v. Portland Urban District Council*.<sup>2</sup> In *Crosby* an arbitrator had to consider a claim made by a contractor for an extension of time and for disruption arising from a variety of events. The contractor argued that it was not possible to separate out the delay associated with each item, nonetheless they argued

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<sup>1</sup> Fenwick Elliott. R.J. (2000) *Building Contract Dispute: Practice & Procedure*

<sup>2</sup> 5 BLR 133

that the cumulative effect was the extension of time sought. The arbitrator made a "rolled-up" or "global" award in favour of the contractor, but did not identify how much extension of time was being awarded in respect of each event. The legal basis of the arbitrator's finding was challenged in the court. Donaldson J, found for the contractor, stating:-

"Since, however, the extent of the extra cost incurred depends upon an extremely complex interaction between the consequences of the various denials, suspensions and variations, it may well be difficult or even impossible to make an accurate apportionment of the total extra cost between the several causative events. An artificial apportionment could of course have been made; but why, they ask, should the arbitrator make such an apportionment which has no basis in reality?

I can see no answer to this question. ... but ... I can see no reason why he should not recognise the realities of the situation and make individual awards in respect of those parts of individual items of the claim which can be dealt with in isolation and a supplementary award in respect of the remainder of these claims as a composite whole."<sup>3</sup>

He concluded that was what the arbitrator had done, and so affirmed the arbitrator's award.

*Crosby v. Portland* arose under an ICE form of contract, and there was some debate as to whether this approach was limited to the ICE form. However, the issue of global claims arose again in the case of the *London Borough of Merton v. Stanley Hugh Leach Limited*.<sup>4</sup> The claim for an extension of time arose under one of the JCT forms of contract, and the approach of *Crosby v. Portland* was upheld. Following this decision, commentators argued that these two cases paved the way for global claims without the need to consider the individual causative effect, if any, of each variation or other delaying event.

The next case to deal with the issue of "global" claim in respect of the pleadings issues was that of *Wharf Properties Limited & Anor v Eric Cumine Associates & Ors (No. 2)*.<sup>1</sup> This was a Privy Council decision in respect of a development called the Ocean Centre and Harbour City, Kowloon, Hong Kong. Proceedings were initially commenced in November 1983. They claimed that the defendants had failed to manage, control, co-ordinate, supervise and administer work of the contractors and sub-contractors and that as a result the project was delayed. As a result the plaintiffs argued that additional monies paid to contractors for delay and lost rent as a result of the delay was due to them from the defendant.

However, the statement of claim did not reveal how the specific periods of delay were caused by the defendant's breaches. They argued that because of the complexity of the project and the interaction of the many contractors, sub-contractors and designers together with the large number of delay and disruptive events it was not possible to identify each individual delay at the time of pleading. Nonetheless they maintained that it was inevitable that the delay knock on effects were caused by the failure of the defendant.

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<sup>3</sup> 5 BLR 136

<sup>4</sup> 32 BLR 51

<sup>1</sup> [1991] 52 BLR 1 Privy Council

On 30<sup>th</sup> March 1998 the defendants applied to the court to strike out the statement of claim on the basis that it did not disclose a reasonable cause of action or was an abuse of the process of the court. On appeal it came before the Privy Council, and they held that a statement of claim should not be struck out unless it was plain and obvious that the statement of claim did not disclose a reasonable cause of action.

The requirement for the disclosure of a "reasonable cause of action" meant that the claim simply had some chance of success when only considering the pleadings in isolation. It was not sufficient to strike out a pleading even if there were "extra-ordinary evidential difficulties" that the claimant's case might have to overcome at trial. It was not a sufficient ground for saying that the statement of claim itself did not disclose any reasonable cause of action.

Nonetheless, the Privy Council decided that in this case the pleading was hopelessly embarrassing because after approximately 7 years from the commencement of the action the pleading was still unparticularised and should not be allowed to stand. The pleading was therefore struck out in any event. The Privy Council did, however, make the clear point that it is for the plaintiff in any action to decide how to formulate his claim. It is not sufficient for a plaintiff to say that it is impossible to formulate it such that the plaintiff should be given the opportunity to make good their claim at trial. A defendant should know the case against him in sufficient detail to be able to respond and also to be able to prepare for trial.

At the time of delivery of this decision many commentators argued that this case meant that global claims should be struck out from early on as disclosing no cause of action. For claims that progressed to trial or arbitration, the argument could once again be used by stating that although the pleading might not have been struck out it was now quite clear that the plaintiff had to make good their claim at this stage by identifying a clear link between each element of their claim and each isolated amount of delay.

A related debate also arose in respect of the rival interpretations of Lord Oliver's statement that the case "whilst of obvious importance to the parties because of the sums involved raised no question of any general importance". Some argued that this meant that:

- 1) The Privy Council was distinguishing between those situations where a global award might be made by a judge or an arbitrator, and the procedural pleading obligations of the party who must establish a nexus between cause and the alleged effect; or
- 2) That the Privy Council was distinguishing between claims for time that could be pursued globally and claims for money that must be precisely pleaded.<sup>2</sup>

Mr John Tackaberry QC sitting as recorder in the case of *Mid-Glamorgan v Devonald Williams*<sup>3</sup> considered that it was the second approach rather than first.

*Wharf* was then followed by *Imperial Chemical Industries Plc v Bovis Construction Limited & Ors.*<sup>4</sup> This case once again considered global claims, but also the content of a Scott

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<sup>2</sup> Fenwick Elliott. R.J. (2000) ,Paragraph 2-158

<sup>3</sup> [1991] CILL 72

<sup>4</sup> [1992] CILL 776; 32 Con LR 90

Schedule. The action concerned the refurbishment and reconstruction of ICI's new corporate headquarters. Bovis were the construction managers and the third parties were the architect and consulting engineers. ICI claimed that the defendants had failed to co-ordinate and supervise the works such that it took much longer and cost much more than it should have done.

The defendants applied to strike out the claim. Judge James Fox-Andrews QC reviewed the claim and noted that the statement of claim against Bovis comprise 3 pages, 5 pages against the second defendant and 4 pages against the third. He then turned his attention to the Scott Schedule and came to the conclusion that it did not even begin to properly particularise the linkage between the alleged claim and any particular delay.

His Honour held that it was inadequately pleaded and struck out the Scott Schedule because it was embarrassing to Bovis. He pointed to a useful example involving an electrical circuit that needed to be changed and the repositioning of a fire bell. If the defendants thought that they had a defence to all other matters save for those two items then how, in monetary terms, did the defendants work out the amount claimed by the claimant in respect of those two items. It was obvious that the claimant could not be claiming the entire amount in respect of just those two items if the defendant had a defence to all other matters. Nonetheless His Honour recognised that it was a "question of fact and degree" and that some attempts to apportion might have assisted the claimant.

It should be noted that although the Scott Schedule was struck out the claim itself was not struck out and so the claimant could have continued its claim by formulating a properly particularised Scott Schedule. However, it seemed unlikely that the claimant would be able to produce a Scott Schedule in the terms required by the Judge, and so this must have effectively brought an end to the claim.

By this time, the claimants were now facing a difficult challenge in preparing their statement of claim. This was somewhat alleviated by the Court of Appeal in *GMTC Tools and Equipment v Yuasa Warwick Machinery*.<sup>5</sup> In this case, the Court of Appeal made the important decision that the plaintiff should be allowed to formulate its claim for damages in any way that the plaintiff wished. In particular, the judge was not entitled to impose upon a claimant in the early stages of litigation a particular requirement to plead the case in a particular manner. It was for a claimant to set out its claim in any manner that it chose. The case does not overrule *Wharf* nor *ICI*, but it effectively removes the straight-jacket put upon the claimants by those earlier cases.

It should be remembered that these are simply cases about how one should plead its case. While the pendulum has swung in the defendants favour and then back again, this line of cases has not really changed the crucially important point that he who asserts must prove. In other words, the claimant must still sufficiently identify the link between the cause and the amount of money or time claimed in respect of each event. If the claimant fails to do this whether at the pleading stage or at trial then the claim will most likely fail.

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<sup>5</sup> 73 BLR 102; (1995) CILL 1010

Finally, the most recent case of *John Doyle Construction Limited v Laing Management (Scotland) Limited*<sup>6</sup> has paved the way for a common sense approach. Once again the defendants were acting as management contractors in respect of a corporate headquarters. On this occasion it was a package contractor that brought a delay claim against the management contractor. The package contractor was seeking an extension of time together with loss and expense. In the court's view John Doyle's claim for loss and expense was global and risked being struck out.

The court made it clear that the parties pleadings should disclose sufficient information such as to enable the other party to prepare its own case and also to enable those parties to understand the case against them as well as for the court to determine the issues actually in dispute. A global claim would be likely to fail if any material contributing factor to the alleged loss was one for which the claimant was legally responsible. In other words, some culpability on the part of the claimant would mean that the entire global claim would fail because it would not be possible to separate from the global claim that part for which the defendant might be liable and that part for which the claimant himself was actually liable.

The claimant must, therefore, prove the existence of one or more events for which the defendant were responsible together with the existence of loss and expense suffered and the link between the events and the loss and expense. The claim produced by John Doyle was global, but it sufficiently identified the case against the defendant and so Lord MacFadyen allowed the claim to stand, and on appeal the Extra House approved MacFadyen's approach.

MacFadyen decided that the claim should be dealt at the full trial on the facts. This was on the basis that if Doyle was unable to sustain its entire global claim at trial it might still have the opportunity to demonstrate that certain matters were Laing's responsibility because the dominant cause of the loss was one for which Laing was responsible, or alternatively it might be possible to apportion the losses between Doyle and Laing.

The appeal court also considered how they might deal with concurrent causes. True concurrency occurs where an event for which the employer is responsible and an event for which the contractor is also responsible commence at precisely the same time. True concurrency is extremely rare. An example of it might be where the employer delays commencement of the work on site, but at the same time the contractor does not have the labour to commence the work on site in any event. In that case both events would have commenced at the same time and be concurrent.

However, the term concurrency is also somewhat misleadingly used to refer to situations where two events (one for which the employer and one for which the contractor are responsible) occur at different times but continue such that some of the effects are felt during an overlapping period. In *Doyle* the court considered that if loss resulted from concurrent causes then it might be possible to identify one of those causes as being dominant in respect of the loss. If that were the case then it would be treated as the operative cause and the person responsible for it would be responsible for the entirety of any loss.

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<sup>6</sup> Outer House, Court of Session; Lord MacFadyen (2002) CILL 1870; Extra Division, Inner House, Court of Session, 11 June 2004

If it were not possible to establish a dominant cause then it may be possible to apportion the loss between the causes such that each party would bear the financial burden of its responsibility. Consideration should only be given to those events that materially caused the loss.

The court noted that this approach was very similar to the approach of contributory negligence or contribution amongst joint wrong doers. Of particular importance, the court then noted that the alternative was the very strict and perhaps unfair view that a contractor was unable to claim anything for a global claim quite simply because some part of it, no matter how small, was his responsibility and he was not able to objectively identify each of the financial consequences of each and every event giving rise to the global claim.

### Methodology Cases

In the English and Commonwealth jurisdictions there are relatively few case setting out guidelines for the methodology that one should adopt when preparing or considering a delay claim. There are a large number of American authorities, and some might argue that the American principles are well developed in this area.

In the UK, the first case for consideration is *McAlpine v McDermott*.<sup>7</sup> McAlpine were constructing pallets for a weather deck in respect of a North Sea oil rig as sub-contractors to McDermott. McAlpine claimed £3.5M as a result of the issue of a large number of drawings. At first instance it was held that the issue of the drawings distorted the substance of the contract to such a degree that McAlpine was free from the obligations to complete within the contract period. Unsurprisingly, the Court of Appeal overturned the decision. They held that McAlpine's approach was simply theoretical and unsupportable. There are several important points that can be extracted from the Court of Appeal's judgment:

- 1) The claim for an extension of time was presented by considering each variation identifying how long it took to do that variation and then simply adding up the number of days to produce an overall delay. The Court of Appeal said that this approach was insufficient. The major defect was that it was assumed that for each day spent working on a variation the completion date of the contract was also delayed for that particular day. This was entirely incorrect.
- 2) In respect of additional costs, the claimant calculated the additional labour costs by reference to the tender. The claimant calculated the number of man hours allowed for in the tender. They then divided that by the number of days for each activity as originally planned. The claimant next identified the number of man hours per day for the whole of the delayed period. The Court of Appeal did not accept the approach. The approach assumed that the work force for any planned activity was continuously engaged in that activity from the commencement of the activity until it was complete. They considered that this approach was entirely unrealistic.

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<sup>7</sup> (1992) 58 BLR 1, Court of Appeal

- 3) The Court of Appeal stated that a retrospective and dissectional reconstruction of what actually happened on site was the only real acceptable approach to the proof of delay. While the original planned intent was important, it was the blow by blow deconstruction of the actual sequence of works on site that was required in order to identify actual periods of delay that could then be assigned to the liability of each of the parties.
- 4) Finally, the Court of Appeal considered late instructions. This is sometimes referred to as the "colour of the front door" argument. In other words, if the building was completed very late by the contractor (the delay being due to the fault of the contractor), but then the employer asks for the colour of the front door to be changed, then in that scenario is the contractor entitled to an extension of time up to the point where the work is finished? The Court of appeal dismissed the approach as absurd. If a contractor is late through his own culpable fault then it would be absurd for the employer to lose his right to damages just because he orders an extra coat of paint.

This question has been posed as the "net" or "gross" extensions of time problem. It was considered in detail in the case of *Balfour Beatty Limited v Chestermount Properties Limited*.<sup>8</sup> This was a decision of Coleman J in the Commercial Court. There were two main issues. First, did clause 25 of the JCT Standard Form of Contracts allow the architect to grant an extension of time during the period of the contractor's culpable delay.

Second, if an extension of time could be granted to the contractor should the architect award a "gross" extension of time or simply "net" extension of time. The net extension of time was simply the amount of time taken by the variation, and would be added to the date upon which the contractor should have finished work, rather than the date upon which the contractor actually finished the work.

The arbitrator had decided that the architect did have jurisdiction under clause 25 to extend time, but only a net extension of time should be awarded. The Commercial Court upheld both points.

In the case of *John Barker Construction Limited v London Portland Hotel Limited*<sup>9</sup> the court made it clear that extensions of time should be awarded on a rationale objective basis. The architect should carry out a methodical analysis of the impact which any relevant matter had or was likely to have had on the contractor's planned programme. The architect must then assess an extension of time, if any, on a fair and reasonable basis. This required the architect to exercise his judgment on a rationally based and objective manner. The court therefore held that that there was an implied term into the JCT 1980 Form of Building Contract that the architect will act fairly and reasonable when considering applications for an extension of time.

The case of *Henry Boot Construction (UK) Limited v Malmaison Hotel (Manchester) Limited* dealt with a relatively limited number of issues.<sup>10</sup> HHJ Dyson (now in the Court of Appeal) confirmed that when an architect was considering awarding an extension of time in respect

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<sup>8</sup> (1993) CILL 821

<sup>9</sup> (1996) 83 BLR 31

<sup>10</sup> (1995) CILL 1572

of any particular relevant event then he or an arbitrator should look at all other delaying events in order to see the interaction of those events and in particular whether the delay for a particular relevant date was on the critical path. The architect or arbitrator could then determine whether the contractor was entitled to an extension of time in respect of any particular relevant event.

During the course of the judgment he also considered the position in respect of two concurrent causes of delay. If one were a relevant event such that a contractor were to be awarded time and the other were not then he considered how these might be dealt with. He came to the conclusion that a contractor would be entitled to an extension of time notwithstanding the concurrent other delaying events. However, this was on the basis that the architect considered it fair and reasonable to do so, but the architect could not refuse simply because the contractor was also in delay for other reasons. Nonetheless it should be remembered that this statement was not fundamental to the issues under the consideration in the case.

### Total Cost Claims

In the United States the Court of Claims has made it clear that the total cost method for calculating compensation for delay claims is unsatisfactory. In the case of *Boyajian v United States*<sup>11</sup> the Court of the Claims at 1243 stated:

"This theory has never been favoured by the court and has been tolerated only when no other mode was available and when the reliability of the supporting evidence was fully substantiated ... The acceptability of the method hinges on proof that (1) the nature of the particular losses make it impossible or highly impracticable to determine them with a reasonable degree of accuracy; (2) the plaintiff's bid or estimate was realistic; (3) its actual costs were reasonable; and (4) it was not responsible for the added expenses".

The court rejected a presumption that the contractor's expenditure was reasonable. It was for the contractor claimant to prove the actual costs incurred in respect of the delay. If the contractor chose to pursue its claim on a total cost basis then, the contractor must eliminate all issues that are not the responsibility of the employer; basically those identified in the passage set out above.

Nonetheless, *Boyajian* considered the position where the court had rejected the total cost method for establishing damages but, nonetheless, was convinced that the contractor had suffered some damages. In these instances, the court stated that:

"... where such other evidence, although not satisfactory in and of itself upon which to base a judgement, has nevertheless been considered at least sufficient upon which to predicate a 'jury verdict' award, it has rendered a judgment based on such a verdict. ... However, where the record is blank with respect to any such other alternative evidence, the court has been obliged to dismiss the claim for failure of damage proof, regardless of the merit".<sup>12</sup>

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<sup>11</sup> 423 F 2d 1231 (1970).

<sup>12</sup> 423 F 2d at 1244.

In the United States then, if the court is satisfied that the contractor has suffered some financial damage as a result of the delay the court may make an impressionistic calculation of the amount of damage based upon the available records. In *John Doyle Construction v Laing Management (Scotland) Limited* the Extra Division of the Inner House, Court of Session, conceded that the approach of *Boyajian* was equally applicable to Scottish law. The Extra Division went on state that the question of causation should also be considered by the application of common sense principles. In *Doyle* the common sense approach manifested itself in the legal context of the "dominant cause" approach. So, if an event for which one or the other party could be considered the dominant cause for a particular item of loss, then that party would be liable regardless of the other causes.

This approach was, according to the Court *Doyle*, similar to the House of Lords decision in *Leyland Shipping Company Ltd v Norwich Union Fire Insurance Society Ltd*.<sup>13</sup> In that case, a ship was torpedoed and was taken to a harbour. The boat then later sank as a result of a gale. The ship was insured, but the insurance excluded the consequences of hostility. The House of Lords held that the proximate cause was the damage caused by the torpedo, rather than the gale, and so the insurance did not cover the event. The Court in *Doyle* considered that the same approach should be adopted in order to separate out Contractor and Employer responsibility for loss.

This is an interesting approach, but does not fully consider the competing House of Lords decisions of *Baker v Willoughby*<sup>14</sup> and *Jobling v Associated Dairies*.<sup>15</sup> These cases were personal injury cases in tort. In respect of the facts, the claimant suffered injury, and then later suffered a further injury. The question arose as to the culpability of the defendant in respect of the entire injury or unrelated part of the injury arising from the second incident. In *Baker* the House of Lords adopted the "first cause" approach. However, in *Jobling* they adopted the "ultimately critical" approach. It is not entirely easy to reconcile these leading decisions in terms of the application to construction delay claims where issues of concurrency arise.

On the face of it, it appears that *Baker* supports the view that the event that happens first causes the loss, whilst *Jobling* supports the dominant cause approach. In some respects it may be easy to reconcile the insurance case of *Leyland Shipping* in the House of Lords. The court's approach to insurance cases in England has developed in a particularly cautious manner, usually due to the sensitive nature of insurance policies, but also because of the interaction of exclusion clauses within policies insurance.

### Disruption

Disruption is possibly one of the more difficult areas of claim to approve because of the need to demonstrate that the work was carried out in a less efficient manner due to some specific defaults of the other party. The concept of apportioning liability between the parties appears to have first been considered in the United States. In respect of a total

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<sup>13</sup> [1980] AC 350.

<sup>14</sup> [1969] 3 All ER 1528.

<sup>15</sup> (1981) 2 All ER 752.

cost claim once again, the Court of Claims in *Lichter v Melon-Stuart Company*<sup>16</sup> rejected a substantial amount of the loss because it had not been caused by the defendant.

However, they did not reject the entire claim. They allowed it to succeed in part, and the approach was upheld by the United States Court of Appeals. Somewhat interestingly, the Court of Appeals stated that the parties cannot complain that the allocation was imprecise since it was based upon imprecise information provided by the parties. This could be contrasted with the situation where the court might consider that the claimant has failed to prove the damages that flowed from those events that amounted to a breach by the other party, as so award nothing.

In the UK, an apportionment approach has not, until recently (and only then in *Doyle* a Scottish case) been explored in the context of delay claims.

### The Society of Construction Law's Delay and Disruption Protocol

The Society of Construction Law's Delay and Disruption Protocol ("the Protocol") was published in October 2002.<sup>17</sup> Paragraph A of the Introduction to the Protocol makes it clear that the object of the Protocol is to provide useful guidance in respect of the common delay and disruption issues that arise on construction contracts. Of greater importance, paragraph B states: -

"It is not intended that the Protocol should be a contract document. Nor does it purport to take precedence over the express terms of a contract or be a statement of the law. It represents a scheme for dealing with delay and disruption issues that is balanced and viable."

The Protocol was produced by a committee, and while some might criticise it as being a compromised it is at least a compromise that has been agreed by various sectors of the industry by virtue of the spread of individuals on the drafting committee.

A particular emphasis of the Protocol is that it recognises that construction contracts should contain change management mechanisms. The majority of standard form building contracts available internationally provide mechanisms for extension of time and mechanisms for the issue of variations but do not co-ordinate both of these requirements in a manner that requires the parties to deal with the delaying and financial implications of variations on an ongoing or regular basis. The primary principle in the Protocol is, therefore, to manage change during the course of the project rather than allow the cumulative effects of delay and associated costs to spiral out of control. The Protocol advocates the management of change during the course of the project, but also goes on to recognise that this may not always occur. In those instances where a change is not dealt with during the course of the works then the Protocol sets out the guidelines for dealing with retrospective delay analysis.

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<sup>16</sup> 305 F 2d 216 (1962).

<sup>17</sup> It is available at [www.scl.org](http://www.scl.org) and [www.eotprotocol.com](http://www.eotprotocol.com)

The Protocol sets out twenty-one core principles relating to delay and compensation. These are: -

1. Programme and records
2. Purpose of extension of time;
3. Entitlement to extension of time;
4. Procedure for granting extension of time;
5. Effect of delay;
6. Incremental review of extension of time;
7. Float as it relates to time;
8. Float as it relates to compensation;
9. Concurrent delay - its effect on entitlement to extension of time;
10. Concurrent delay - its effect on entitlement to compensation for prolongation;
11. Identification of float and concurrency;
12. After the event delay analysis;
13. Mitigation of delay and mitigation of loss;
14. Link between extension of time and compensation;
15. Valuation of variations;
16. Basis of calculation of compensation for prolongation;
17. Relevance of tender allowances;
18. Period for the valuation of compensation;
19. Global claims;
20. Acceleration;
21. Disruption.

Rather than attempting to review each principle, this paper focuses on just several of them. First, the first principle in relation to programme and records. These points have already been made above, but the Protocol stresses the importance of a properly prepared programme clearly setting out the manner and sequence in which the contractor plans to carry out the work. It goes on to state that programmes should be regularly updated recording the actual progress made and any extension of time granted. Guidance is provided in respect of the type of records that should be kept. Compensation should also be dealt with on an on-going basis in order to avoid large claims at the end of the project.

The issue of float has created some controversy. The Protocol distinguishes the impact of float in respect of time and money. In respect of time only the float is said to belong to the project. This means that where the contractor has provided float in the programme then the contractor will only receive an extension of time for an employer risk event if the extension of time reduces to zero the total float available within the programme. In other words, and as some argue, employer delaying events will use up the "contractor's" float.

This has been seen as unacceptable by many in the industry. Contractors will arguably be unwilling to show float in their programmes, and simply produce programmes without any float in them whatsoever. Nonetheless, a contractor might choose to show a contingency activity, say, in respect of groundworks or piling, rather than show time as float in order to retain use of that time without giving it up to the project.

In respect to compensation relating to the float the main principle is that if as a result of employer delay the contractor is prevented from completing the work by the contractor's planned completion date then the contractor should receive its costs. This is apparently even the case where there is no delay to the contract completion date, but providing that the employer was aware when entering into the contract that the contractor intended to complete at an earlier date.

In respect of concurrency, the Protocol states that where a contractor and employer both cause delay to the completion date concurrently then the contractor's concurrent delay will not reduce any extension of time. This is again another contentious issue. There has been some debate about whether English law properly recognises the dominant cause approach with regards to extensions of time, and so whether the dominant cause approach is a valid ground floor supporting the Protocol's conclusion.

However, the "prevention principle" under English law states that a party cannot take advantage of its own defaults and must also have a bearing on the issue. In other words, an employer cannot take advantage of non-fulfilment of a contract condition in respect of the contractor performing without delay where there has also been some hindrance to the contractor's performance by the employer. So, it is said, the employer cannot refuse to issue an extension of time in respect of an employer delaying event simply because the contractor is also in culpable delay. In this respect the employer cannot rely upon the employer's own non-fulfilment when the question of an extension of time is considered. If there is an employer delaying event according to the prevention principle then the contractor should get an extension of time regardless of the contractor's culpability.

The financial implications of an extension of time should, according to the Protocol, be considered in a different manner. If concurrency has occurred then the contractor should only be able to recover compensation to the extent that it is able to separately identify the additional costs of the extension of time caused by the employer's delay. The Protocol make the point that it is impossible to identify float and concurrency without the aid of a properly prepared programme (principle 11) and that an extension of time does not necessarily automatically lead to an entitlement to compensation (core principle 14).

## Change Management

The SCL's Delay and Disruption Protocol ("the Protocol") is a major step in the move towards consistency in the manner in which delay, disruption and its financial consequences are resolved. The general consensus in the industry is that it is a good thing. There will always be those opposed to it. However, those that want to manage their risks by the better planning and control of their projects will find the Protocol extremely helpful. But, the Protocol is not meant to be and nor should it be a contract document. Is it a discussion about delay and disruption in the construction industry together with the recommendations as to best practice at least from the perspective of those drafting the Protocol.

For those that like the Protocol and want to manage their risks more proactively either a new standard form of building contract was required, or, given the proliferation of the standard form of building contracts, suitable amendments to the existing standard forms need to be made. It is against this background that Pickavance and Fenwick Elliott LLP produced the PFE Change Management Supplements ("the Supplements") for 4 of the most popular JCT Forms, together with Guidance Notes for each of those 4 forms. So far Change Management Supplements have been produced for the following JCT Forms:

- 1) JCT 1998 Private with Quantities.
- 2) With Contractors Design 1998 Edition.
- 3) Intermediate Form.
- 4) Minor Works.

Guidance Notes exist for each of the forms. It should therefore be possible for a construction professional to follow the guidance notes and insert the amendment in the usual way. Specimen copies of the PFE Change Management Supplement for use with the JCT 1998 Private with Quantities and the applicable Guidance Notes are included at Appendix A and B to this paper.

The important point is that the Supplements are intended to provide the parties with specific binding obligations. The contractor is required to produce information including the programme and if he does not produce that information then he will be liable for liquidated damages. The benefit is that if the parties are pro-active then the contractor and the employer (or employer's representatives) will have a detailed plan of how the contractor proposed to build the project, together with resource related records in order to assist in the more objective termination of extensions of time and compensation. Further, the parties will also be working towards a planned actual completion date rather than a contractual but incorrect Completion Date.

In order to assist this process the Supplements introduce the new concept of a risk manager (see below). However, the Supplements have deliberately avoided the minimal text approach of the NEC or the partnering language of PPC 2000. This is quite simply because the parties will benefit from clear directly enforceable contractual obligations.

The traditional risk management approach, is quite simply to pass all of the risk to the contractor without fully realising that many of the consequences lie financially with the employer. The purpose of the Supplements is to allow the employer to become more

closely involved with the change process and therefore to manage it more effectively rather than leaving it to the contractor in the hope that all will be well. There are two key principles upon which the Supplements have been drafted:

- 1) The contractor has an obligation to provide specific management information, and also he will be paid for providing it; and
- 2) If the contractor fails to provide that information the contractor is to compensate the employer.

In other words, the management information (for example labour records, plant records, progress records) that is usually only available to the contractor is made available to the employer throughout the project. Further, a detailed programme is agreed at the outset, which is then used to manage change as delays or other events occur. It can also be used for calculating the effects of extensions of time and prolongation.

### Programme

The contractor is obliged to provide a programme. However, the programme is not a contractual document in the sense of making the contractor obliged to follow every element within it. If this were the case then the contractor would be in breach if he failed to keep up with or simply follow the sequence and timing of each event. This, in any event, is not the purpose of the programme. It is a working tool that enables the contractor and the employer to agree how the project is to be built, providing reference for monitoring, and a tool for managing change.

One very important aspect of programming relates to the completion date. In the JCT 98 Form the Completion Date is "the Date for Completion as stated in the Appendix or any date fixed under Clause 25 or in a confirmed acceptance of a Clause 13A Quotation". On the other hand the Date for Completion is "the date fixed and stated in the Appendix".

In the Supplement, the Completion Date is the date in the Appendix and as adjusted by extensions of time or acceptance of a clause 13A quotation. But, the Date for Completion is the date on the programme by which the contractor intends to complete the works. In other words, the Date for Completion is the date on which the contractor expects to finish the work, but not necessarily the date on which the contractor is legally bound to complete the works.

The programme comprises a critical path network and a method statement read together. Schedules in the Supplements set out the detail for inclusion in the critical path network and the method statement. The Schedules contain the minimum requirements, but an employer or its representatives may choose to introduce further factors.

The Supplements provide that the architect instructs the contractor to prepare and then publish a first draft programme. The term "Publish" in the Supplements is quite specific and defined in that it means that the contractor is to provide electronic and editable documents that can be interrogated. The contractor has 28 days to provide the initial programme. Clause 5A.3 states that the purpose of the programme is to include:

- 1) Planning and sequencing of activities.
- 2) Identifying dates and logic for the release of information.
- 3) Identifying dates and logic for the carrying out of work by the employer or others so as to be co-ordinated with the works.
- 4) Identifying time contingencies and float.
- 5) Calculating extensions of time and identifying Employer's Cost and Time Risk Events.
- 6) Recording as-built progress.

Employer's Time Risk Events, if delaying the project, entitle the contractor to an extension of time. They are equivalent to "Relevant Events" in the JCT. Employer's Cost Risks Events are, equivalent to "Matters" in the JCT Form and relate to prolongation and disruption.

Other terms have also been defined in the Supplements. Some of the key ones include:

- **Key dates**

Key dates are start and finish dates for a defined process, such that the process can easily be identified from the detail of the programme and be monitored.

- **Milestones**

Milestones are particular activities that are linked to key dates. The purpose of milestones is that the impact of change can be assessed by reference to a milestone date in the programme. It will, therefore, need to be possible to identify the impact of change on a milestone date as well as on the Completion Date in order for the programme to be effective.

#### A new role for a "Risk Manager"

The role of the risk manager may be by way of a separate appointment, or may form one of the functions of the existing design team. The risk manager will need to have a reasonable level of programming skills. He or she will be involved pre-contract as well as during the project.

The pre-contract work will involve liaising with the other consultants in order to identify critical elements of the design and methods of procurement that will affect the progress of the project. This information should then be scheduled and provided to the contractor so that the contractor can understand those dates when pricing works and also preparing the programme. Once those key dates and milestones have been included in the programme they can be monitored throughout the project.

The risk manager will also be required to advise upon the techniques used to prepare the programme, the software that will be used and the nature and quality of the management information provided by the contractor. Once the initial programme has been produced by the contractor it is the risk manager who assesses it. The risk manager can accept the

programme as being the master programme. If it is not acceptable then it is for the risk manager to reject it, giving the contractor 7 days to submit a further programme. It may be that the contractor and risk manager work together to produce an acceptable programme. Disputes would be referred to the dispute resolution mechanism under the contract.

The master programme will then be updated at regular intervals throughout the project. It may also be updated if there is a particular event which impacts upon the programme.

Finally, at practical completion the contractor is to publish a final update of the master programme. This is in effect an as-built record. Another way of looking at the master programme during the course of the works is that it provides a detailed as-built record up to the point of updating, and then an adjusted plan for completing the works given that the progress that has been made against the backdrop of the events that have occurred.

### Liquidated Damages

Clause 5B provides for liquidated damages to be deducted or recovered if the contractor fails to publish the information required by the contract. It would of course need to be a genuine pre-estimate but arguably the employer's loss would be an estimate of how much it would cost the employer to put together the management information. This may not be particularly easy for the employer to carry out. Further, a failure to provide the information could well lead to the employer losing the opportunity of becoming aware of delaying events, and thus taking corrective action or reorganising its finances or, for example, arrangements in respect of alternative accommodation in good time rather than discovering that the imminent date for practical completion will not be met.

### Variations

An obligation is placed on the contractor to estimate the time effects, if any, of variation in order that the employer can decide whether to go ahead with the variation or cancel it. Acceptance would mean that the time element is also incorporated into the master programme.

### Extensions of Time

One of the key aspects of the Supplements is that extensions of time are dealt with contemporaneously throughout the duration of the project. The concept of "change management" means that the parties recognise that change is almost inevitable in the scope of a construction project, and so the parties set out to manage the impact of that change as changes arise.

### Disruption and Prolongation

The risk manager is to identify the effect of disruption as it occurs, and the architect can, if necessary with help from the quantity surveyor, ascertain the amount of any loss and expense to be paid to the contractor. Any loss and expense arising out of prolongation caused by the employer's cost risk events is dealt with in a similar manner under clause 26.7.

### Acceleration

The Supplements also provide for acceleration. The contractor will be compensated for recovering employer risk delay, but will not be compensated for recovering for his own delay. In either case consultation with the contractor is required before instructing the contractor to reschedule activities with the resulting increase in resources.

Clause 25C.2 states if the contractor fails to accelerate the employer, unliquidated damages for delay. This is in addition to the employer's right to recover liquidated damages, but requires the employer to give credit for any liquidated damages received in order to avoid double recovery.

### Conclusion

In order to avoid the uncertainties of delay, disruption and compensation claims, parties to construction contracts can pro-actively manage change during the course of the works. Some in the international community are embracing the proactive approach. For those that like the SCL's Protocol and want to pro-actively manage risk in their contracts then the SCL Protocol's concepts can be introduced into a contractual and legally enforceable framework.

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