
 <p>The cornerstone of confidence™</p>		<p>July 2003</p>
<p>The following is a series of articles addressing the cost of construction projects.</p>		<p>Article 3 of 4</p>
<p>PinnacleOne Institute Custom, In-house Training and National Seminar Series</p> <p>Program & Project Management</p> <p>Dispute Avoidance & Resolution</p> <p>Real Property Advisory Services</p> <p>Headquartered in Phoenix, PinnacleOne regional operations are located in Irvine, Los Angeles, Sacramento, and Hartford, CT.</p> <p>To view a specific back-issue of this newsletter, please <Click Here></p>	<div data-bbox="407 386 1444 440" style="border: 1px solid black; padding: 2px;"> <p>WHAT WILL MY PROJECT COST?</p> </div> <p>This is a question that it is asked on all construction projects from project inception until writing the last check. One measure of your project's success will be the accuracy of the answer. This series of articles offers practical advice on ways to control and manage project costs in design, construction, and closeout to achieve the best value at the least cost with as few surprises as possible.</p> <hr/> <p style="text-align: center;">Common Causes of Cost Growth During Construction?</p> <p>The best time to control costs during construction is before construction ever starts. Once the design is done and put out to bid, all of the project participants must come to grips with their fates and in the words of Jack Kerouac,</p> <p style="text-align: center;"><i>" ... board the destiny train."</i> Jack Kerouac, <u>Dr. Sax</u></p> <p>On hard-dollar, competitively bid jobs, about the best anyone can do to minimize costs after the construction contract is signed and work in the field starts is to plan for and react to curves and bumps in the track. With that said, there are several things that we have observed that characterize projects that experience significant and unnecessary cost growth during construction. What are they?</p> <p>Inadequate contingency for design and construction-related issues and mismanagement of the contingency. Cost control during construction begins with sufficient contingency in the pre-bid estimate for the inevitable change orders during construction. What is an adequate allowance for changes? Five percent of the estimated construction cost is probably the minimum in most</p>	 <p>Lee Schumacher, P.E., Director of Construction Claims for PinnacleOne's Northeast operations is a specialist in the evaluation and resolution of construction disputes. During his 25 yr. career, Mr. Schumacher has worked as a consultant to design professionals, owners, contractors, insurance companies and sureties, and has testified as an expert witness in construction related cases on behalf of owners and contractors. Mr. Schumacher has provided expert testimony in court and arbitration proceedings, and has lectured and published numerous articles on a wide range of claims related topics.</p> <p>Mr. Schumacher is located in PinnacleOne's Hartford, CT office at (860) 704-6100.</p>

circumstances to cover changes related to minor non-scope field directives, design errors, and omissions. Additional contingency should be added to consider, among other things, the type of project, project delivery method, site conditions, the propensity of the ultimate user to initiate changes during construction, and whether the project is a green field project or a retrofit/modernization.

Given the competitive nature of construction these days, it is not uncommon for the low bid to be less than the pre-bid estimate of the construction cost. In these cases, owners should, if possible, use these savings as additional contingency and resist the temptation to use them early in construction to enhance the quality or scope of the project. This is particularly true when the low bid is significantly below the others and there will likely be an increased focus by the contractor on change orders and claims and more risk of default by the contractor. Owners are advised to guard their post-bid contingency for project risks and only use it for scope changes as time decreases these risks.

Large volume of changes issued late in the game. If owners want to direct changes to the contractor's work, they should do it as soon as possible and well in advance of the actual field work. The contractor needs adequate time to plan and organize its work. Otherwise, change orders can cause delays to the project and affect other work. Depending on the status of construction, these added costs could be substantial. In addition, time is needed to price and negotiate a fair value for the changes. Without this time, the owner may be forced to pay higher prices for the work because he/she will be forced to choose between delays to the project and added time to negotiate a better change order price. When thinking about issuing changes late in the project, owners should consider deferring the changes altogether and picking up the work with a later follow-on contract.

Failure to recognize legitimate changes when they occur. Given the complexities of design and construction, even the best designs will not be error-free. The designer, in responding to contractor requests for information (RFIs) or submittals, may respond in a manner that in effect *constructively* change the contract. A differing site condition could also result in a constructive change.

Whether the change is constructive or directed, it is often possible to minimize the costs associated with the change, both direct and indirect, if the contractor

provides notice of the change in sufficient time. With adequate notice, the owner and designer can consider other lower cost alternatives and the contractor will likely be able work it into the schedule so that the change does not impact other work or the completion date of the project.

If responding to these notices by the contractor is left to the designer alone, they may “head to the bunkers” and deny legitimate changes to avoid acknowledging the error or omission. Similarly, the architect or engineer may think he or she is serving the owner’s interests in summarily denying questionable claims of unforeseen site conditions. Either case could result in the owner paying more.

Unresolved change orders are like a good red wine, they only get more expensive with age. In addition, denials and delays in executing legitimate change orders can affect the contractor’s cash flow and pollute fragile relationships that are present on many projects, both of which can have obvious negative consequences. Thus, it is important that the owner stay actively involved in the change order process. Specifically, owners should routinely and independently monitor the submittal, RFI, and change order processes throughout construction and be alert to problem submittals, lingering unanswered RFIs and delays in formalizing change orders.

Lack of experience, inadequate resources, and problem personalities. These attributes, if present with the owner, designer, or contractor, virtually guarantee everyone’s costs will increase.

Unfortunately, all too often we see inadequate or inexperienced people working on behalf of the owner or contractor that are snowed under by the daily project paperwork. As a result, they focus only on those things that they believe are necessary to keep the job moving day to day just to keep their head above water. They simply do not have time to look ahead to anticipate problems. In these situations, they often give lower priority to other important tasks needed to avoid contractor claims such as reviewing the monthly schedule updates (all too often we find the monthly schedules still rolled up, neatly stacked, and never reviewed) and change order negotiations.

Similarly, on some jobs the number of RFIs can be overwhelming. Whether

caused by a poor design or a claims-conscious contractor, delays in responding to RFIs is a common justification for the contractor's request(s) for additional compensation. If additional resources are necessary to answer the contractor's RFIs and respond to the contractor's needs in a timely fashion, make the tough decision and do it. It will be money well spent in the long run.

Owners need to make certain that the staff they assign to oversee their jobs have the necessary experience, skill, and resources required to be successful and to keep up with the pace of the job. A skilled, experienced, and constructive individual working on behalf of the owner will help the contractor make money and keep the claims gamesmanship in check; both of which benefit the owner and will probably decrease the ultimate cost of the project.

Contractor self-inflicted problems become the owner's problems. Contractor problems such as low bids, poor planning and scheduling, lack of material deliveries, inadequate supervision, low labor productivity, and subcontractor poor performance can be very costly, decrease the contractor's profit, and should be to the contractor's account. However, it is not unusual for these types of problems to become an owner's problem.

Why? When a contractor realizes that it could be or is losing money on a job, he or she will look for ways to make up the losses. In some cases, the owner may be forced to terminate the contractor for cause and face the likelihood of a claim by the contractor for wrongful termination. Either way, the contractor will inevitably engage in revisionist history by recasting the facts so that his self-inflicted problems appear to be caused by the owner or the designer.

One problem we frequently see is owners and their design professionals have little experience in dealing with these challenges. As a result, they often do not do an adequate job of documenting contractor performance deficiencies. It is also not uncommon for an inexperienced owner and its design professional to be out-gunned by an aggressive and skilled contractor project manager. In these situations and without the right documentation, the owner will spend more money defending these claims and risks of paying for the contractor's problems increase significantly.

Owners – consider getting legal and expert help early to help keep contractor's self-afflicted problems from becoming your problems.

In closing, I am reminded of a quote from John Greenleaf Whittier's, The Curses, which reads as follows:

"The day we fashion destiny, our web of fate we spin."

As described above, the ultimate fate of your project cost is not fixed during the design, but continues to be spun during construction. The destiny train is on the track, but its ultimate destination continues to change with time, and may not even be reached when the project is complete and in use. With that said, actions during construction will affect the additional costs to resolve lingering commercial issues and close-out the project. Do not miss the opportunity to fashion your destiny and spin a web of least-cost fate.

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