



# Change orders

“Since change orders are costly, at least some cost-benefit rationale should be provided for proceeding with the change order.”

by Kevin McGuinness and Stephen Bauld

A change order is a written agreement between the owner of property to which an improvement is being made and the general contractor to change the construction contract. Change orders alter the work originally set out in the contract. Except in the relatively rare case of change orders that reduce the scope of the work to be carried out, change orders generally increase the scope of work. By definition they effectively constitute a contract for new work. Very often the costs associated with that work are high – far higher than the minimum price at which a competitive contract process is usually required. Nevertheless, the change order process is almost always carried out in the absence of competitive bidding. The reasons include:

- The contractor of record is responsible for the safety of the construction site during the construction period, and it would complicate workplace safety issues no end to have third party contractors retained by the owner given access to the

site without control by the contractor to carry out the work concerned.

- Generally speaking, it is not practical to have the change order work carried out separate from the execution of the principal part of the project under construction.
- The time frame for having change order work completed is often tight.
- By long-standing custom within the construction industry, the general contractor is considered to be entitled to the change order work.

The use of a non-competitive process for change orders increases the possibility that a contractor will quote a price for a change order that is excessive and not competitive with what other contractors would offer. Therefore, it is important to develop some satisfactory proxy mechanism first to ensure that change orders are appropriate, and then

to scrutinize and control the cost of change orders during the life of the project.

The oversight process should include certain important elements. The basic requirement in relation to change order cost control is to create a proper management system that is complete, consistent, and that incorporates features capable of assuring that cost changes to building construction projects are reasonable in the circumstances. So far as possible, change orders should be approved by a process that is consistent, based upon pre-determined selection criteria, and carried out following a process of rating and evaluating the need for the work and the basis of award. The system should incorporate a process and safeguards that provide reasonable comfort that change orders are being approved objectively, by competent staff and professional consultants

The change order process should also incorporate some form of business case assessment. The municipality's cost consultant should estimate the expected cost for the work before any decision is made to proceed with the request. The person or department seeking the change order should be identified, together with the reason for the change order. At least where the anticipated cost of a change order exceeds a threshold level, approval for the change order should be required from the municipality's treasurer or an appropriate delegate (such as the purchasing management) before the change order may proceed.

Since change orders are costly, at least some cost-benefit rationale should be provided before proceeding with the change order. An exception to this process would need to apply for emergency work required to prevent a critical failure, but normally a day or two's delay in approving the change is unlikely to have a significant impact on the cost of the work or project progress. Without understanding the source of the change order request, it is often impossible in retrospect to understand the reasons why the change order

was issued (including whether the change was caused by error or omission on the part of the design professional) and whether the change is necessary.

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The prospective lack of a clear evidentiary basis for concluding whether changes resulted from an error of the design professional leads to a discussion of another problem with the existing change order process: the inherent conflict of interest when design professionals approve of changes. Since the remuneration of the professional is often based upon the total cost of construction, the design professional has a financial incentive to approve change orders that result in additional costs. This is balanced only by the professional's adherence to the ethical standards of his or her profession. Accordingly, the approval of change orders (again excepting possible emergency work to cover for such unexpected events as a flash flood) should incorporate a meaningful cost review process to protect the municipality's interest.

In addition, the contract between the municipal-owner and the design professional should impose clear responsibilities on the design professional to analyze carefully the reasonableness of proposed change order costs. Without clear obligations of this kind, it is unrealistic to assume that professionals are actually conducting cost reviews. Since the municipality is likely to depend heavily on the contract professional's expertise, such a review is critical to assuring a fair price from the general contractor to perform the change order. In all cases (including emergency work), the design professional should be required to certify that he or she considers the cost of effecting the change to

be reasonable in the circumstances. The certificate should require verification on the part of the design professional that the change order is not already a part of the original contract. The contract with the design professional should include a provision under which the municipality can require an explanation from the professional as to why the work in question was not incorporated into the original contract. Very often there will be quite legitimate reasons for requiring extra work (e.g. unanticipated site conditions), but the vital point to understand (from a prudent fiscal management perspective) is that this is not always the case.

The change order record should require a confirmation by responsible municipal staff that they have verified that the change order process has been properly followed. Municipalities must be vigilant customers. Although there is a tendency to rely heavily on the contract professionals to protect the municipality's interest, the municipality's procurement staff has a role to play in assuring that the additional costs being incurred are reasonable.

A requirement for itemized costing of change order work has been found to impose a greater level of discipline on change order costing. Itemizing all costs by quantities of material and labour hours helps to show that

decisions are valid and defensible. Nevertheless, such itemized costing is rarely encountered as part of the change order process.

Purchasing staff involved in the management of construction projects should receive proper

on-the-job training curriculum coupled with appropriate continuing education programs to assure that staff are up to the task of reviewing detailed change order costs and overseeing the work of professionals advising the municipality in relation to the project. Without sufficient training, the prospect of consistent and effective oversight is minimal. Training has a cost, but that cost is small in comparison to the additional costs frequently incurred in contracting

The purchasing department should compile and retain documentation for possible investigation and resolution, and a record of all change orders and the decision making process associated with them, to determine whether (and if so to what extent) change orders resulted from the design professional's potential errors or omissions. It is necessary to focus on the possibility that change orders may be the result of deficient work by the contractor or its subcontractors or other suppliers, or that it may be the proper subject of an insurance claim. Municipalities need to take active measures to assure that they are not paying for changes that are the proper responsibility of others.

As part of that effort, data should be compiled in relation to each type of construction contract in which the municipality engages, so as to provide a basis for managing change orders. Here, organizations such as the Ontario Public Buyers Association (OPBA) can play a vital clearing house role, allowing municipalities to share information from their individual experience. Exchanging data with similar public sector entities (such as schools, universities and hospitals, and the provincial government) will improve the ability of a municipality to identify particularly troubled projects, and to conduct an inquiry into why costs have been incurred to so great an extent in relation to them. Such a data bank would also allow municipalities to identify professionals who have poor records of controlling the change order process.


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A multi-government data bank of change order related information would afford a basis for allowing the participating government purchasers to evaluate this critical aspect of the overall performance of the contract professionals retained to design and supervise government construction work. Over time, this will allow such governments to identify those professionals who have poor performance records and a poor control of change order costs. This capability will by itself impose a disciplining effect on the change order system. It will allow municipalities and other government purchasers to rate contract professionals against pre-determined criteria for selection. This in turn will enhance meaningful competition among contract professionals who are awarded design and construction supervision contracts.

Some consideration should be given to the question which necessarily arises when one identifies a potential for a conflict of interest. Although it has been a long established practice to link design and contract supervision work, now is as good a time as any to consider whether governments should collectively prohibit the linking of construction oversight work in relation to a given project to those professionals who perform design work on that project. Adopting such an approach will result in a longer learning curve in relation to project supervision, but it would eliminate the conflict of interest that encourages an architect or engineer to hide or ignore design errors or omissions.

Another technique worthy of at least some consideration is the question of whether governments should not adopt a new approach toward the compensation of professionals which provides them an incentive to find better and more cost-effective ways of getting the project completed than to approve change order costs.

Generally, the alignment of compensation within the construction industry favors suppliers at the expense of the customer. Since under the current arrangement the professionals' fees are less when the contract costs are reduced, professionals who keep costs down are penalized. It seems fundamentally wrong to penalize efficiency. One option would tie a portion of the professional consultant's fee to the minimization of change orders, perhaps allowing a higher percentage fee if the cost of aggregate change orders is kept below a stated percentage of original contract cost. However, to implement such an approach it would be necessary to build in certain safeguards, such as excepting from the arrangement cost increases designed to meet changes in the municipality's specifications which result in later design changes.

Change orders are a problem in virtually every construction project. However, experience shows that all problems in business can be properly provided for and managed. There is no reason to believe that change orders are an exception to this general rule. 

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