Geared up for change

5 September 2018

Poor change management may not only increase costs and cause delays, says Andrew Smith, but also introduce risk into a project

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Change is a constant presence in construction and, if not well managed, can unexpectedly escalate costs and cause delay, frustration and disappointment for all project stakeholders. Therefore, it is essential that robust change management procedures are in place on any project, otherwise the management of cost will become very difficult.

Cost management relies on the ability to control and monitor costs against a known scope of work. The absence of good change management procedures means the scope of work being carried out will vary from the scope against which the budget has been set, putting completion of the project to plan at risk.

Why does change occur?

Change occurs for many reasons. For example, there is often considerable pressure put on projects to start early so that programmes can be fulfilled and built assets can begin to generate a return on investment. There is also a tension between starting at the optimum time and having all of the detailed requirements established.

Furthermore, once users, operators and other stakeholders become involved in shaping a project, specific requirements can supplement more generic assumptions made earlier in the process, thus leading to change. Any of these scenarios, among others, can alter a project?s scope, programme, budget and quality.

Other reasons for change include the effects of new technology and technical practices; for example, in hospitals or scientific establishments, an error may have been made in describing the scope of work required or the design needed to fulfil it, or a decision-maker may simply have changed their mind.

There are a variety of forms that change can take. It can occur in the pre-contract phase before construction has commenced, in the shape of either an evolving design brief or an emerging design solution. It commonly occurs during construction when high volumes of change regularly lead to increases in the contract price and delays in completion. It is important to recognise that change occurs at all levels of the supply chain, between employer and contractor, contractor and subcontractor, and between subcontractor and sub-subcontractor or supplier.

It is also essential to recognise that change often comes at a cost but not necessarily with an entitlement to additional payment; it depends on the contractual arrangements in place. Only a variation, a change of the employer?s requirements or a compensation event will give rise to additional payment.

It is alarming that contractors and subcontractors often rely on the probability of change occurring to supplement their profits, but this is because the industry is frequently not mature enough to allow sustainable overheads and profit margins to be included in tenders.

Change management process

Change can be effectively managed as part of a proactive process. The time and cost consequences of change can be most paralysing when they are only realised retrospectively, and therefore cannot be managed.

Standard forms of contract deal with change in different ways. The NEC suite has the most detailed change management processes of any commonly used standard form. The early warning procedure together with the need to notify compensation events and provide details of time and cost impacts to strict timescales give parties at main contract or subcontract levels a structure in which to work.

In comparison, JCT contracts have less structured change management provisions and rely on supplemental measures to allow the contractor to give estimates of additional costs and time. However, employer amendments often introduce provisions that make change notifications and the operation of time bar provisions more consistent with the way NEC contracts handle these.

Contractual terms place binding obligations on the parties to manage their processes in a given way, often with commercial sanctions if they fail to do so. These are essentially good project management processes converted into legal obligations that parties to a contract should follow, at whatever level of the supply chain they operate. These processes can be summarised as follows.

- Identifying the potential for change at the earliest opportunity requires the parties to understand their requirements and document them. It is important to check regularly that documented requirements continue to reflect what the actual requirements are.
- If requirements change then giving the earliest possible notice to the other party will minimise the effects of any abortive design or construction. Early notice also allows time for planning and exploring mitigation opportunities.
- Any change should be fully documented so that all parties are clear as to what the change is.
- Wherever possible, the commercial effects of change ? in terms of time and money ? should be agreed in advance as part of the decision to authorise and proceed with the change. If this is not possible, then good records of the resources affected by the change and any associated delays should be kept and shared. This information will be invaluable when seeking to agree the financial and programming impacts.
- In circumstances where the anticipated effects of change cannot be agreed in advance and disagreement over the actual effects is developing, it is important to attempt the resolution of such a disagreement while the change is ongoing. If a dispute occurs once the works are completed and good records have not been kept, an adjudicator will not be well placed to determine the effects of the change objectively.

Causes of problems

Change is manageable if it occurs when there is good time to manage it and is easily recognisable, in the form of an architect?s, employer?s agent?s or project manager?s instruction for instance. However, change often occurs by stealth, that is, without conscious sanctioning. It becomes most difficult to deal with once it has already been put into effect and proactive decision-making is no longer possible.

These issues are often most acute on design and build contracts, whether main contracts or subcontracts. Contractors are often required not only to complete the design included in the employer?s requirements or the works information, but to take responsibility for the design prepared by the employer before entering into the contract. Yet design defects and deficiencies tend only to become apparent when the works are under way, sometimes when various parts of the design are being coordinated and integrated for the first time.

Given that change is such a regular and pervasive issue on construction projects, it is alarming that so little attention is given to planning for its impacts in terms of time and money. There is often a culture of ignoring it and hoping it will be all right.

The RICS New Rules of Measurement 1, Order of cost estimating and cost planning for capital building works , recommends the inclusion of allowances in the cost plan for the following categories of risk:

- design development risk
- construction risk
- employer?s change risk
- employer?s other risks.

It is important that appropriate allowances are made in the cost plan and then retained or transferred to reflect the transfer of contractual risk allocation.

Responsibilities for risk and budget are often not consistently allocated, and risk-holders are expected to manage this through their profit margins.

Who keeps count?

The quantity surveyor has a key role in implementing effective change management procedures throughout the supply chain.

During the pre-construction period, when the employer is developing their requirements for tendering the works, the employer?s quantity surveyor must ensure good change management procedures are in place to monitor change and adjust the cost plan.

Once a contractor has been engaged and risk has been allocated through the contract, the employer?s quantity surveyor continues this process for managing any change that is made by or on behalf of the employer. The contractor, and their subcontractors, will need to operate similar processes to manage change that has a value ? that is, an entitlement for payment when there is a variation or compensation event ? and also change that is purely a cost, which has to be funded from risk allowances.

Who pays?

The employer will pay for changes that are made in accordance with the main contract and will suffer the inconvenience ? and possibly certain non-recoverable costs ? of a project that is completed late. The contractor and their subcontractors will incur the cost of change that is not recoverable up the supply chain, and designers may face claims against their professional indemnity insurance for change that is a result of negligently prepared design.

Ultimately, a party that cannot manage the financial impacts of change may not be able to continue to meet its obligations, potentially leading to termination of contracts or to insolvency.

Change does cost the construction industry dearly, but the industry has no money to waste.

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Further information

- Related competencies include Contract administration , Contract practice
- This feature is taken from the RICS Construction journal (September/October 2018)
- Related categories: Commencement of works ; Conceptual cost planning ; Contract administration ; Cost management ; Taking the brief