



In this Spring 2013 Newsletter.

In this, our Spring 2013 newsletter, our first article is 'What is Planning and why have a Programme.'

Our second article is titled, 'Analysis of Project Delay –theoretical or interrogation of the facts? The article reviews theoretical calculation of delay and the often lack of, or reliance on factual records. Are we closer to fiction than fact?'

Books, Books, Books !!!

Following on from the success of his first book, '**Construction Delays: Extension of Time Submissions and Prolongation Claims**', Roger Gibson has now been commissioned by publishers to write a further three books.

These are:

'Acceleration and Productivity Disputes in Construction & Engineering'.

This book is being co-authored with a Barrister, Mr Anthony Edwards. Current status is that compilation of the final manuscript is proceeding for a book publication in late 2013.

The Third book is titled '**Construction Delays: Managing Extensions of Time and Prolongation Claims**'.

This recently commissioned book is effectively an update of my first book, 'Construction Delays: Extensions of Time and Prolongation Claims', published in 2008, with a slightly amended title.

The new book will contain updated case law and the consequences, together with new chapters, worked examples and graphics. The completed manuscript is due to be delivered to the publishers by the end of August, with publication planned for early 2014,

The fourth book is titled, '**Managing 'Time' Under the NEC3 Contract**', and will focus on the 'time' aspects of this increasingly popular form of Contract.

Publication of the book is planned for late-2014. More details will be given in our future newsletters.

What is Planning and Why Have a Programme ?

Before you prepare a programme, you must have a plan.

On a construction project, 'planning' covers all aspects from overall planning, such as building 'A' must be completed before building 'B' can start, down to detailed planning, such as the activity 'Excavate for Foundations' has to be completed before is successor, 'Pour Concrete in Foundations' can start.

By planning the works in detail, and linking activities in a logical manner, a Contractor creates a network of activities and their dependencies or inter-relationships as shown in the above example. If this is done in a proper manner encompassing all works and all restraints on the project, then this is the basis for a critical path network (CPN).

The next stage is to calculate the time each activity will take. This phase is the start of preparing the programme for the project. For example, for 'Excavate for Foundations', the Contractor will know he has 1,000 cubic metres of soil to dig out, and at a productivity rate of 100 cubic metres per day this activity will take 10 days. This is known as the activity's 'duration'.



What is Planning and Why Have a Programme ?(Cont'd)

After completing this exercise for all activities, he then has a 'time frame' for the project. For example, 'Excavate for Foundations' will start on day 1 and because it has duration of 10 days, it will finish on day 10. It's successor, 'Pour Concrete in Foundations', will start on day 11 and as it has a duration of, lets say 15 days, will finish on day 26. The Contractor now has a programme.

What is the use or benefit of a programme ?

By preparing a programme in the above manner, a contractor reassures himself that he can complete all the works and achieve completion by the project by the Contract completion date. He knows when he has to have available key resources or equipment. Using the above simple example, he knows that he is going to 'Pour Concrete in Foundations' starting on day 11, therefore he will have to have his concrete producing equipment up and running by this date.

The benefit of a programme for the Employer or Engineer, is that they are also reassured that the Contractor can complete the project on time, and that he has planned the works in a reasonable and logical manner. Again using the above example, the Engineer knows at an early date that the Contractor intends to start 'Pour Concrete in Foundations' on day 11 and that he has to provide the drawings for this work before this date.

A programme is also important after the project has started. At regular intervals, usually monthly, the programme is updated. That is to say the progress achieved on each activity on the programme is recorded. By carrying out a 'time analysis', and the Contractor is either ahead or behind programme, new start and finish dates will be created for all remaining activities. For example, if the Contractor is making good progress on 'Excavate for Foundations', then the new start date for 'Pour Concrete in Foundations', will be day 7. If he is making poor progress, then the new date for this activity will be day 15. By carrying out this updating at regular intervals, both the Contractor and Engineer are alerted to the changing requirements, or new 'need-by' dates for information, etc on the project.

A programme is very useful in carrying out a retrospective delay analysis. At the end of a project, when all activities are complete, and if the programme has been updated on a regular basis, then there is a complete history of the project. This retrospective analysis can quantify the impact of any delaying event, using actual progress information that was recorded contemporaneously during the life of the project.

The key to this delay analysis is using a detailed programme that was prepared by the Contractor at the start of the project and had sufficient content and was in a format that could easily be used for a retrospective analysis without making amendments. In other words, it was the Contractor's plan or intent on how he was going to construct the project, as of day one; before any changes or delays occurred.

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Analysis of project delay – theoretical or interrogation of the facts?

Over the past 20 years the review of project delay has become more analytical and a more challenging feature of construction law. Is this overshadowing the factual evidence? This article reviews theoretical calculation of delay and the often lack of, or reliance on, factual records. Are we closer to fiction than fact?

As Mr Justice Dyson noted in the Henry Boot Construction –v- Malmaison Hotel (Manchester) case, "It seems to me that it is a question of fact in any case, as to whether a relevant event has caused, or is likely to cause, delay to the works beyond the completion date."

In the late 1980's I became involved in the investigation and review of delays to construction projects. At that time this task was the domain of quantity surveyors. However, with the development of user-friendly project planning software, 'delay analysis' became the province of those who, like myself, came from a planning and site-based background.



Analysis of project delay – theoretical or interrogation of the facts?(Cont'd)

What is a '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. The developments in computer technology and the availability of more advanced planning software packages has, in my view, changed the way in which delay claims and the results of a delay analysis are presented.

Delay Analysis Methodology

In this article I do not want to dwell on the types of delay analysis (e.g. 'as-planned impacted', 'as-built but for', 'time-impact', etc), but to look briefly at the two types of delay analysis methodology. The first type of delay analysis methodology is prospective; which demonstrates the theoretical or 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 the application of employer responsible delaying events. This is said to be the contractor's entitlement. Entitlement in this context is derived from the results of a delay analysis and is not to be confused with contractual entitlement. In summary the prospective type of methodology is a theoretical calculation of the likely delay a delaying event(s) would cause to project completion. In other words, it focuses firstly on the delaying event and then demonstrates the likely delay to progress and ultimately project completion that is likely to flow from the event.

The second type of delay analysis methodology is retrospective. The retrospective analysis tries to show 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 only thereafter what caused the delay.

Both types of delay analysis methodology are to some degree subjective. The prospective analysis relies heavily on a programming model of the project and the delay analyst's opinion on how the delay event was likely to influence the model. The retrospective analysis is, in my opinion, less subjective as it relies on actual progress. However, interpretation of the results as to what caused delay is subjective. This is because the delay analyst will usually have to consider a number of related issues as to what caused delay and apply his own experience and judgment.

The Facts

"Now, what I want is, Facts". You may recognise this quotation from Charles Dickens' novel 'Hard Times'. The nub of any investigation and report on project delays are, or should be, the facts. By this I'm talking about the project's factual records, i.e. variations (and their like); correspondence, minutes of meetings, diaries, progress reports, etc. These are the 'facts'. However, too often do we see extension of time and delay claim submissions containing several lever-arch file of these 'facts', with no specific linkage to the alleged events that caused delay. There may also be a bundle of computer print-outs indicating the claimed effect – but the causal link is not clearly defined. The referee (judge, arbitrator, adjudicator, or contract administrator) is expected to find it; and often it's like looking for a needle in a haystack! The primary purpose of the delay claim submission is to assist the referee to weigh up the provisions of the contract, relevant case law, witness evidence, contemporary factual records, as well as considering the results of a delay analysis to form his own view.



Analysis of project delay – theoretical or interrogation of the facts?(Cont'd)

Cause and effect

As I said earlier – the presentation of a delay analysis is not sufficient in itself to justify compensation. It is necessary to establish,

- (i) The event: the event to be identified as a fact, e.g. late supply of information, to a contractor.
- (ii) Liability: determined by interpretation of the contract.
- (iii) Effect: the change to the planned progress of the works as a result of the event. This may be demonstrated by a 'prospective' delay analysis (for entitlement to an extension of time), and/or a 'retrospective' delay analysis to assist in compensation. Sometimes the contract provisions may determine the methodology of delay analysis that is required, i.e. estimated future delay and/or the probable future delay (prospective analysis), or the actual delay (retrospective analysis).
- (iv) 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.

'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 barcharts.

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'.

Conclusion

This brings us back to the question posed at the start of this article; is a theoretical calculation of delay overshadowing reliance of factual records?

In my opinion, yes. From my experience as an Expert on time-related matters and my Adjudication experience, I have come across many instances where a party, and or its Expert, has put forward a brief report supported by a mass of computer generated barcharts and very little linkage to contemporaneous factual information. The concept being that "well that's what the computer says – so it must be right!" Well, we have all heard of the saying "garbage in, garbage out", haven't we. Delay claims and results of investigations into project delays are being presented on a what would have occurred basis, using theoretical models, rather than on a what did occur basis, and interrogation of the facts. Facts are the best means of persuasion.

Don't get me wrong, I consider that a delay analysis is important as part of an investigation into project delay – but it does not provide the complete answer. A credible delay analysis should (a) sit comfortably with the party's presentations (submissions, etc), witness evidence, and contemporaneous information, and (b) provide results to be incorporated into a 'cause and effect' matrix.

The delay analysis should be a supporting document as part an interrogation of the facts.

Contact Us

Details of our services can be found on our website, <http://www.gibsonconsulting.co.uk/>, but if you would like to discuss how we can help you, Please don't hesitate to contact Roger Gibson on 024 7624 3607 or 07970 119 465, or send an email to roger.gibson@gibsonconsulting.co.uk