



We have two articles in our Summer 2010 Planning & Programmes Bulletin.

The first article is titled, 'Method Statements'. Too often, particularly in dispute situations have I seen programmes with nothing by way of information to support them. A method statement demonstrating the assumptions that have been made in the planning exercise and developing the programme is what should be included.

The second article is titled, 'Calculating Activity Durations', and describes the process which should be adopted in calculating activity durations.

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METHOD STATEMENTS

On the whole, the standard forms of building contract do not tend to contemplate that a method statement be prepared in conjunction with a master programme, although that is usually a term of the civil engineering Contracts. However, a programme with nothing by way of explanation to support it is of very little use when it comes to incorporating the results of change. Thus, a method statement demonstrating the assumptions that have been made in forming the basis for setting key dates and the logic by way of which the programme has been developed are just as essential in this as the programme that will necessarily follow from the methodology.

So that the method statement is at all meaningful and useful, it should be cross-referenced to the activities on the programme and should not only describe the methods of construction and the resources to be used, but amongst other things, it should also include a description and explanation of,

- i. the work included in each activity description,
- ii. the logical interface between activities,
- iii. the lag between activities,
- iv. the resource requirements, in terms of manpower, gang sizes, plant, equipment and materials,
- v. the productivity expected of the resources to be applied.

Example.

On a new-build 6 story office block, the 'Plastering' activity for a typical floor is as follows,

Act.nr. 420 Description: Plastering to 6th Floor Duration: 7 workdays.

Method statement: This activity includes 2 coat wet plasterwork to the r.c. concrete ceilings (225 m²) and plasterboard & skim to the blockwork walls (255 m²). A gang of 2 plasterers and 1 labourer are to be used. Using the productivity rates listed on the attached schedule this gang will take 20 workdays to carry out this activity. There are no major plant/equipment requirements.



METHOD STATEMENTS (Cont'd)

This activity is planned to start 10 workdays after the start of preceding activities, '1st Fix Joinery', '1st Fix Plumbing' and '1st Fix Electrical'.

The successor to this activity is 'Floor Screeds', and is planned to commence 10 workdays after the start of 'Plasterwork'.

Similar details for each major, or key, activities should be included in the method statement. The overall method statement should explain that the internal finishes works are planned to progress 'top-down', i.e. starting with the 6th floor and working downwards. It should also state that 2 gangs of plasterers, are to be used, working on alternate floor levels.

If changes, or delays, occur then the information given in a detailed Method Statement will be invaluable in demonstrating extensions of time and/or additional costs.

CALCULATING ACTIVITY DURATIONS

Normally an activity duration is one which is expected to absorb resources in terms of men, materials and plant. However, an activity can also be an operation which has no resources attached to it, 'curing concrete' for example.

The duration of an activity that absorbs resources can be measured in working hours, working days, working weeks or any comparable unit depending upon the type of work for which the duration is being calculated. The only basic requirement is that the same unit of time be used throughout the project plan. For most construction projects it is not practical to break down an activity into a time unit of less than a day.

Durations can be calculated in a number of different ways, typically by means of;

- i. Past experience,
- ii. Industry standards,
- iii. Time and motion,
- iv. Comparison with other projects,
- v. Calculation from labour and material content,

In my experience the most common, and in my opinion, the most reliable method of calculation is as follows;

A calculation from (v) labour and material content, incorporating (ii) industry standards, then (iv) comparison with other projects and (i) past experience.



CALCULATING ACTIVITY DURATIONS (Cont'd)

An example

A gang of 2 plasterers and 1 labourer can achieve 2.5 m²/hr of 2 coat wet plaster on ceilings, and 4 m²/hr of plasterboard and skim on walls.

Therefore, for a typical floor level on a newbuild office block, the calculation for plasterwork is as follows,

(i) with 225 m² of ceilings, the work will take $\frac{225}{2.5 \times 8} = 11.25$ days.

(ii) with 255 m² of walls, the work will take $\frac{255}{4 \times 8} = 8$ days.

The activity would, on this calculation, have a duration of 20 working days.