



An Overview of Extension of Time Assessment

Introduction

The standard forms of contract set out a number of possible contingencies, the risk of which is to be borne 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.

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, JCT98 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.

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.



Delay analysis

'Delay Analysis' in respect of a construction dispute is the process in a claim or claim defence through which the contractor or employer has to go in order to be able to:

- Establish lines of research and investigation;
- Demonstrate the contractor's (or employer's) entitlement to claim (or to reject a claim against it or to counterclaim);
- Present the claim (or claim defence) effectively.

The initial research and review stage will help to ascertain whether the delay claim to be pursued involves 'critical' delays or 'non-critical' delays. Critical delays are those that delay the project completion date, whereas non-critical delays are those which affect progress at any given time but which do not have an effect upon the completion date of the project.

The next stage is the investigation stage where all the factors relating to the areas of claim made known during the initial research and review stage are analysed. The need is to establish what were the specific causes of the delay, and in what area or section of the work did the delay occur, and when did the rate of progress start to be affected. It is often useful at this stage to use specific databases for recording this information.

Once recorded in a database these records would then have to be analysed and put into a format that can be used to demonstrate how the particular events led to the delays. After compiling the databases regarding the delay claims, the results may be shown in the form of charts, graphs histograms, etc.; basically using the best format to make the most presentable and convincing argument when presenting the claim.

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.

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 are the most recognised EOT assessment techniques, which I have 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.

Subsequent Dispute Resolution Bulletins will provide details of the above EOT assessment techniques, together with worked examples.

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

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