



Our Autumn 2010, newsletter, contains two articles. The first is 'An Introduction to EVM'. The article gives an insight and explanation of Earned Value Management ('EVM') which is becoming more popular as a management tool for Project Control on ongoing projects, and as a forensic tool to demonstrate loss of productivity. Future 'Project Control Bulletins' will contain more in-depth articles on EVM.

Our second article is titled, 'Causation and Cause & Effect Analysis'. The article discusses proving causation and cause and effect analyses, particularly in demonstrating loss of productivity. .

However, before the main article, we have a new feature titled, 'Roger's View'. In these short features, Roger Gibson will give his view on a current and/or 'thorny' topic. In this newsletter, 'Roger's View' discusses 'Concurrency and City Inn; What Next?'.

Roger's View

Concurrency and City Inn; What Next?

In July this year, the Inner House of the Court of Session in Scotland issued its decision in City Inn v Shepherd Construction. The Scottish Court decided 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.

The analysis of concurrent delay by the inner house is of great interest, particularly the adoption of apportionment as a general means of fair and reasonable assessment of extension of time.

Now let's look at the two leading English cases dealing with concurrency, namely Balfour Beatty Ltd v Chestermount Properties Ltd [1993] and Royal Brompton Hospital NHS Trust v Hammond & Others [2000] EWHC 39.

The Henry Boot judgement refers to where 2 events, one being a Relevant Event, i.e. an employer-responsible event and the other being a contractor-responsible event, are concurrent in the respective causes. In that case, Mr. Justice Dyson provides a simple example whereby both delaying events, one being a Relevant Event and the other not, starting and ending simultaneously, but both are necessarily on the critical path, which by definition would be likely to affect the date for completion. This is known as true concurrency.



Concurrency and City Inn; What Next?(Cont'd)

Following on from Henry Boot, Judge Seymour QC in his judgement in Royal Brompton provided a further explanation of what is meant by events operating concurrently. Where a Relevant Event occurs after a contractor-responsible event but runs concurrently on the critical path, this is referred to as net concurrency.

But for either true or net concurrency to occur, the events must be shown to be on the critical path of the programme. In his judgement, His Honor Judge Seymour QC stated: "...In order to make an assessment of whether a particular occurrence has affected the ultimate completion of the work, rather than just a particular operation it is desirable to consider what operations, at the time the event was concerned happens, are critical to the forward progress of the work as a whole." In other words, an event complained of must be shown to have been on the critical path as opposed to one that is merely concurrent with the critical path. If an event is not on the critical path, it cannot affect completion and hence there is no entitlement to time.

Apportionment

With regard to apportionment. Lord Osborne relied on the decision in John Doyle Construction Ltd v Laing Management (Scotland) Limited [2004] SC713 for the possibility of apportionment as between different causative factors in relation to Clause 25 of the JCT 80 Form of Contract.

However, Lord Carlway considered that apportionment was not warranted by any term of the Contract. He stated that what the architect must do is concentrate solely on the effect of the Relevant Event in the absence of any competing default. If he decides that it was likely to, or did, cause a delay beyond the Completion Date, he must fix a "fair and reasonable" new Completion Date having regard to what he estimates to be the delay caused by the Relevant Event, all other things being equal. He considered the example of Seymour J and considered that if a Relevant Event would have caused a six week delay in the Completion Date, and a shortage of labour caused by a contractors default would also have caused a six week delay in completion, the architect should fix a Completion Date six weeks beyond the existing one. If the Relevant Event would have caused only a two week delay, looked at in isolation, a two week extension would be appropriate. He emphasized that the approach is not an apportionment exercise. It is one involving a professional judgment on the part of the architect to determine, as a matter of fact and his and not a lawyer's common sense, whether the Relevant Event would have, or did, cause delay beyond the Completion Date and then to estimate a fair and reasonable new Completion Date.



Concurrency and City Inn; What Next?(Cont'd)

My observations and views.

- 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.

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.

- 3) 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 Carloway'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 likely to be followed in English Law

Scottish decisions to 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.

**Roger Gibson
October 2010**

Roger Gibson was the only Planning/Programming Expert who gave oral testimony and was cross-examined in the 'landmark' case of *Royal Brompton Hospital NHS Trust v F A Hammond & Ors [2000] EWHC Technology 39*. The cornerstone of his evidence was his critical path analysis of the project which endorsed the factual circumstances of the delaying events, both Relevant and contractor-responsible.



The Latest News on Roger

Gibson's Books

The first book: *'Construction Delays; Extensions of Time and Prolongation Claims'*, published by Taylor and Francis.

Roger Gibson's first book has now been translated into Chinese and is at the printers in Shanghai. Publication of the Chinese version of the book is scheduled for December 2010. Meanwhile sales of the book in the western world are proceeding unabated!

The second book, (co-authored with Anthony Edwards): *'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, although completion has been delayed due to other work commitments of both co-authors. (However, an extension of time has been applied for and granted!). The planned publication date is early 2011.

"An Introduction to EVM"

Earned value management ('EVM') goes beyond simply comparing budgeted costs with actual costs. It measures the value of work accomplished in a given period and compares it with the planned value of work scheduled for that period and with the actual cost of work accomplished.

It facilitates the integration of project scope, time and resource objectives and the establishment of a baseline plan for performance measurement.

Thus, EVM is a means of cost and schedule performance analysis. By knowing what the planned cost is at any time and comparing that value to the planned cost of completed work and to the actual cost incurred, we can measure the program's cost and schedule status. Without knowing the planned cost of completed work and work in progress (that is, earned value), true program status cannot be determined. Earned value provides the missing information necessary for understanding the health of a project; it provides an objective view of the project's status. Moreover, because EVM provides data in consistent units, usually manhours, the progress of vastly different work efforts can be combined. For example, earned value can be used to combine feet of cabling, square feet of sheet metal, or tons of rebar with effort for systems design and development. That is, earned value can be employed as long as a programme is broken down into well-defined tasks.

The establishment of a performance measurement baseline (PMB) is essential to conducting successful EVM and consists of:

- defined scope and assumptions;
- activities scheduled in logical sequence;
- resources (labour, plant and key materials).

We need to know:

- what the plan is;
- what the project has achieved;
- what resources have been used to date.

EVM helps us manage by:

- providing data to enable objective measurement of project status;
- predicting when the project will be complete;
- supporting the effective management of resources;
- providing a means of managing and controlling change.



“An Introduction to EVM”(Cont’d)

Informed and effective decision making is enabled by knowing:

- what has been achieved of the plan;
- what resources have been used to achieve the planned work;
- if the work achieved is costing more or less than was planned;
- if the project is ahead of or behind the planned schedule.

Good planning leads to good project execution and good management information.

Poor planning can lead to poor execution and poor EVM information. The plan must be maintained in accordance with authorized project changes. EVM will accurately show deviations from the plan, but it may not be immediately evident that a flawed plan is being tracked.

Roger Gibson

October 2010

CAUSATION AND CAUSE-EFFECT ANALYSES

When carrying out a loss of productivity analysis, three points make up a “triad of proof”: causation, liability and resultant injury. This article focuses particular attention on the role of causation.

For a contractor to be granted additional compensation for loss of productivity, he must show that the employer's action, or lack of action, caused the contractor to incur additional expense.

Is causation sufficient?

Firstly, when the employer causes a disruption, the contractor is not automatically entitled to additional compensation, e.g. loss and expense. To recover additional compensation for project inefficiencies, the contractor must prove (1) liability, i.e., the employer was contractually responsible for the impact, (2) causation, i.e., the impact caused the labour overrun, and (3) resultant cost increased, i.e. the impact caused a compensable loss.

Each element of the triad must also be linked as shown in Figure 1.(Below)



CAUSATION AND CAUSE-EFFECT ANALYSES(Cont'd)



Figure 1. "Trial Of Proof"

The employer needs to know what he did to harm the contractor. Additionally, the contractor needs to show that the contract placed this risk on the employer, and there is reasonable certainty in the resultant injury. Otherwise, the contractor is unlikely to recover any compensation. Thus, the contractor is subject to this "fundamental triad of proof": liability, causation, and resultant injury.

Proving Causation

Proving causation is a formidable challenge. A discussion of types of causes may seem trite, but it may mean the difference between recovery and no recovery. First, the cause should be employer-caused. Logically, it should be an event. Examples include denial of a time extension when one is justified, an ill-timed change, a constructive change, untimely submittal reviews, and many other events. Each can be proven with some degree of certainty through project documents and records. There is no doubt the event occurred. Additionally, one should be able to establish a link between the event and the contract; a time extension was promised for the reasons stated in the contract or a change should have been given because something not called for in the contract documents was required to be done.

Cause and Effect

The cause-effect link is demonstrated through a careful and thorough review of project documents and records. Interviews with project personnel may be required to clarify and define the details of project events. The interviews are not intended to solicit opinions and assessments. Rather, they should be exclusively for ascertaining facts.



CAUSATION AND CAUSE-EFFECT ANALYSES (Cont'd)

Educating the other party is paramount to promoting a settlement and making sure an Adjudicator, Arbitrator or Judge understands the issues. A valuable rule of thumb is to keep the discussion simple and to concentrate on a few core issues or root causes. Sometimes, it is helpful to construct a cause-effect diagram, like the one shown in Figure 2. (Below)

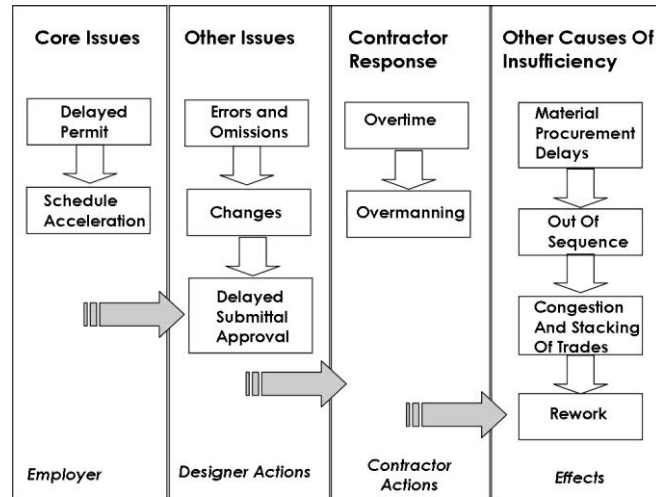


Figure 2.

In this example, the owner is late in obtaining a needed access permit, which delays the start of the work. The owner accelerates the schedule by refusing to grant a time extension. Other causes of loss of productivity, like changes or design deficiencies are often events that happen on a project. It is important to link the events of the claim to the labour inefficiencies, like lack of materials, out-of-sequence work, or rework. In Figure 2, the delayed permit ultimately caused material procurement delays, out-of-sequence work, congestion, stacking of trades, and rework.

Roger Gibson
October 2010

Testimonials

Here are two extracts from an Adjudicator's Award, where Roger Gibson's Expert Report was presented by the Referring Party in a dispute regarding an extension of time.

"I accept Mr. Gibson's opinion that the period programmed for the M&E works in the xxx was reasonable and that this was work which was probably most dependant upon weathertightness and roof completion."

"I therefore give greater weight to the report of Mr. Gibson."



Testimonials (Cont'd)

Here are four extracts from an Adjudicator's Award, where Roger Gibson's Expert Report was presented by the Responding Party in a dispute regarding an extension of time, and disruption.

"For the reason that Mr. Gibson has undertaken a detailed analysis, I regard his evidence to be of critical importance to me."

"Furthermore, Mr. Gibson has answered the criticisms of his first report in a further report submitted with the Rejoinder."

"I therefore accept Mr. Gibson's conclusions that further delay occurred during this 'window', but that in accordance with his charts that the additional delay was 10 workdays, not 32 as claimed."

"I accept the conclusions of the expert evidence of Mr. Gibson that the delays and disruption to xxx's works were not caused as a consequence of their own failures."

"Dear Mr. Gibson, I read your book Construction Delay: Extension of Time and Prolongation Claims and really enjoyed with your clear and concise style on such a difficult subject." Mr. W. Jook, Hong Kong.

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