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5 Factors Making a Good Project Planning

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A construction programme serves as a roadmap for accomplishing the planned works of a project. It functions as a management tool to facilitate project delivery by outlining the workload within specific time frames, resource allocations, critical sequence of works, and potential project risks.

The question then arises: what constitutes good planning or a well-scheduled programme? Drawing from past experiences, I have identified five factors that contribute to a robust construction programme.

Inclusion of Necessary Activities

A good programme should encompass the necessary steps and activities required for project completion. When dealing with activities that have assumptions, it is a good practice to delineate the assumption either in the activity name or in the narrative report. Additionally, the assumptions for activities of the same type should remain consistent throughout the programme.

Some practitioners may believe that a good programme should include detailed breakdowns of construction activities. However, I see this aspect from two perspectives. First of all, breaking down the construction sequence into individual activities can be useful to demonstrate the required steps in carrying out site works. However, it is important to note that construction activities often interface with other types of activities, such as E&M and architectural works installation. It is not feasible to break down each installation steps into separate activities. As we all know that the activities should be logically interconnected to allow for a seamless flow within the programme. Striking a balance between breaking down activities into manageable pieces and maintaining a coherent structure is the key.

Secondly, excessive fragmentation can complicate the programme, making it impractical to follow, and update. It is also potentially lead to misunderstandings due to unexplainable gaps between activities. Unexplainable gaps could arise during the project delivery caused by inclement weather, material delivery, machinery conditions, manpower status and other unforeseeable factors.

Finish-to-Start (FS) Task Dependency

The programme should utilise a clear and easily understandable logic that can be comprehended and followed by all project stakeholders. In the broader scope, the construction process must adhere to the necessary steps from commencement to completion. At a more detailed level, project management software typically defaults to four types of logical links to reflect task dependencies: Finish-to-Start (FS), Start-to-Finish (SF), Finish-to-Finish (FF), and Start-to-Start (SS).

Based on my experience, FS links are commonly favoured due to their straightforward and easy-to-follow nature. It is considered good practice to apply SF, FF, and SS types of logical links only when necessary, based on the specific requirements of the tasks. This approach enables a more comprehensive representation of task dependencies and facilitates a better understanding of the project's flow.

Closed-Loop Structure

A good programme should incorporate a closed-loop structure, where each activity is linked to both a predecessor and a successor, except in cases where constraints are necessary. This closed-loop structure provides guidance on the various paths to completing the works. Critical path analysis can only be conducted when all paths leading to completion are calculated and computed. Any breaks in the chain of logical links would result in the programme not being able to reflect the full scope of work.

Critical Path

The planning engineer should provide explanation regarding the reasonableness of the computer generated critical path. Identifying the critical path is essential as it determines the sequence of activities that have the most significant impact on the project's duration. A good programme should highlight these critical activities, allowing project managers to be timely informed and to allocate resources effectively and manage them in a way that ensures timely delivery of project

Delays in the critical path can result in the postponement of the project completion date. It is important to closely monitor the activities allocated on the critical path to ensure a smooth execution of the project. Additionally, it is common for there to be multiple paths that are close to being critical. These paths need to be identified and monitored as well, as they can also significantly impact project timelines.

Time Risk Allowance

Time Risk Allowance is an additional period included in an activity when the Contractor anticipates possible risks that may affect the original time allowed for the works. This is a feature specifically required in the NEC contract. According to Clause 31.2, the *Contractor* must include provisions for time risk allowances in each programme submitted for acceptance.

A well-designed programme should incorporate the consideration of reasonable risks, including the allocation of time risk allowances to account for potential factors, particularly adverse weather conditions. This is particularly important in contracts that do not offer entitlements for extensions of time due to adverse weather conditions. By including these allowances, the programme can effectively accommodate unforeseeable circumstances and provide greater flexibility in the project timeline. Moreover, allowing for time risk allowances at the early stages is beneficial for calculating prospective delays as it provides substantiation for all possible delays that may arise.

About the Author

Ms Liu is a chartered engineer and with a background in law. She specialises in consulting on construction projects in the area of panning and delay analysis. Her experience covers a wide spectrum of construction project life cycle from tendering, project delivery, and dispute resolution, with a particular focus on Hong Kong and APAC region.

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