



In this, our Winter 2010-2011 newsletter, we feature an article 'Delay Analysis; 'rocket science' or 'three card trick'. The article highlights the judgments in two TCC cases on the subject of 'delay analysis; discusses the subject of 'delay analysis, and Roger Gibson gives his views on the 'five steps' that a good delay analysis should include to demonstrate cause and effect.

However, before the main article, in our lead feature, 'Roger's View', Roger Gibson gives an update on a previous feature on 'Concurrency and City Inn'.

If you wish to discuss any of the matters or points we raise in these articles, please do not hesitate to make contact.

The Latest News On Roger Gibson's Books

The first book

**'Construction Delays;
Extensions of Time and
Prolongation Claims',
published in 2008 by Taylor
and Francis.**

Publication of the Chinese version of the book is scheduled for next month, March 2011. Meanwhile sales of the book in the western world are proceeding unabated!

**The second book,
Co-authored with Anthony
Edwards (Barrister).**

**'Acceleration and
Productivity Disputes in
Construction and Engineering
Projects', to be published by
Wiley Blackwell.**

Preparation of the manuscript for the second book is well underway, and the planned publication date is late-summer 2011..

Roger's View

City Inn and Concurrency; ***Are we there yet?***

In our last newsletter (Autumn 2010) I discussed the decision of the Scots Inner House on the long-running City Inn v Shepherd Construction dispute. The Scottish Court deciding that where two concurrent causes are operative, one being a relevant event and the other being an event for which the contractor is responsible, the certifier should approach the matter in a fair and reasonable manner and apportion the delay between the causes unless one of them is dominant.

My observations and views were.

- 1) For there to be concurrent delays in the sense that that one is a relevant event, i.e. an employer-responsible event, and the other is a contractor responsible event; both events must be shown to be on the critical path of the project.

In my view, they are to be demonstrated as being on the actual critical path of the programme at the time of the events.

- 2) When faced with the problem of concurrent delays, it is always worthwhile pausing and asking whether the delays really are concurrent; as most delays are in fact consecutive. The test is to look at the project's critical path. Delays will generally be consecutive unless there are two or more critical paths. On some projects, several critical paths running in parallel is not uncommon, but even in such cases, true concurrency is rare. Usually, after investigation it can be established that one delay occurs after the other. Or, for example, only one delay is affecting the critical path and the other delay is using up only available float, the non-critical delay is not delaying completion of the project.



City Inn and Concurrency; *Are we there yet?* (Cont'd)

- 3) Therefore, before the question of concurrency arises at all, it must be established that there are two competing causes of delay operating at the same time and affecting the critical path or paths of the project.

Apportionment. It is my understanding that apportionment is not applied as a general principle in English Law to the entitlement to extension of time in the context of liquidated damages. Lord Carlway's approach is most consistent with established English Law. It remains to be seen as to whether Lord Osborne's expansive approach agreed by Lord Kingarth is unlikely to be followed in English Law.

I summarised my views by stating; "Scottish decisions are not binding in England, and the City Inn decision by the Scottish Inner House has received a mixed reception from UK commentators. However, it can influence the decision making of Adjudicators and Arbitrators, and it remains to be seen whether it will be approved by the courts in England."

Shortly after our newsletter was published, some commentators were reporting that 'City Inn' would proceed to the Supreme Court, where authoritative guidance could be given. However, reports this month are that appeal proceedings have been settled.

Therefore, in answer to the question I posed in the title of this article, 'City Inn and Concurrency; *Are we there yet?*'; it appears that we are '*there*'. However, we are left with uncertainty surrounding claims for concurrent delay, and this is likely to persist for some time to come.

Roger Gibson
February 2011

As a postscript on this matter, a new article of mine, 'City Inn and Concurrency; An Experts View', is being published in this month's edition of 'Construction Law', which is published by LexisNexis.



Delay analysis; 'rocket science' or 'three card trick'?

Some might say, both!

Over the past decade there have been two Judgments from the Technology & Construction Court that have highlighted the specialism of 'Delay Analysis' and the mysticism that surrounds it; hence the title for this article.

The two Judgments I refer to are, *Skanska Construction UK Ltd v Egger (Barony) Ltd.* [2004] EWHC 1748 (TCC) (30 July 2004) and *Great Eastern Hotel Company Ltd v John Laing Construction Ltd & Anor* [2005] EWHC 181 (TCC) (24 February 2005). Both these cases were before His Honour Judge David Wilcox.

In the first case, *Skanska v Egger*. HHJ Wilcox made a point of praising the accessibility and clarity of the report of one of the experts; and was critical of the second expert's over-zealous reliance of his computer software generated results which in many cases contradicted contemporaneous factual evidence. Further criticism of the second expert was levelled at his use of a team of assistants to compile his report resulting in the exposure during cross-examination of his lack of knowledge of the contents of his report.

Turning to the second case, *GHE v Laing*, HHJ Wilcox was critical of one of the experts method of analysis, i.e. the expert had, for example, compared the actual release dates for design information with the planned date shown on the contractor's original programme, and not the required date at the time the information was released. This method of analysis took no account of the project being in delay, for which the professional team would be aware of, and the new 'need by' dates for information based on the delay to date. As Judge Wilcox said, this methodology took "no account of actual events which occurred on the project and gave rise to a hypothetical answer". In contrast, HHJ Wilcox was complimentary of the second expert's method of analysis, which he termed "an impacted as planned programme analysis by which the project is analysed on a monthly basis to measure the impact of events as the project proceeded". This methodology is more commonly known among the delay analysts fraternity as a 'windows' analysis.

Firstly, let's look briefly at the programme's role as a plan to manage and monitor the project. Most forms of contract stipulate that the contractor has to submit a programme to the contract administrator. However, many contract forms do not stipulate that the contractor's programme is to be approved or accepted. This, in my opinion, leads to distrust of the programme if it is used later by the contractor as a reference and measuring tool for additional time or compensation. In my view, the contract administrator should at the very least accept the programme albeit with comments. The programme should then be used by all parties to the project as the means for monitoring and measuring progress and performance.

In October 2002, the Society of Construction Law published its 'Delay and Disruption' Protocol. Whilst its primary use is to provide guidance to all parties to the construction process when dealing with time and delay matters, it does contain model clauses for programmes and record keeping. The Protocol's emphasis of the programme and record keeping is to be commended. It has long been an old grouse of mine that most standard forms of contract are inadequate in these areas; but, when a dispute arises they become key elements. However, I consider that other supporting information, as well as a programme, should be provided. In particular (i) a method statement, (ii) resourcing of activities and (iii) a table of productivity norms as used to develop the programme, should be provided.

Now let's look at the use of the programme in a delay situation. The programme is an essential document in determining the extent of any extension of time and/or compensation for delay. It is the benchmark or measuring tool in these situations. However, to be effective, the programme needs to represent an accurate prediction of future events and model the characteristics of the project with activity relationships, or logic links. This allows the criticality of activities and float cushions to be taken into account when assessing extensions of time or delays.



Delay analysis; 'rocket science' or 'three card trick'? (Cont'd)

The roles of a programme as a reference and measuring tool for both contractors and employers in delay situations are:

- i. For a contractor's entitlement to additional time for completion of the works or for sections of the works, in accordance with the contract;
- ii. For a contractor's entitlement to additional payment for delay and/or disruption, in accordance with the contract;
- iii. For a contractor's entitlement to additional payment for instructed acceleration, in accordance with the contract or on the terms agreed;
- iv. For the employer's right to deduct liquidated damages for the contractor's failure to complete the works on time;
- v. For the employer's right to terminate the contractor for his failure to comply with the obligation to progress the works.

To establish items (i), (ii) and (iii) it is recommended that a network, or critical path analysis be carried out.

For item (iv), the employer's right to deduct liquidated damages, it is necessary for the contract administrator to satisfy himself that the contractor is not entitled to an adjustment of the completion date, i.e. an extension of time, due to the occurrence of a relevant or delay event as described in the contract conditions. It is advisable that the contract administrator carries out a critical path analysis to satisfy this condition, otherwise an employer may receive a constructive acceleration claim from a contractor who considers himself entitled to, but did not receive, an extension of time during the project.

In the case of failure to comply with the obligation to progress the works (item v); this is more difficult to monitor and analyse. Ideally, this requires the actual progress measured in both time and resources compared against the standard of progress specified in the contract. However, under most forms of contract the standard required is specified in general terms.

So what is 'Delay Analysis'?

'Delay Analysis' is a forensic investigation into the events or issues that caused a project to run late. Delay analysts refer to 'critical' and 'non-critical' delays; the first are events causing delay to the project's completion date and the second type affect progress on the project but do not directly impact the project completion date, and in most cases these 'non-critical' delays are in reality concurrent delays

There are two types of Delay Analysis methodology; prospective and retrospective.

The prospective type of delay analysis methodology demonstrates the likely impact of the consequences of delaying events – rather than showing what in fact occurred. The basis of this methodology is to establish a programming model of the project, usually the contractor's as planned programme, then impact the model by the application of delaying events. This type of methodology is commonly used to demonstrate what extension of time a contractor is due, as a result of an employer responsible delaying event. In summary the prospective type of methodology is a calculation of the likely delay a delaying event(s) would cause to project completion, as it focuses firstly on the delaying event and then demonstrates the delay to progress and ultimately project completion that is likely to flow from the event.

The retrospective type of delay analysis methodology shows what actually occurred on a project; where the delays were; and what caused the delay to project completion. The analysis shows how actual progress differed from what was planned. By focusing on how the works actually progressed, the analysis will show when work activities were delayed, and from the results of the analysis, investigation of what caused the actual delays can be carried out. In summation, this type of methodology looks at what actually happened, what activities were actually delayed and the resulting impact on the completion date of the project.



Delay analysis; 'rocket science' or 'three card trick'? (Cont'd)

Cause & Effect; the five steps

In my view, a critical path analysis is not sufficient in itself to justify compensation. More information is required to clearly demonstrate and establish 'cause and effect'. I consider it is necessary to establish the following (the 'five steps'),

- 1) The event: the event to be identified as a fact, e.g. an architect's instruction/variation order, or late supply of information.
- 2) Liability: determined by interpretation of the contract.
- 3) Effect: the change to the planned progress of the works as a result of the event. The contract will prescribe the nature of the 'delay'; either in terms of actual delay to the date for completion, or the estimated future delay and probable delay to the date for completion. The contract conditions will probably determine the method of analysis that is required. For actual delay, a retrospective analysis is required; and for an estimated delay, a prospective analysis will be required.
- 4) Compensation: as a result of the effect of the event, the actual costs incurred.
- 5) Causation: The causal connection between the event, effect and compensation. In some instances the identified causative event may have been caused by a previous causative event. For example, delay caused by winter working may have been caused by the project being delayed into winter due to an earlier causative event. Therefore the chain of causation and the incidence of any secondary causative events will need to be investigated and established.

Scott Schedules

Scott Schedules have been used for some time in cases involving defects and damages. They were invented by Sir George Scott KC, an Official Referee during the 1920's and 1930's. I believe they are a useful way of presenting large quantities of detailed factual information and showing the nexus between cause and effect. The downside of Scott Schedules is that they do not easily lend themselves to (i) demonstrating the interaction between delaying events, and (ii) concurrency.

However, the parties often find a Scott Schedule useful in assessing their exposure and providing a basis for meaningful settlement negotiations.

'A picture is worth a thousand words'

If this old adage is true (and it is), then graphics are excellent demonstrative evidence. Contemporaneous progress photographs can show the status of the project at regular intervals and are more forceful than written progress reports or coloured bar charts.

To crystallize the results of the delay analysis and 'cause and effect' review; charts combining these two aspects and containing historical factual information have a great deal of credibility and impact. However, with graphics, the key is the selection of the information and simplicity of presentation. An important point is that graphics should be easily understood and not too complicated, otherwise the referee may either call "time out" or the result is 'death by PowerPoint'.

'Rocket science' or 'three card trick'?

Most certainly not; but then, and I quote, "He would say that, wouldn't he".

Roger Gibson

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