Technical

Programmes: Progress Monitoring and Reporting

Date: 20 Apr 2018

Guidance on Record Keeping

1. This article is intended to be read as a direct follow on to RM Article – Programmes: Content and Formation first published in July 2017 (click for link).

2. The Society of Construction Law (*"SCL"*) Delay and Disruption Protocol 2nd Edition[1], provides information on record keeping in relation to delay and disruption issues under Core Principles 1 *"Programme and records"* (p5) and Appendix B (p12) which provides guidance on the typical records that contracting parties should keep to facilitate the updating of the programme with physical progress, changes such as variations, any mitigation or acceleration measures, changes to programme logic, construction methodology and sequences.

3. A common finding amongst those that assess claims for delay and/or disruption is that, where there is a lack of/or limited contemporaneous records, a claim is generally shrouded with uncertainty in relation to the work that has been delayed and/or disrupted. If a robust regime of good record keeping and use of programmes is adhered to, then this uncertainty is significantly reduced and the programme can be used as an effective tool for managing change and determining any Extensions of Time (*"EOT's"*) and the periods of time for which compensation might be due.

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4. To implement an effective regime, both parties to a contract should reach an agreement prior to the works commencing on a project of the types of records to be maintained and how the project plan/programmes will be used. These requirements vary from project to project and there is no *"one size fits all"* scenario when considering progress monitoring and reporting.

1 Society of Construction Law Delay and Disruption Protocol 2nd Edition - February 2017, (click for link)

Typical Records

5. Typical records that need to be kept are as follows (this list is not exhaustive):

   o Programmes – Tender, proposed, accepted, updated, short term, look ahead.
   o Detailed Programmes – Design, approvals, procurement, installation, construction, testing.
   o Progress – As-built data of works that cover all activities affecting completion of the project.
   o Raw Data – Reports, health & safety, sign-off, obstructions, photographs.
   o Compiled – Detailed monthly progress report, weekly reports.
   o Procurement – Quotations, contracts, delivery records.
   o Resource – Labour and equipment allocation, materials allocation.
   o Cost records – Management, labour, plant, materials, sub-contractors.
   o Correspondence – Letters, e-mails, contract management (instructions, variations etc.).
   o Technical – Drawings, method statements, RFI's, approvals.
   o Claims – EOT's.
   o Contract and Tender Documents.

Measuring Progress

6. Without the plan or programme in place it is difficult to assess or measure the progress of the project with any real accuracy. In todays' environment, it is essential to get this correct due to the liquidated damages attached within project contracts.

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7. To satisfy these contract conditions it is vital to update the plan with what is happening, showing the impact of the real world, assessing *"the plan"* and updating it at regular intervals with reality.
8. The updated plan should reflect the work left to be completed and changed as required to manage this work. Inevitably it will include tasks that were not identified at the outset and variation works instructed as part of the contract. It may well be that other tasks have been delayed and require rescheduling.
9. The revised plan can still be measured against the initial plan but any work left to be completed, added or omitted needs to be included in the revised plan moving forward.

Four Basic Requirements

10. A project review or progress update entails four basic requirements:

   o Look at what has happened since the last review/update.
   o Plan the way forward from the current point in time.
   o Revise the plan/programme as necessary.
   o Communicate the revised plan/programme to all concerned parties.

11. Fulfilling these basic requirements will ensure that an accurate record of events is maintained from the commencement of the project until its completion and that a regular plan, monitor and review cycle is used to manage the project.

Why is Record Keeping Important?

12. Progress records must be generated contemporaneously as the works progress, and not afterwards, and it must also be possible to match these progress records with the relevant tasks on the plan or programme. They do not necessarily need to match task for task but are required to cover all aspects of a project from design all the way through to construction, commissioning and handover.
13. To accurately update the programme or schedule it is always a good idea to determine how this information will be recorded. Will the planner/scheduler visit site and assess progress? Will the project team forward their assessment of progress for their section or will the assessment be made on how much has been spent? Or, will it be

a mixture of these and maybe others depending upon the projects complexity or contract requirements?

14. With any form of progress monitoring and reporting the optimism/pessimism of the individuals providing the progress information needs to be assessed by project teams by agreeing how progress is measured and recorded. There is always the danger that, if resources have been working on a task for five days then it is reported that five days' work has been completed. This does not factor in early/delayed starts, work rates etc. A more accurate measure would be to request an estimate of how much longer the task will take and work out the progress from that.

15. Progress can also be determined from analysing marked up drawings or reviewing photographs. It will be up to the project team how this is recorded but, on most projects, there will be general arrangement drawings for most disciplines – groundworks, superstructure, externals, facades etc. which are then split down into more detailed plans and schedules.

Progress Monitoring Techniques and Templates

16. Using reinforced concrete as an example, there could be a separate drawing marked up for excavation, blinding, formwork, waterproofing, drainage, reinforcement and concrete recording when it was started and finished. It would then be up to whoever was responsible to calculate an accurate measure of the progress completed on a task on the programme/schedule based upon this information.

17. This process is made more difficult if, for example, the concrete slab task is a single bar on the programme yet all the operations mentioned previously are required to complete this task. This illustrates the importance of determining and developing the plan/programme as the project evolves to make sure that accurate reporting is possible. Experienced planners and schedulers can factor this in when updating progress if they are faced with the *"single bar"* scenario, but usually the progress reported is disputed by other parties.

18. Developing a standard project progress template that can be easily updated with the tasks which require monitoring/reporting within a period, showing the current planned dates, a column for actual dates and expected durations and/or remaining durations will help in standardising the records that are collated. These forms will also embrace the likelihood that the programme/schedule is not fixed and

will allow the progress to be recorded accurately even if a task moves due to unforeseen factors.

Information Technology and Record Storage

19. With technological advances in software, and the adoption of BIM, 3D and 4D planning, there are many systems being developed that will allow as-built data to be ascertained from photographs and other electronic media which can then be fed into the scheduling software providing accurate progress and as-built data. HoloBuilder is one such platform and is a software solution for construction teams to capture and share 360° virtual job walks of construction sites or buildings[2].

20. Progress records and data needs to be stored effectively, and it is generally accepted that this will be in an electronic format which will allow them to be easily accessible, disseminated and ultimately stored for possible use later. This could simply be scanned copies of documents on a hard-drive, or via a document management system which combines the storage of scanned documents and files in their native electronic format depending upon the parties involved, complexity of the project and any contractual requirements.

2 HoloBuilder Inc (click for link)

Summary

21. To manage any construction or engineering project successfully it is necessary for all parties involved with the project to firstly agree robust progress reporting and record keeping procedures from the outset, coupled with an agreement on the form and content of the project programme.

22. If the agreed progress reporting and programme tasks are in place, then effectual management of change can be achieved on a day to day basis by the project team avoiding potential disagreements.

Note: This article is based on the author's own research

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Bibliography

23. Society of Construction Law – Delay & Disruption Protocol 2nd Edition – February 2017.

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