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Case Notes
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Chapter 3

Changes

3.1 Managing Contract Changes (Vol. 6, No. 3)

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Shortly after work commences on design-bid-build projects all over this country, it can be predicted with reasonable certainty that the Owner and/or Consultant will confidently announce to the General Contractor (GC) and its subtrades: *"There will be no contract changes on this project"*. This they may say after 10 addenda have been issued during a three-week tender period, and despite the fact that they themselves have never been on a project without contract changes (and often a great many). If they actually believe this dictum can be observed, they suffer from the sort of wishful thinking that had Francis Fukuyama announcing the end of history. And yet while a GC may shake its head at such idle pronouncements, knowing full well that changes (along with the delay, disruption and consequential effects they frequently cause) are inevitable, the GC often conducts itself as though totally unprepared to deal with them.

The following discussion suggests that the GC can manage changes in such a way that its exposure to claims is minimized and its profitability is preserved, while at the same

time avoiding, or a least minimizing, the deterioration of relations with the Owner and Consultants prevalent where change management is wanting. Effective change management is conducive to the health of the project; an interest shared by all project participants, each of whom has a part to play in ameliorating the potentially consumptive effects of changes to the work.

Changing the Climate: The Role of the General Contractor

The GC must take the lead in getting the project participants to realize that all parties have an interest in the early identification and resolution of changes because: a) failure to do so will lead a project into a morass of conflict and contentious claims; and b) nobody else is going to do it. The GC's project administrator must often do this in a climate of mutual suspicion that the project participants carry as baggage from past disasters. For their part, Owners are convinced that Contractors have a vast apparatus dedicated during the bidding stage to change discovery, so that they can exact their ransom on the job absent competitive pressures. GCs, confronted too often by Consultants who defend deficient documents against reasonable claims for extra, become totally skeptical about the Consultant's objectivity.

The truth that Owners should know is that GCs barely have time to assemble a bid, let alone to attempt the sort of predatory 'change discovery' strategy posited by the 'Contractor conspiracy' theory. GCs gain perspective if they realize that the Consultant is often deprived of the resources required to produce more complete documents, and may have an Owner muttering 'errors and omissions', each time he presents a change order for signing. Contending with, and overcoming, the prevailing prejudices of the project participants is an extremely important first step in creating an environment conducive to the resolution of changes.

There is a compelling need for leadership in this regard, and if the other project participants are disinclined, it is in the

interest of the GC to assume the leadership role. Discussions about leadership often appear to float up in a balloon filled with the heady air of idealized assumptions about a utopian project where the players, once enlightened, are readily disposed to rise above their narrow self-interest. The type of leadership called for here is not of this sort: it is pragmatic, not Pollyannaish; it is earned, not imparted.

The leadership recommended here can mean dollars in a GC's pocket and avoidance of unnecessary exposure to Owner and subcontractor claims. First the GC demonstrates that if he has the information he can build according to schedule. Next he shows that he has control of his subs, and that if they do not perform he will take swift action. He knows where he has been and where he is going, by way of attention to scheduling. He controls the project documentation, especially the flow of changes. He has a thorough understanding of his contractual[1] rights, but conveys this without intimidation. He is so confident in his leadership position that he can manage forcefully, but judiciously, utilizing effective conflict-mitigating strategies such as interest-based, rather than position-based, approaches.

Absent this type of leadership, scenarios such as the following may be expected.

Mismanaging Changes: A Typical Case

During the third month of a scheduled nine-month project, the Owner directs the Architect to prepare a Contemplated Change Order (CCO) that will involve changes to the Architectural, Civil, Mechanical and Electrical scope of work. Two weeks pass before the CCO is issued, and the work involves a change to one area of the building from the currently required classroom arrangement to an office space. The layout of the affected area, including wall and ceiling layouts, will be completely revised. Light fixture and diffuser locations and types will be changed; re-ordering will be required.

Some M&E rough-in and drywall stud installation has already been completed. The GC instructs the trades to stop work in this area in accordance with the Owner's verbal instruction – the Owner told him unofficially the change will definitely be implemented because it has been directed from 'higher-ups'.

This is a renovation project and by this time there have been numerous other (especially structural) changes: mostly Owner-directed (by a CCO), but also a growing number of changes for which no CCO has been issued. Given the upsurge in price requests, and his growing commitments on the other two jobs he is running, the GC is falling behind in delivering the CCOs to the affected subtrades, and in this case almost a week goes by before the change is faxed out. It doesn't help him that some trades, especially the painting subtrade are consistently slow to price.

The GC is actually not aware that the Mechanical scope definition for this change is incomplete and that the Mechanical subtrade has been bypassing the GC, pushing the Mechanical Consultant for information so that he can quote the work. The structural scope of work is not accurately depicted in the CCO: major alterations to the approach have been worked out on site. The GC instructs his steel subcontractor to ignore the obsolete CCO and quote the work as it will be constructed.

About four weeks after receiving the change the GC has assembled about ten quotations which he hands to the Architect at the next regular site meeting. During the site meeting, the GC becomes aware by way of the complaints of his own superintendent and some of the trades that this change (and others) is now seriously affecting the progress of the work. The architect looks over to the Owner and observes that he has not even received pricing for the change. The GC quickly acknowledges and apologizes for the delay in pricing, but explains that the quotation is included in the package he has before him. "In the interest of schedule", the GC asks the architect, "can we have an immediate opinion on the price."

The Architect objects, advising he will need more time to review the quote, and then notices that the painting price does not include a break down for the labour and material portion of the work. He chastises the GC: "This is not the first time that changes are being submitted without adequate detail." The GC almost replies that the Architect has not yet responded to a single quotation but, feeling himself on shaky ground in this case, he decides that now is not the time to get into an argument.

The Mechanical Consultant, who only visits the site every other week is not available to comment on the Mechanical portion of the quote. Although the GC has succeeded (at his own risk) in convincing the steel subcontractor to proceed with the structural work in the interest of not delaying the job, the Mechanical sub will not proceed without a go-ahead. Another week passes by before the Mechanical Consultant finally sends his approval recommendation to the architect. However, the architect is convinced the Mechanical Contractor is 'gouging', and recommends to the Owner that the quotation not be accepted.

Instead, a Change Directive is issued, materials are ordered and the work is performed. Two months later the GC submits a fully substantiated quotation complete with time sheet signed by his superintendent, delivery slips and invoices for all items. At the next site meeting the Mechanical subtrade complains that he has not yet invoiced for any of the work (note: the GC will not permit billing for a change without a corresponding Change Order) that has been performed and insists on immediate issuance of a Change Order. The architect complains that the substantiated labour hours "seem very high".

The Mechanical subcontractor furiously objects, pointing out that all of his time has been duly signed by the GC's site superintendent. The Architect cuts off the discussion, concluding that since the amount of the quotation has greatly exceeded the original quote he will simply recommend acceptance of the original quote amount. The GC bangs the table and announces that no more changes will be performed without prior approval, and the meeting abruptly ends. "And forget about your schedule", he says, to which the Architect responds that he has not seen a single schedule update.

Later, the GC's project administrator is brought before his own management who at first assail him for an architect's letter accusing the GC of not pricing and managing the job changes efficiently. They soften their position once he explains that he is being inundated with changes on the job and reminds them that this after all is only one of three jobs he is looking after. Just as they all agree on a "hard ball, letter of-the-law approach" to deal with future changes, a fax is received from the Mechanical Contractor wherein he asserts that he is being delayed in the progress of the work and is being adversely affected by late payment on extras.

Identifying the problems and finding solutions

Variations on the above scenario play out on construction projects with disturbing regularity. It should first be understood that although there is plenty of blame to go around in this deteriorating situation, it is clearly the case that the GC is not playing the leading role in the resolution of changes and this is to the great detriment of his firm and the overall health of the project. It has been said that if the facts are on your side, you should hammer the facts, if they aren't, hammer the table. This GC should chastise himself before berating the Consultants, he is really banging the table because he has needlessly lost control of the project.

To begin with, if this GC actually knows his contract, he has decided to ignore provisions that would otherwise have

afforded protection to his position and that of his subcontractors. The first thing that should have occurred to the GC is to consider what type of change he was being asked to perform. This change is not a straightforward addition, or 'extra', as for example when a diffuser is added to a room sufficiently in advance of the planned schedule so as not to require re-work or cause interruptions. In the case of this particular change, re-work and re-ordering will be required, and delay and disruption will result. Depending on the circumstances, such a change may fall into the category of a 'scope' change and, if it does, the GC has a choice: he may have the right to refuse to perform the work.

The contract clearly allows the Owner to "make changes in the Work … by Change Order or Change Directive"[2]. However, the Owner **and GC** must "agree to the adjustments in contract price and contract time"[3]. Where there is no agreement, and the Owner requires the GC to proceed, the Change Directive is to be used.[4] But a Change Directive may only deal with work "within the general scope" of the contract documents.[5] Therefore, in the case of a change outside of the scope of the contract, if the GC decides that it does not want to perform the work, it could arguably simply resort to its right under the contract to refuse such work.[6]

Having said this, it must be stressed that in this context the CCDC 2 – 1994 contract does not provide a definition for a 'scope' change, nor does there appear to be a consensus in the industry on what actually constitutes a general scope change. Consequently a decision to refuse to do the work should only be considered after legal advice. The consequence of incorrectly determining work to be outside "the general scope of work" could be severe and this is likely a rare occurrence.

The next important point to be made is that the verbal instruction the Owner gave to the GC is insufficient. A stop work order, being a change to the work, should be issued as a

Change Directive[7]. If the Owner had ultimately decided not to proceed with the change, the GC would have experienced delay, but by having nothing in writing, he may have no protection under the contract.

Having apparently ignored any consideration of whether he is arguably contractually obliged to perform this change, the GC then proceeded with some elements of the work without either a Change Order or a Change Directive. Of course the wording of the contract is very clear in this regard: "*The Contractor shall not perform a change in the work without a Change Order or Change Directive.*"***[8]*** In fact, the GC did not proceed out of ignorance of this very clear stipulation; he did so knowingly, and was already performing other changed work without a change order or a change directive.

There were several factors at work in his 'reasoning': he had a level of comfort and trust with this Owner and so felt reasonably sure that the changes would eventually be approved; he did not want the schedule to suffer by delaying work he was confident would be required; he thought his willingness to proceed with changes prior to a Change Order or Change Directive would foster good will and; finally, he was reluctant to demand strict adherence to contractual procedures on changes because he felt vulnerable – he was not pricing in a timely fashion and was concerned this deficiency would become very apparent by this approach. In fact, he has fallen, by his own neglect, into the trap of proceeding with work prior to pricing, and without a Change Directive that would define the method of evaluation.

Absent the Change Directive, the Consultant, if he does not simply refuse to acknowledge the change, will often take the position that the work the GC is performing is to be evaluated as a lump sum quotation, in which case actual job site conditions may be ignored in favour of an 'objective' estimate.

As the GC sees it, he is taking a calculated risk, but such risk is really unnecessary and ill advised. Assuming that the number of changes that are issued do not become so overwhelming that it can be reasonably asserted that existing resources can no longer be expected to deal with them[9], and furthermore that the price request document is adequately detailed, then a failure of the GC to produce pricing in a timely fashion, is really an inexcusable failure because it fatally weakens his ability to demand accountability from the other project participants.

Once the GC makes a management decision to devote as much time as it takes to keep on top of pricing, it must enforce the same requirement on all of his subtrades. The GC's subcontract with the trades should include a clause stipulating a strict time frame for subtrade pricing, after which it reserves the right to conclude no adjustment to the subtrade's price. The GC's log of contract changes which he creates to record every extra cost item he identifies, should become the document of reference for change status and should be reviewed at every site meeting.

The CCOs being issued on this project are often incomplete and incorrect, and this is undoubtedly slowing pricing and affecting the quality of the submissions. The Mechanical subtrade is chasing the Consultant for a full scope, and not making an issue of it because he wants to preserve his good relations with the Consultant. Furthermore, the CCOs are not being issued quickly enough to keep up with the changes on the job. This will not change until the Owner and Consultants are taken to task. The Request for Information (RFI) document should be used to record deficiencies in the price request documents.

As evidence accumulates of consistent failure to produce adequate information to price, the GC should request in writing that the change(s) in question be issued as a Change

Directive in order to mitigate potential or actual delay to the project.

A GC has recourse by the contract to deal with the inadequacies of resources on the Owner's side and vice versa. If, as in this case, a Mechanical Consultant is not available to visit the site in order to fully evaluate some aspect of the quote, and it is delaying the process, request a Change Directive.

After all the time wasted in this process, albeit some of it due to the Contractor, the Consultant then attempts to 'negotiate' the amount of the Change Directive. The contract makes clear that the earlier-submitted lump sum price is superseded by the time and material approach (unless both parties agree otherwise)[10], the Consultant must evaluate the substantiated quote for the work performed on a time and material basis in accordance with GC 6.3.4 and on its merits.

Labour hours in particular should be signed on a daily basis, preferably by an authorized agent of the Owner or Consultant. Once this is done, there is still room for the Consultant's reasonable questions with respect to particulars of the quotes, but "seems high" does not constitute a reasonable review of the Contractor's detailed quotation. Accumulated hours should be presented to the Owner/Consultant at least once a week and the approved amount billed each month[11].

Changes that the Owner/Consultants will not Acknowledge

The foregoing example dealt with a change that was introduced by the Owner, but another significant challenge for a GC is to defend the reasonable claims for extra's that the Owner/Consultant refuse to fairly consider. The GC must be fair and reasonable, so that he will engender trust, but firm and unrelenting in demanding equitable compensation for extra work according to some fundamental principles

supported by the contract, the common law and, sometimes, common sense.

The most important principle is that on a design-bid-build project, the GC may expect that the bid documents including plans, specifications and addenda convey the scope in a clear and comprehensible fashion. The GC is not a designer unless the contract specifically states otherwise (as is the case, for example, in GC 3.3 Temporary Supports where the GC must hire a structural engineer to produce a design)[12]. The GC can construct only to the extent that the design and Contract Documents permit such performance.

Experienced Contractors are familiar with lines of argument that Owners and Consultants have developed to try to contend with their own vulnerability in this regard. An attempt may be made, for example, to use the pre-bid site visit as a substitute for a documented scope of work, even though the contract documents, by themselves, should convey the scope of the work, and should not require the elaboration of site interpretations to produce a complete picture of the scope of work.

Information that is necessary, but not sufficient, is sometimes offered as a complete scope (as when for example fire extinguishers are mentioned in a specification but no quantity is given and none are shown on the drawings). Often what a Consultant calls 'coordination of the work' which is the responsibility of the GC is really 'coordination of the design'[13], for which the Consultant is responsible.

It should also be remembered that once these approaches are exposed for what they are, the GC still has to construct, and that without his prodding and contractibility input the information he requires to build will probably not be provided quickly enough. Even when the Owner/Consultant are clearly at fault, the GC can never be the indifferent bystander, he must not only be a part of the solution, he must drive the

solution because if he does not, the potential damages to which all are exposed, may be magnified.

Changes are so dangerous for GCs because the delay, disruption and/or impact effects they often cause, while potentially claimable for the Contractor may instead become, if not managed properly in accordance with the contract, a situation of significant exposure to claims. The contract allows that every change should be considered with respect to the potential delay it may cause[14].

Consistent with the contract, The Canadian Construction Association recommends that GCs add a line to their quotations for "schedule acceleration/extension" as well as "impact" in their model Change Order Quotation form[15]. It goes on to suggest the inclusion of the period of days (addition or deletion) of schedule effect and contains wording reserving the right of the Contractor to assess impact of the change at a later date if such impact cannot be assessed at the time.

Why then do GCs so often fail to include for the time impact effects of a given change? Some GCs will include the exculpatory language regarding impact, but yield to the objections of the Consultant. Others will include the suggested allocation of schedule days affected by the change, but more often GCs do not directly address schedule at all. Why would a knowledgeable Contractor not attempt to assign a time effect when the contract clearly affords this right?

Sometimes it is actually not possible, in other cases, Contractors are actually concerned that in so doing, they wave their right to future claims for the accumulated affect of all changes. But in most cases it is simply because the GC has failed to update the CPM schedule, which is the contractually mandated instrument of time effects, on a regular basis.

Most contracts require the GC to update the critical path schedule on a monthly basis[16]. Moreover, written notice of delay must be given by the Contractor to the Consultant within 10 working days after the commencement of the delay[17]. The GC who fails to provide clear and timely notice may not only waive his contractual right to compensation, but in failing to assert his own rights he may leave himself exposed to claims by subs and the Owner.

The GC must understand how changes are affecting the schedule. On changes where there is a clear-cut effect on the original program, it is preferred to perform a 'snapshot' analysis[18]. However, many GCs are either not trained in the techniques of such analysis or, if they are, fail to allocate their time to this task. The great value of such a demonstration is to introduce into the contemporaneous job record a document that will record agreement at the time with respect to relevant facts pertaining to the as-built status of the job and schedule logic. If not so recorded, such disputes begin with efforts to negotiate agreement on fundamental facts that might otherwise have been established. Delay and disruption claims should be governed by the contract.

It is in the GC's interest to devote sufficient resources to realize this objective. It is entirely possible, but rarely accomplished, to settle changes and delay and impact claims during the life of the project and without acrimony or resort to legal remedies. To be sure this will depend to a large degree on the reasonableness of the project participants, but critically important is that the GC is in control of documentation (especially changes), monitors schedule, knows his contract, and exercises leadership in contending with changes and the delay and consequential effects they so often bring to a project.

Early Discovery of Changes

It was suggested above that GCs, owing to time and resource constraints, do not have time during the tender

period to perform a 'change discovery' examination of the bid documents. After award however, it is of great benefit to the Contractor to work with its subcontractors to identify changes at an early stage (say within the first month), and to then have the Consultants document the required design change so that the delay effect can be minimized. It is even suggested that the Owner and Consultant be asked by the GC to participate in this exercise, although they may not be able to see that it is in their own interest to settle the scope early. Such an early approach by the GC may, if nothing else, succeed in moving the Owner/Consultant away from the 'Ostrich' mentality on changes, so that the reality can be dealt with.

It should be understood that not all changes can be discovered at an early stage. For example, the fact that the Architect's layout for the Mechanical room conflicts with Mechanical design, may not be discoverable even by careful review of working documents, and so will only be discovered once work is sufficiently advanced. Changes of this sort may be symptomatic of a pervasive problem of incomplete, absent and/or conflicting design. In such cases, the pro-active approaches advanced here are of limited utility, and the best a GC can do is to adopt a 'damage control' posture.

There are, however, changes that can and should be identified by the GC at an early stage of the project. Included in this category are changes of the sort found on renovations projects where, for example, the Consultants rely upon the original project 'as-built' drawings, later found to be incorrect, as a layout template. In this situation the GC may find that rooms indicated in the bid documents do not even exist, wall locations may be incorrectly drawn, ceilings identified in schedules as drywall may be plaster; all involving changes to the original plan which may prove significant. Other examples of 'discoverable' changes resulting from an inadequate 'survey' of the building by the designers are as follows: the existing masonry walls require

extensive repair not indicated in the documents; or the window opening is not large enough for the new louvre it is to receive, requiring a new structural steel header.

Critical to the success of this early 'change discovery' approach is that the GC's supervisor and the subcontractors understand that among the priorities during the first weeks of the project must be a wholesale site investigation and a thoroughgoing document review. Moreover, shop drawing submittals, which introduce an essential, additional level of information that may reveal design problems, must be expedited. Of course if, as is often the case, the GC is dilatory in the award of subcontracts, an essential participant in the early change discovery approach is not available, and the process cannot really get started in earnest until awards are finalized.

Conclusion

Many GCs today see themselves as 'brokers'. This thinking is encouraged by economic considerations. If project delivery for the GC only involves limited oversight of the work that others (subcontractors) will perform, overhead costs can be minimized. These days a GC 'passes through' most of the actual construction work as well as the provisions of the 'prime' contract to its subcontractors. What cannot be 'passed through', and where the 'brokerage' model breaks down, is the requirement for effective management of the project in the volatile atmosphere of contract changes, and the leadership this entails. It is hoped that this article will cause not only GCs, but Owners and Consultants as well, to realize that the success of the project requires a shared commitment to the early identification and timely resolution of changes and, equally important, the allocation of sufficient resources to accomplish the task.

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Editor's Note: This article, although addressing the question of contract changes in the context of specific Canadian contract language has valuable insights with general application to contracts in the United States and elsewhere. With the number of subscribers to our Report that are based in Canada and countries other than the United States I believe it appropriate to include this article for our readers.

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[1] The Standard Construction Document – CCDC 2 – 1994, Stipulated price contract, created by the Canadian construction documents committee, is referred to throughout this document.
[2] CCDC 2 – 1994, GC 6.1.1
[3] CCDC 2 – 1994, GC 6.2.1
[4] CCDC 2 – 1994, GC 6.3.1
[5] CCDC 2 – 1994, Definitions 18
[6] Unlike the CCDC 2 – 1994 document, The CCDC 2 – 1982 Stipulated Price Contract provided a definition for "Changes in the Work", and restricted changes to those "within the general scope of the contract".
[7] CCDC 20 1994, GC 6.2, p. 24
[8] CCDC 2 – 1994 GC 6.1.2
[9] At some point, the extent of changes become 'unmanageable' and beyond what the Contractor could reasonably have expected, but what is this threshold? A study by the Building Research Board National Research Council found that changes in the range of 6 – 10 percent would be expected. C. Leonard's study concluded that a correlation

between productivity and CO hours begins to appear when changes exceed 10 per cent of base contract hours. None of this is conclusive, and it is important to consider whether the changes occur early or late in a project as well as whether or not they were evenly distributed over the project period. See "Calculating Lost Labour Productivity", William Swartzkopf, 4.3, for a discussion of reasonable expectation of extras on a project.
[10] CCDC 2 – 1994 GC 6.3.7
[11] CCDC 2 – 1994 GC 6.3.5
[12] CCDC 2 – 1994 GC 3.3.1
[13] Complete Contracting: A-Z Guide to Controlling Projects, A. Civitello p. 97
[14] CCDC 2 –1994 GC 6.2.1 and 6.2.2.
[15] CCA Doc. 16 1992: Guidelines For Determining The Costs Associated With Performing Changes In The Work.
[16] CCDC 2 – 1994 GC 3.5.1.2
[17] CCDC 2 – 1994 GC 6.5.4
[18] Construction Claims Causes and Options, S. G. Revay, p. 107