"I Have A Cunning Plan" by Roger Gibson

Many of you will recognise this quotation from the BBC's 'Blackadder' comedy series. Many of you may also be aware of the Society of Construction Law's 'Delay and Disruption Protocol'. A few of you may know that one of the lynchpins of the protocol is the contractor's approved programme prepared in 'critical path method' format. The protocol goes on to explain how this programme is used to quantify extensions of time for which the contractor may be entitled as a result of delaying events. The measuring tool for this is the approved programme.

The focal point of this article is the approved programme, or 'baseline' programme as it is often called.

First of all, a few basics.

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 above. 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'.

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 of 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 contract administrator 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.

Why is the programme updated?

The programme is also important after the project has started. At regular intervals, say monthly, the programme should be updated. That is to say the progress achieved on each activity on the programme is recorded. A 'time analysis' of this progress information will show if the contractor is either ahead or behind programme, and it will calculate new start and finish dates 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 (say) day 7. If he is making poor progress, then the new date for this activity will be (say) 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.

In the SCL's protocol, the contractor's programme is a very important document.

In my experience, the contractor's initial (or baseline) programme is often poorly prepared. On some occasions, I have seen programmes where a contractor has

planned for every activity is critical with no float – which would result in an extension of time entitlement from even a small variation order (hence, the title of this article!).

Before demonstrating entitlement to an extension of time and quantifying its extent, the programmes reasonableness must be established. If the good practice in the SCL's protocol has been followed, then the contract administrator will have been given the necessary supporting information to establish that the programme was workable.

Delays and conflicts can and do occur over many issues during the course of a construction project, such as design changes, additional work, late information, severe inclement weather, shortage of labour, late delivery of materials, etc. By having a realistic programme in place and being regularly monitored and updated then most delays can be avoided, their affect minimized or at least identified and quantified.