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Proactive Change Order Management

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The only certainty regarding changes on a construction project is that there will be changes.

Construction bid requests often lack clearly defined bidding instructions describing how additional costs will be incorporated into the contractual agreements as a result of project changes. Failure to address this issue before signing the contract may lead to extensive change order negotiations resulting in adversarial relationships between the project participants, which can be detrimental to the successful execution of a project.

The following article explores change order contract language, identifies shortcomings, and suggests proven enhancements that can be incorporated into a contract to lessen, if not eliminate, the “haggle factor” between the owner and the contractor. These methods define a detailed costing structure that can be presented in the bid documents and incorporated into the contractual agreement, thereby providing the contractor with the opportunity to establish its change order pricing components during the bidding phase of the project. These components offer the mutual benefit of an up-front agreement between the owner and the contractor regarding the administration of costs associated with contract changes.

During the execution of the project, this up-front agreement also aides in the expeditious handling of change orders and greatly alleviates the emotions and ego factor by generating change order costs that are fair and equitable to all parties.

BACKGROUND

Disagreements over change orders and their associated costs have been identified as the number one problem that leads to adversarial relationships and disputes, which can ultimately lead to construction claims. Current contract clauses regarding the pricing of changes tend to contain open-ended definitions that rely heavily on negotiations during construction with the hope of arriving at a mutual agreement after the execution of the contract instead of establishing how changes to the contract will be handled before entering into an agreement.

The failure to address and resolve in detail how change order pricing will be handled before the execution of an agreement is a major flaw in construction contracting that contradicts the original intent to “successfully build the project”

TYPICAL CHANGE ORDER CONTRACT LANGUAGE

The following excerpts related to contract changes have been extracted from commonly utilized and accepted construction contracts.

Change order costing and presentation provisions:

- “mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation [1]”
- “cost to be determined in a manner agreed upon by the parties and a mutually acceptable fixed or percentage fee [2]”
- “in such a form as the architect may prescribe an itemized accounting together with appropriate supporting data [3]”
- “costs calculated on a basis agreed upon by the owner and contractor plus a fee (either a lump sum or a fee based on a percentage of cost) to which they agree [4]”
- “a mutually accepted, itemized lump sum [5]”

The above contract clauses present limited definition as to the detail and support information required to present and justify change-related costs; instead, they rely upon a mutual acceptance by the parties after the execution of the contract.

Alternate contract options in the event that the parties cannot reach a mutual agreement include:

- “method and the adjustment shall be determined by the architect on the basis of reasonable expenditures and savings . . . “reasonable allowance for overhead and profit [6]”
- “if an increase or decrease cannot be agreed to as set forth in clauses 1 through 3 above, and the owner issues an interim directed change, the cost of the change in the work shall be determined by the reasonable actual expense and savings of the performance of the work resulting from the change [7]”

The above contract options permit the owner to direct (force) the contractor to proceed with the change based on the promise that the contractor will receive reimbursement of reasonable expenses and a reasonable allowance for overhead, and profit. The details of what constitutes reasonable expenses, overhead and profit are not defined but are rather left to interpretation and further negotiations.

Axiom—the value of work diminishes rapidly upon completion.

CHANGE ORDER NEGOTIATIONS (HAGGLE FACTOR)**A Typical Meeting**

A change order meeting usually commences because of one of the following situations.

The owner is disappointed that a contractor's change request was not included in its original scope of work and believes that the contractor may be trying to seek a change to the contract sum to improve its financial position by bolstering its low bid price.

The architect or engineer (A/E) believes that a contractor's bid should have included work contained in the contractor's change request because of an implied requirement provided for in the bid documents. The architect or engineer may also be concerned that the contractor requested change could be perceived by the owner to be a design error or omission.

The contractor competitively bid the project per the plans and specifications, and because of a tight business environment, has no contingency within its contract price to absorb additional costs. Further, the contractor priced the contract change expecting it will be asked to negotiate and lower its requested amount in order for the parties to reach an agreement. In a worst-case scenario, the contractor believes that the owner is trying to get something for nothing.

The attendees at a change order meeting often consist of the owner, the owner's representative, lead architect or engineer (A/E), contractor's construction manager, contractor's field superintendent, and the contractor's estimator.

The group is comprised of seven people with their own agendas, inherently biased, with each having an independent view of the requested change.

The A/E comes to the meeting with knowledge and possibly some bias acquired from past experiences and typically presents its position regarding the change expecting the contractor to provide an explanation that defends and supports the contractor requested amounts. Further, the A/E has developed its own perception as to the value of the change and usually without exception, the contractor's price is considered too high.

The contractor believes that it prepared the change order estimate from a limited amount of information available to define the scope of work. The contractor has taken a worst-case position and has tried to consider all of the impacts that the change may have to its original work plan that may have to be revised, including materials that have been ordered and received that will not be utilized, additional and/or different craftsmen, and additional site supervision.

The meeting often begins with discussing whether the work is a change to the contract documents.

The A/E challenges the validity of the change with a statement such as "the work should have been included in the contractor's contractual scope of work." After a period of discussion, often heated, the owner intervenes and concedes that it will accept that the proposed change was beyond the original scope or intent of the bid documents.

The next issue to review and resolve is an agreement to the amount of the contractor's submitted costs.

The A/E often challenges the contractor's pricing line-by-line, stating that there appears to be too much money allocated to material, labor, equipment, site supervision, and/or mark-ups.

The contractor often becomes offended because even though it may have included some contingencies for the unknowns at the time of pricing, the A/E has stepped into the contractor's business, potentially jeopardizing the contractor's profitability by trying to push more risk onto the contractor for the least amount of money. The A/E is motivated to prevail over the contractor with price negotiations, so that it can regain some credibility that may have been lost because of a change that was not included in its issue-for-construction design documents, which from the owner's perspective, should have been.

ALTERNATIVE CONTRACTUAL METHODS OF RESOLUTION**Unit Cost Basis**

Problems associated with unit-cost pricing include the following.

A contractor's unit costs can vary significantly, depending upon the location, timing, and the extent of the work.

If the changed work cannot be correlated to a preapproved unit price it will typically require the contractor to develop a unit price and require a mutual agreement of both parties, which can delay the execution of the change and possibly create impacts to the project beyond the cost and/or timing associated with the change.

Requires additional (nonreimbursable) accounting and record-keeping for both the contractor and the owner.

Time and Material Basis (Force Account)

The problems associated with executing change orders on a time and material basis include:

- Provides a diminished incentive for the contractor's performance
- Requires detailed (nonreimbursable) record-keeping by the contractor
- Degrades performance for the original contract scope of work because the direct labor personnel may develop an apathetic attitude.
- Problems for the owner may develop because of a possible delay in the completion of the project.

THE QUANDARY

A key challenge the parties must overcome is the noncompetitive pricing of change orders. As such, determination of the pricing is typically left to a negotiation process that often escalates into an adversarial relationship that not only affects the change order process, but also jeopardizes the success of the project by conveying a perception that neither party is willing to act in a fair and reasonable manner.

To fully appreciate the ramifications of today's contract clauses, which were written for changes, a progressive definition of "negotiate" has been provided as follows:

Negotiate; a common term used in a majority of construction contracts referencing the resolution of change orders; To accomplish or cope with successfully, *Cope*; To struggle or contend; to arrange for or bring about through conference, discussion, and *Compromise*; A settlement of differences between opposing sides in which each side makes *Concessions*; conceding or yielding; usually implying a demand, claim, or request, and thus distinguished from giving, which is voluntary or spontaneous.[8]

It has been said by Samuel Johnson that “It is difficult to negotiate where neither will trust.”

In current contracts, typical change order pricing options are as follows. The owner’s options:

- Perform an independent estimate to be used in negotiations with the contractor
- Trust the contractor’s submitted price
- Resort to a time and materials basis

The contractor’s options:

- Initially price the change order with sufficient additional (contingency) costs to afford concessions in the attempt to reach an agreement.
- Perform the work on a time and material basis, thus incurring the additional nonreimbursable costs associated with the increased paperwork and segregation of job costs.
- Perform the work with the intention of filing a claim.

DEFINING CHANGE ORDER COST COMPONENTS

A process that would go a long way toward eliminating the “haggle factor” associated with change order pricing would be a predetermined, contractually defined pricing methodology. The cost components of a change order would be defined in the contract and established uniformly for each bidding contractor. Ultimately, the contractor awarded a project would submit its pricing for changed or added work in accordance with its contractual requirements, which would include the following cost components, as appropriate.

Engineered Equipment and Materials

Engineered equipment shall be defined as equipment specified by the contract with a value of more than \$_____. Engineered equipment costs shall be considered all-inclusive of the purchase cost of the equipment including all freight costs (cartage and drayage), purchasing services, expediting, and inspections.

Materials (commonly referred to as bulk materials) shall be defined as permanent construction materials that become part of the completed installation. Quoted costs shall be all-inclusive of the purchase cost of the materials, including freight costs (cartage and drayage), purchasing, expediting services, taxes, and joint materials.

Direct Field Labor Hours

Contractors are most protective and resist divulging their direct labor workhour units. Contractors contend that this information is proprietary to their organization and that divulging this information would compromise their competitive edge. The recommended solution to this problem is to have a contractor utilize industry-published estimating data as a benchmark from which an owner can evaluate a contractor’s change order proposal.

Suggested wording for such a contract clause is as follows: Direct labor workhours for change orders will be based upon a maximum of _____ % of the current edition of the _____ (potential examples include R.S. Means, Richardson Engineering Services *Construction Estimating Standards*, the Mechanical Contractors Association’s (MCA) *Labor Estimating Manual*, National Electrical Contractors Association’s (NECA) *Manual of Labor Units*, John S. Page, *Estimator’s Piping Man-Hour Manual*, John S. Page, *Estimator’s Equipment Installation Man-Hour Manual*, John S. Page, *Estimator’s Electrical Man-Hour Manual* or any recognized published estimating manual of the contractor’s choice.)

Opponents to this approach challenge that when published labor productivity units are applied to the changed or added work, the estimated direct labor workhours are overstated and consistently higher than a contractor’s actual performance; therefore, this approach is unfair to the owner. A proposed resolution to this objection is to provide the contractor the ability within its contractual agreement to declare that the labor units for changed or added work will not exceed a specified percentage of the selected published labor unit amount. This proposed solution provides the owner a benchmark from which to measure a contractor’s labor hours and gives the contractor a basis that can be used to present and justify its change order proposal.

Direct Field Labor Costs

Direct field labor costs are defined as the direct labor expended in the actual installation of equipment and materials that will become a permanent part of the finished project. Direct field labor costs shall include hourly labor classifications for foremen, journeymen, apprentices, laborers, etc.

Direct labor costs shall include applicable mark-ups to the contractor’s direct labor payroll costs including social security, unemployment (federal and state), workers’ compensation insurance, fringe benefits, builders risk insurance, liability insurance, and any other identified costs directly related to direct labor.

In addition to the above direct labor costs, the following items shall be included within the direct labor cost category.

Safety related items, including safety equipment, safety supervisor inspections, safety administration, and all related costs associated with the contractor’s safety program. Safety related items shall be charged at a percentage mark-up of _____ % to direct labor payroll cost.

Small tools, which are defined as construction tools with a value of up to \$ _____. Small tools shall be charged at a percentage mark-up of _____ % to direct labor payroll costs.

Consumable materials, which are defined in the general conditions section of the specifications, shall be charged at a percentage mark-up of _____ % to direct labor payroll cost.

The contractor's direct labor rates as outlined above are to be provided utilizing a direct labor cost form.

consistent with the general contractor's contractual agreement with the owner.

Construction Equipment and Tool Rental Rates

Contractor owned equipment and major tools: rental rates for construction equipment and tools valued at a cost over \$ _____ will be included per the contractor's attached rental rates or in the absence of an internal rental rate, rental rates shall be established at ___% of the published rental rates indicated in the _____-20XX Edition.

Third-party rented construction equipment and major tools: rates for construction equipment and tools valued at a cost over \$ _____ that are rented from a third party shall be charged at cost plus a fee for general/administrative overhead and profit as indicated within the applicable sections below. Rental rates shall be inclusive of all associated costs including but not limited to delivery, fuel, mileage, maintenance, and repairs.

Field Overheads (Indirects)

Field overhead (indirect) labor categories include the following classifications, as applicable:

1. Field (onsite) supervision (construction manager, superintendent, general foremen, etc.)
2. Field administrative personnel (office manager, secretarial services, document control, etc.)
3. Support staff (field engineers, planners, estimators, warehouse personnel)

Field overhead costs that are directly related and proportional to direct labor costs because of hourly wage and/or collective bargaining agreements shall be based on _____ % of direct labor payroll costs.

In the event that a change involving a compensable delay is submitted and approved, the rate per day for salaried administrative, supervisory, and support staff costs shall be based on \$ _____ per day of compensable time. Changes that require specialized personnel or additional staff shall have costs shown separately and shall include justification.

Field facilities (time based) shall include the following classifications, as applicable:

1. Temporary offices (office furniture, copiers, computers, printers, other office equipment and supplies)
2. Temporary material storage (storage vans and containers, warehouse rental)
3. Utilities (electricity, phones, data lines, restroom facilities)

In the event that a compensable delay-related change is submitted and approved, the rate per day for field facilities shall be based on \$ _____ per day of compensable time.

Subcontractors

Subcontractors shall adhere to the same contract requirements and shall utilize change order pricing methodology that is

General and Administrative Overhead (Home Office)

General and administrative costs shall be applied as a percentage to the following cost categories associated with the changed or added work:

1. Engineered equipment - a mark-up of _____ %
2. Materials - a mark-up of _____ %
3. Direct and indirect labor, field indirects, construction equipment and major tools - a mark-up of _____ %
4. Subcontractor costs - a mark-up of _____ %

Profit

A mark-up on the total change order costs of _____%.

The above-recommended approach in establishing the framework for change order pricing would provide the following benefits.

- A predetermined contractual basis for calculating the costs associated with changes.
- An additional factor to assist the owner in its initial evaluation and selection of a contractor.
- Discourage a contractor's LOW BALL bidding with the intent to make up its low price with change orders.
- Greatly reduces or in most cases eliminates the negotiation of change order pricing.
- Reduces the owner's project management costs by alleviating the need to perform a comparison estimate.
- Greatly decreases the possibilities of claims and disputes.
- Promotes teamwork versus an adversarial relationship.
- Provides an environment of a fair, reasonable, and equitable business relationship.
- Allows a contractor to establish its pricing structure related to change orders up front prior to execution of a contract.
- Provides uniform change order pricing.

REFERENCES

1. The American Association of Architects (AIA) A201-1997. General Conditions of the Contract for Construction, Article 7, Changes in the Work, Section 7.3 Construction Change Directives, Subsection 7.3.3.1
2. AIA, Subsection 7.3.1
3. AIA, Subsection 7.3.3
4. The Associated General Contractors of America (AGC) Document No. 200. Standard Form of Agreement and General Conditions between Owner and Contractor. Article 8, CHANGES - Section 8.3, Determination of Cost, Subsection 8.3.1.3.
5. AGC, Subsection 8.3.2
6. AIA, Subsection 7.3.6
7. AGC, Subsection 8.3.4

8. *Webster's II New Riverside Dictionary.*

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