



Book Status

The first book

The manuscript of Roger Gibson's new book, 'Extension of Time Submissions and Prolongation Claims' is now with the publishers, with publication scheduled for late summer.

"They think it's all over...."

As I write this article final preparations are underway for the first FA Cup Final at the new Wembley Stadium since 2000. Following the successful completion of two test events, a local community day followed by an England under 21 football game, Brent Council has awarded the stadium its General Safety Certificate which in effect means that the world's most expensive sports stadium can be filled to its 90,000 capacity.

The traditional finale to the English football season was held at Cardiff's Millennium Stadium for the past six years after delays and budget overruns at the new stadium. Australian contractor Multiplex, who built the new Wembley stadium, handed over the keys to the Client in March this year; the cost having risen from an original budget of £352 million to some £757 million.

So, to quote Kenneth Wolstenhome's famous phrase, "they think it's all over" Well, is it?

The physical works on the project may be complete, and Multiplex have agreed an out-of-court settlement with the Football Association, Multiplex still have to reach final settlement with a number of their subcontractors. In addition to the much-publicised Court battle between Multiplex and Cleveland Bridge, there has been a recent Court ruling in Multiplex's dispute with Honeywell, the communications and control systems subcontractor. Honeywell claimed it was entitled to "time at large", but the ruling means that Multiplex is entitled to claim liquidated damages against Honeywell.

Returning to the phrase, "they think it's all over"; is it. Well, nearly.

Planning Tips, Programme Submittal and Acceptance

There is a clear need for a 'baseline' programme to be developed after the award of contract, reflecting the intentions of the contractor.

Contract administrators need front-line skills to review a contractor's baseline programme. Accordingly, contract administrators increasingly have to decide if, and to what extent, they are going to trust, approve or accept a contractor's programme submissions. In today's planning software paradise, CA's should be able to detect common techniques or mistakes when reviewing programmes that attempt to or increase the likelihood of extension of time awards. These techniques mean that a programme will not function as a proper predictive tool for measuring progress or quantifying the impact of delays and changes.



Planning Tips, Programme Submittal and Acceptance(Cont'd)

The JCT 2005 Contract has a very basic requirement for submittal of the contractor's programme, as described in clause 2.9 of Section 2. Essentially, the only requirement being a 'master programme for the execution of the Works' Unlike the NEC3 Contract, there are no requirements on the content of the programme and supporting information.

The NEC3 contract recognizes that the programme is an important tool for use by both the contractor and project manager. The programme is valuable not only as a scheduling tool but also as a project management and change control tool.

NEC3 has distinctive features on the content of the contractor's programme. Indeed, the programme is the contractor's programme and he owns the terminal float. The programme is not only used to portray how the contractor intends to carry out the works, but can also be used for forensic analysis to determine the effect of compensation events for both time and money.

One of the key features of the programme under NEC3 is that upon its acceptance the contractor's programme becomes the 'Accepted Programme'. Any subsequent programmes submitted by the contractor and accepted by the project manager in turn become the 'Accepted Programme', superseding the previous programme.

What the Contract Administrator / Project Manager should look for in a programme review

When the programme is submitted, the CA should ask the following questions,

- i) Does it comply with contractual obligations, milestones, or restraints on working hours or methods?
- ii) Is the entire scope of the work represented?
- iii) Are any activity durations questionably too long, or too short for the scope of work they represent?
- iv) Are there any obvious errors in the programme related to the sequence or timing of the works?
- v) Are there any onerous requirements of the employer's professional team, e.g. early completion programmes, unrealistic time allowances for approvals or supply of information, which are employer's risks?

A very dangerous misunderstanding exists with a CPM programme submittal; many contract administrator's and other professionals are still of the mistaken opinion that a CPM submittal exists of several pages of activity listings and/or a barchart plot or two. A CPM submission for review should consist of a full copy of the computer files necessary to recreate the programme; everything else is just frills.



Planning Tips, Programme Submittal and Acceptance(Cont'd)

A CPM submission, both for the baseline for review and subsequent updates, should consist of three discrete items, which are,

- i) The activity details, including description, original and remaining durations, and percent complete. In conjunction with this, you should see for each activity other computed information such as early and late start and finish times, and total float.
- ii) The logical relationships that connect the various activities together to form a network which makes the CPM work. Full details of any lags and leads, i.e. imposed time durations between activities, is a must in the submittal.
- iii) Lastly and certainly not least is 'constraints'. The true logic of a network can be overridden by the programme containing various time constraints on an activity(s).

These will artificially reduce total float and could create an invisible delay, or even have the activity just expand to take all available time. This will never show up on a barchart plot and is only found in a 'constraint' listing and/or a copy of the computer files.

Having been satisfied that the information in the contractor's submittal is sufficient for a proper review, here are five basic checks or tests that should be carried out using the computer files provided by the contractor,

Test 1: Does the 'longest path' filter identify a reasonable critical path for the project?

Make sure the longest path is reasonable, and then check the reasonableness of near critical paths.

Test 2: Are there any open-ended activities in the programme?

In general, there should be only two open-ended activities in the entire network. One beginning activity with no predecessors and one completion activity with no successors. Every other activity should be logically tied into the network. Furthermore, every activity should have its finish constrained with at least one FS (finish to start) or FF (finish to finish) successor relationship to another activity. Likewise every activity should have at least one SS (start to start) or FS (finish to start) predecessor relationship to another activity.

Test 3: Do any of the activities have too much float?

Activities with too much float may indicate missing logic links, or logic links that have been overridden in a subsequent progress update. Identify any such activities.

Test 4: Are there any unnecessarily long gaps in workflow when grouping activities by work area and sorting by early start dates?

In most cases once work begins in a particular area or phase of the project then the programme should allow work to continue uninterrupted in that area or phase. Long calendar gaps in a work area or phase may indicate less than ideal workflow and suggests an adjustment of preferential logic links to create a better plan.

Test 5: Are there activities with unnecessary contractor assigned constraints?

As constraints override the network logic in calculating activity start / finish dates and total float they should be used sparingly, if at all. A better approach is to use activity durations and network logic to model the project, and thereby eliminate constraints.



Planning Tips, Programme Submittal and Acceptance(Cont'd)

Acceptance of the programme

If the contract administrator fails to comment it may be implied as acceptance that the contractor's programme is contract compliant / satisfactory. When 'accepting' a programme the contract administrator could be merely acknowledging receipt of contractor's intentions. In 'approving' the programme, the contract administrator is more often seen to have performed some level of due diligence on the programme, such as asking the questions above, and is therefore acknowledging that the submission complies with the terms of the contract. However, it is important that a realistic baseline is established for the management of the works and the assessment of potential and actual effects of changes, unforeseen events or other circumstances that could delay the works.

Programmes are key documents in extension of time and delay claims disputes; therefore their significance in potential dispute resolution forums cannot be under-estimated. At the same time, the perspective must be maintained that the programme is a management tool to assist in managing the work. A balance should be struck between keeping the contractor on an accurate progress path and the emphasis on the programme as a claims document. If approval is granted, this should not in any way relieve the contractor from complying with the contract, or in any way increase the employer's liability.

Delay Analysis Methodology and Technology, Part 1 Introduction

The standard forms of contract set out a number of possible contingencies, the risk of which is to be born not by the contractor but by the employer. For example, the JCT form, under clause 25, details Relevant Events which are beyond the control of the contractor. If the occurrence of any of those contingencies occur so as to cause the Works to take longer to complete then, because those contingencies are not at the contractor's risk, that much more time must be added to the contract period. Without provisions for more time to be granted, for example for the effect on the contract period for late issue of information, time would become at large. This means that the contractor would have to complete not within the contract period but within a reasonable time, whatever that happened to be. Furthermore, the employer would not be able to recover liquidated damages for any overrun of the contract period. This is why there are provisions for time to be extended in the event that the contract period is adversely affected by those risks that are borne by the employer.

The amount of time to be added to the contract period for employer responsible delaying events which have caused delay to the completion date should be calculated logically and methodically by the contract administrator, or architect, and he must form his judgement impartially and objectively. This means that if it comes to a dispute as to whether a fair and reasonable extension of time has been granted and the contract administrator has determined the period of that extension of time instinctively, intuitively, or under the instructions of one of the parties, his decision is likely to be overturned.

Unfortunately, none of the standard forms provide any indication of the sort of information or technique upon which such a logical and methodical appreciation of the factual matrix upon which an extension of time should be calculated.

For example, JCT80 requires the contractor to identify any cause of delay or likely delay to progress, and requires the contractor to estimate the effect on the date for completion for each delay event and to provide all the necessary particulars demonstrating how such an effect has been calculated. However, it does not say how, i.e. which EOT assessment technique should be used to demonstrate any such delay to the date for completion.



Delay Analysis Methodology and Technology, Part 1 Introduction (Cont'd)

It is important to recognise that, generally, it is only a delay or likely delay to the progress of the Works that the contractor has to notify, but it is the extent, or knock-on effect of such event to the date for completion that the contract administrator has to certify. One of the major difficulties is that the delay in the planned timing of an activity alone gives no clue as to whether it is likely to have an effect on the date for completion. Neither is it of any importance that an activity took longer to achieve than that shown on the contractor's as-planned programme. In the end, the deciding factor to the contract administrator is whether the employer responsible delay event has adversely affected the date for completion.

Except in the most obvious of circumstances, proving a chain of causation in an environment in which many ongoing activities are being carried out concurrently is by no means a simple exercise. Therefore, even if the contractor provides what is required under the contract, the contract administrator will necessarily have to do an awful amount of work to sort out the wheat from the chaff.

Arising out of its role as an aid to the planning of a project and as a monitor of current performance, it was a short step to the programme being used to provide a quick and simple means for appraising delays and showing entitlement for extensions of time. By the early 1970's the use of computers and project planning software meant that the Critical Path Method (CPM) was developed as a tool for assessing responsibility in delay and disruption construction disputes.

Since then there has been a proliferation of techniques which have evolved with increasing sophistication and ingenuity but most of these suffer from weaknesses to adequately address a number of issues relating to the use of CPM for extension of time submissions and delay claims, such as programme float and concurrency.

Due to the dynamic and often complex nature of a construction project, the use of a simple 'short cut' method of delay analysis has proved to be inappropriate for anything other than providing a relatively informed feel for what happened. However, this can be useful for the purpose of providing an element of support for positions adopted in the context of normal final account negotiation, but it falls considerably short of the burden of proof in the context of legal proceedings.

Previous experiences of various authors and observations by other investigators indicate,

- a. the wide spectrum of extension of time (EOT) assessment and analysis approaches/techniques adopted or adapted by various contractors and consultants at different times,
- b. the lack of consensus on any suitable approach.



Delay Analysis Methodology and Technology, Part 1 Introduction (Cont'd)

A closer examination of the various techniques widely used for EOT submissions shows that none of the commonly recognised techniques allows for the assessment of three important issues at the same time, namely,

- 1) the progress of the project at the time the event occurred.
- 2) The changing nature of the critical path at the time the delay occurred.
- 3) The effects of action taken, or that should have been taken, to minimise likely delays.

It is thus not surprising that the consequential inconsistencies and clashes have fuelled many prolonged disputes on EOT analysis and assessments.

Problems often arise in unravelling 'cause' and 'effect' patterns, given that many EOT causes and entitlement are inter-related and may also be concurrent. Concurrent delays are said to arise when two or more delays occur at the same time or overlap to some degree. Examples of scenarios needing careful consideration and evaluation include those where,

- a. a contractor responsible event on a non-critical path makes a subsequent activity critical and this activity is then subjected to an employer responsible event,
- b. an employer responsible event is followed by a contractor responsible event,
- c. an employer responsible event and a contractor responsible event are concurrent and on parallel critical paths.

The following chapter describes most of the recognised EOT assessment techniques, which have been categorised into the following groups,

- (A) 'Impressionistic';
- (B) 'Simplistic'; these are static models and do not provide the insights into impacts and relationships provided by critical path analysis methods.
- (C) 'Prospective Analysis'; these techniques use as planned programmes and essentially project the likely delay an event will cause.
- (D) 'Retrospective Analysis'; these techniques use as built programmes and establish the actual delay an event caused.

However, the critical importance of reliable documentation and records in establishing EOT entitlements cannot be over-emphasised, whatever the technique that is ultimately adopted.

Good Practice

It is recommended that for an EOT submission, the contractor should state,

1. The material circumstances giving rise to an extension of time.
2. The event or cause of entitlement.
3. Whether the cause is a Relevant Event under the contract.
4. The delay, or likely delay, to the progress of the works.
5. The likely effect of the event on the completion date of the contract and any contractual sectional completion dates.



Extension of Time Case Law

This article looks at four 'landmark' cases from the 1990's; the cases being,

- i) Balfour Beatty Building Ltd v. Chestermount Properties Ltd (1993)
- ii) John Barker Construction Ltd v. London Portland Hotel Ltd (1996)
- iii) Ascon Contracting Ltd v. Alfred McAlpine Construction (1999)
- iv) Henry Boot Construction Ltd v. Malmaison Hotel (Manchester) Ltd (1999)

'**Chestermount**' employed Balfour Beatty to construct an office building in the City; and the works concerned the shell, core and certain elements of the fit-out works. The form of contract between the parties was JCT 80. By clause 2.2 of the contract, Chestermount could elect by a stated date to confine the contract to the shell and core works only. This option was duly exercised but the fit-out works were reinstated into the contract by variation order.

In the dispute that arose, the contractor's argument was that the effect of variations issued after the contract completion date in a period of contractor culpable delay was to cause time to be at large, meaning that the contractor had to complete within a reasonable time; and that the employer would lose his rights to levy LAD's.

This case was heard before Mr. Justice Coleman in the Commercial Court, and arose from an appeal against an Arbitration award of Mr. Christopher Willis.

Of special interest in this case were two matters concerning extensions of time,

1. was the issue of a variation after the extended completion date but before practical completion, and, therefore, can an extension of time be granted or will LAD's become unenforceable, and was 'time at large'.
2. if an extension of time could be granted to the contractor, should a 'gross' extension of time be awarded, or simply a 'net' extension of time.

To summarise, where a contract administrator, architect/engineer, issues an instruction or variation after the contract completion date but before practical completion, it is appropriate where resultant delays occur for an extension of time to be granted. The starting point for consideration is the completion date currently fixed and such extension of time will be calculated by extending the completion date by the 'net' period of delay caused to completion. The 'gross' method is, as both judge and arbitrator found, "wholly inconsistent with the distribution of risk."

Moreover, if the varied works can reasonably be carried out simultaneously with the original works without interfering with their progress and are unlikely to prolong practical completion, the architect might properly conclude that no extension of time is justified.

Furthermore, it is now clear that the issue of a variation in a period of culpable delay and after the current completion date does not set time at large. The chances of establishing such a claim are now very slim indeed because of case law development.



Extension of Time Case Law (Cont'd)

In '**John Barker**', the project concerned alterations and refurbishment of the London Portman Hotel; the contractor being John Barker Construction Ltd. The contract between the parties was JCT 1980 Standard Form of Contract with Quantities, incorporating the sectional completion supplement. The works were to be completed by 14 August 1994. The contractor commenced in April 1994 and practical completion was certified on 23 September 1994.

The dispute concerned an extension of time. On 1 December 2004, Barker applied for an extension of time for the full period of delay which was 6 weeks. An extension was awarded by the architect, but not for the full period of delay. The dispute was referred to the Official Referees Court, and was heard before Mr Justice Toulmin.

Two important observations in this Case,

- i) Mr Recorder Toulson QC held that a fair extension of time called for a logical analysis of the impact of relevant matters in a methodical way.
- ii) An analysis using CPM techniques was held to be a fair way of assessing a reasonable extension of time. However, it was not suggested that using such techniques was the only way of assessment.

In '**Ascon**', Alfred McAlpine was the main contractor for the construction of a five-storey building, known as the Villiers Building along the seafront in Douglas, Isle of Man, and Ascon were appointed as subcontractor for the concrete works. The subcontract period was 27 weeks, commencing on 28 August 1996, with completion by 5 March 1997. Completion of Ascon's works was not achieved until 16 May 1997, some 10 weeks late.

Ascon submitted claims for extension of time for 39 days for delays caused by water percolating into the foundations of the building prior to tanking, and unavailability of the lift pit for working. Ascon also claimed loss and expense for both causes of delay and acceleration costs to overcome the delay.

In the subsequent dispute, McAlpine denied Ascon's claims arguing that the delays were Ascon's responsibility, caused by Ascon's failure to work in accordance with the detail of the main contract programme. McAlpine also counterclaimed for liquidated damages imposed on them by the employer under the main contract, and for their own loss and expense.

As the parties were unable to resolve their differences, the dispute was heard in the Technology & Construction Court before Judge Hicks.

In his judgment, Judge Hicks was not persuaded that the water percolating matter caused the 22 day delay, and only allowed a 6 day extension of time for this matter. With regard to float, although he did not expressly state it the judge seems to have favoured the argument that the float belongs to the first person to use it, be they employers, contractors or subcontractors. The main contractor has no power to shift the benefit which would effectively result in him having his cake and eating it.

It is noteworthy that the expert appointed by Ascon's to give opinion on the extent of delays claimed was a "quantity surveying expert", and it is surprising that the judge did not query the relevance of the expert's expertise to planning and programming matters. Litigants should be careful to ensure that evidence is given by independent experts on matters within their expertise.



Extension of Time Case Law (Cont'd)

In the fourth case, '**Henry Boot**', the employer Malmaison engaged Henry Boot to construct a new hotel in Piccadilly, Manchester. Completion was fixed for 21 November 1997 but was not achieved until 13 March 1998. However, extensions of time were issued by the Architect revising the date for completion to 6 January 1998. The employer, Malmaison, deducted liquidated damages from the contractor. Henry Boot claimed further extensions of time in respect of a number of alleged relevant events; no further extensions of time were awarded.

In the subsequent arbitration, the arbitrator rejected Henry Boot's argument; Boot appealed, and the matter came before Mr Justice Dyson for his decision.

The central issue in this Case was clause 25; its construction and use. The judge considered the key words in clause 25 were, "If, in the opinion of the architect, upon receipt of any notice ... the completion of the works is likely to be delayed thereby beyond the completion date The architect shall in writing to the contractor give an extension of time." HHJ Dyson acknowledged that whilst the decision in *Balfour Beatty vs. Chestermount* was of some assistance, however that case involved the retrospective use of clause 25, whereas in this case an opinion had to be formed before practical completion.

This case is also relevant to the function of granting extensions. Should the investigation be limited to looking only at the impact of the 'relevant event' in respect of which the contractor is seeking an extension of time. Or should the certifier also consider the impact of other events. At stake, from the employer's aspect the proper exercise of this function will dictate the extent to which the contractor can be charged liquidated damages. For the contractor, there is the question of its entitlement to recover time-related costs.

This case is also important with regard to concurrency. If it can be shown that there are two equal concurrent causes of delay, for which the employer and contractor were respectively responsible, then the contractor is still entitled to an extension of time.

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