

The Importance of As-Built Programmes in Construction Disputes

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The issues flowing from late completion are: (i) what was the cause; (ii) who was responsible; and (iii) what compensation is due (if any).

When pursuing delay claims proof will be needed to demonstrate that:

- the event actually took place;
- the event is catered for within the contract;
- the relevant notices have been issued;
- the event had a delaying effect on the completion date;[\[1\]](#) and
- a loss was suffered as a result of this delay.

The above go to demonstrating what is colloquially known as 'cause and effect'. This article seeks to explain the importance of an as-built programme when trying to resolve delay claims.

What is an as-built programme?

A simple definition of an as-built programme may be stated as: *"a record of when the various project works were actually undertaken."*[\[2\]](#) A fuller definition may be stated as: *'... the final [programme] to be completed. It will evolve through the course of the project as activities are started, progressed and completed as the work is executed. The last update should complete the as-built [programme] as a high-density record of the sequence in which the works were actually constructed, the resources actually used and the productivity actually achieved.'*[\[3\]](#)

The as-built programme will be used to identify the periods and activities that suffered delay during progress and to assist in establishing a project's critical path.

Notwithstanding the parties may be in dispute, which often means they are unable or unwilling to agree upon pretty much anything, the as-built programme should not really be a contentious document because it should be based on agreed facts and constructed from contemporaneous records which were generated (either directly or indirectly) to monitor progress.

Whilst they will generally be used for showing the actual progress of work, other useful information can be incorporated into as-built programmes, e.g. milestone dates, important EIs (Engineer's Instructions), delay notices, delivery and removal of specialist plant/equipment delivery, suspension notices.

Ordinarily they are presented in a bar-chart format, but they can be modified to show other important information, e.g. labour resources, volume of work executed.

How is the as-built programme constructed?

In its simplest form, an as-built programme may be constructed by a party in-putting start and finish dates to a planned programme which is stored within some type of project management software.

Often, the primary source document used to construct an as-built programme will be a contractor's monthly progress reports and the updated programmes attached thereto.

However, it is crucial that this in-putted data is cross-checked with contemporaneous progress records (both primary and secondary). Those experienced with delay claims will know that it is not unknown for some contractors to overstate their progress in monthly progress reports or monthly valuations.

The documents used for cross-referencing should be logged into an electronic document management system which has a suitable OCR facility to allow the lawyers and experts to have easy search access to them at a later date in case aspects of the as-built are contested by the other party and also to assist in the preparation of witness statements.

It will certainly give a lawyer peace of mind if he or she knows that all the activities on the as-built programme have been verified in terms of start, actual progress in physical terms (or, at least, in percentage terms (constant or intermittent)) and finish dates by contemporaneous records).

If the as-built programme is not cross-checked against contemporaneous records then it may not be truly accurate. This will mean that the subsequent research and assessment of delays may be found to be of little use, and this may only come to light either following a review by the other party's delay expert, or worse still, during cross examination by opposing counsel at an evidentiary hearing, and after the client has incurred significant costs.

Much has been written on what types of documents can be used to construct an as-built programme in the context of construction, oil and gas and MEP type projects; suffice to say, an as-built programme that has been properly cross-checked will have a better chance of standing the test of scrutiny by another delay expert and/or opposing counsel.

If adequate documents simply do not exist (which is not uncommon) then this is one area where witness evidence will become crucial. From a lawyer's perspective, having the delay expert rely as much as possible on contemporaneous documents, as opposed to witness evidence and/or his own subjectivity, reduces the risk of his as-built programme and subsequent delay analysis being undermined.

The level of detail that an as-built programme should go to can be problematic. Bigger projects can be expected to have activities that run to tens of thousands and often have different works going on in isolation from one another.^[4] Ordinarily, the approved baseline programme will probably be used as the basis of constructing an as-built programme. If further levels of detail of individual work activities are required, and the records exist to support such a further detailed analysis, then this can be done once the principal periods of delay have been identified.

When constructing an as-built programme careful consideration will need to be given to how the works were actually sequenced and carried out and their timings. In a planned programme activities will often be shown with finish to start logic links, however, life on a construction project is rarely so simple, so the as-built programme will have to carefully consider the actual sequence of activities, e.g. should the start date for concrete work be taken from when the rebar fixing was started or when the formwork was erected; should the finish date for concrete work be when the concrete was poured or the striking of the formwork or when the concrete cured? What if certain areas of concrete work (e.g. part of a slab) were left to be completed until a later date? What if the works were carried out intermittently?

Whilst it is not usual for an as-built programme to contain the logic links of the activities (hence, it will not usually depict the critical path in itself), the delay expert will use the as-built programme to introduce these logic links so that the critical path; hence, critical delaying events, can be established. This is where the delay expert comes into his own in terms of his knowledge and experience of hard and soft logic of construction sequencing. Moreover, construction managers who were actually involved with the project and particular work activities will become an invaluable source of evidence in this respect.

Why is the as-built programme important?

An as-built programme is important because it depicts what actually happened on site, providing details of individual work activity start and finish dates. It allows the reader to quickly ascertain when the main delays occurred and to what activities compared to the originally planned programme, which will lead to a more detailed and thorough investigation of what caused these particular delays.

However, an as-built programme will not give the causes of, or reasons for, delay or identify why the progress of the works varied from the original intent depicted in the approved baseline programme (if there ever was one).

An as-built programme avoids a theoretical delay analysis carried out in the vacuum of reality. Those familiar with dealing with delay claims will be aware that it is crucial to establish how the actual progress was delayed and not the planned progress.

Once the critical causes of delay have been identified the delay expert will then take instruction from its lawyers as to whether these critical delays are excusable. Similarly, quantum experts will take instruction on whether such critical delays are compensable.^[5]

Whilst it is common practice to engage delay experts to prove or rebut delay claims, one should not forget that whether a delay occurred is a matter of fact.^[6] Whether an event (again a fact) impacted the completion date depends on whether the event affected an activity on the critical path.

Conclusion

It is imperative that the delay expert considers the factual matrix as a whole when constructing the as-built programme and carrying out any subsequent delay analysis. It is no use simply relying on what the client says what happened if the contemporaneous documents do not accord with this view. Similarly, relying on someone else's as-built programme as the basis of a delay analysis is an extremely high risk strategy and one which most lawyers and delay experts would frown upon. Witness statements should be used to explain the meaning and intent of certain documents (and the phrases contained therein) and plug the gaps of missing documents/information, but they should be carefully drafted so as not to contain inconsistencies with contemporaneous records (indeed, this is what opposing counsel will be hoping to exploit during cross examination).

^[1] Depending on the wording of the contract, it may be that the contractor need only show that the event would likely affect the completion date (which leads to a prospective, as opposed to retrospective, delay analysis).

^[2] Linnet C., Lowsley S. *'About Time - Delay Analysis in Construction'*, RICS Books, 2006, p.55

^[3] Pickavance K., *Delay and Disruption in Construction Contracts*, Sweet & Maxwell, 4th Ed., 2010, para.7-058

^[4] In some of the bigger projects it may be necessary to separate individual work sections and treat their as-built progress in isolation so as not to over complicate matters.

[5] The interpretation of a contract is a matter of law and experts who opine on the law may find themselves in for some awkward questions during their cross-examination.

[6] If the contract refers to a “likely” delay then whether the Works will be critically delayed becomes more subjective and leads to a prospective/theoretical delay analysis.