**Critical Industry Issues**

*Session 1: Performance Contracting I: Rewards & Incentives*

During the first session, it was interesting to learn the contractors' views on the idea of rewards and incentives in contracts. All of the contractors tended to be agree that some sort of reward or incentive was usually a good thing in a contract. There was unanimous approval for shared savings clauses.

There was general agreement that performance based fees worked, though they felt there should be some more objective criteria for assessing the performance. They referred to the more subjective areas as "working for tips." The other issue raised about performance based fees was the potential for personality clashes between the contractor and the owner that could lead to unfair assessments for the contractor.

When the idea of incentives came up there developed some interesting conversation about the manner in which owners went about dispensing the incentive. One example where an employer wanted to hand checks directly to the GC's employees was considered a serious issue. The manager felt the payment could lead to a "mutiny" from other employees on other jobs who were not being compensated in an equivalent manner when they were working to the same level. Also, the potential for new employees could come to expect the incentives as money they were entitled to on every job. Also, because the employees were new they might not perform in the owner's best interests but try to get the most money out of the owner, in effect working in their own best interest.

Other incentives that were discussed were early completion incentives, safety awards and the potential for more work from the owner. One of the questions raised during the discussion was whether or not early completion bonuses led to an overall lower cost for the project for the owner due to the shorter period on site, or if the contractors were building in extra money into their bid to cover the cost of earlier completion.

After the discussion of fees the discussion moved to try to define what high performance contracting actually meant. The industry members present tended to agree that it went beyond being on time and on budget for the project. They felt serving the customer's needs, beyond the requirements of the contract, was where the step above came from.

The key to being a high performance contractor, from the point of view of the companies present, was in the people working for the company. The personnel needed to be able to adapt to changing conditions, have continuity in education, and that success for the project needed to be defined up front. When the project was of significant length, the success might need to be redefined multiple times. *The question was raised by the students about the relationship between contract incentives and repeat clientele. The industry members said that most of their work where they had incentives was with customers who were repeat clients*.

The last topic discussed was the idea of a performance specification. The industry members said that if the spec was a "true" performance specification then it would work, however most performance specs were "hybrid" specs where some items were specified by name and took away the performance potential for some of the systems. Also, there tended to be problems where there were too many customers to please, such as at the Pentagon, where so many people had a preconceived notion of what they were getting. Also, the key seemed to lie in the submittal process to ensure the products submitted met the intent of the specification, and the owner needed to be involved to see exactly what they were getting.

Another question raised by industry members was why do incentives not always work in contracts, certain contractors seem to not work toward getting the incentives.

**Critical Industry Issues continued**

*Session 2: Emerging Markets II: Green and High Performance Buildings*

In the second session the topic started with why do people pursue green buildings. The main responses seemed to be driven by the bottom line, whether that was governmental incentives, higher turnover of merchandise, improved marketing, or possible fundraising opportunities. The questions that were raised were what are the legal aspects of a contractor pursuing the LEED certification for a building, and one of the subs drops the ball, taking the certification down a level. Who is now the responsible party if the building does not reach the level specified? Is it the responsibility of the GC when a sub came up short? What are the damages to the owner?

The conversation then turned to a delineation of what exactly we were talking about. The comment was raised that we were of course talking about LEED, since it's possible to be green without getting a LEED certification. Another comment was thrown out that LEED is basically equivalent to Energy Star on electrical appliances, etc. If someone wants a TV that uses low energy then they buy one with an energy star symbol, if they want a building like that, they expect a LEED certificate.

The perspective then moved to that of the companies. What are the actual costs of gaining points at each certificate level. How do the costs change by region. Also, the business case needs to be proven for companies to really be on board. Someone brought up the point that when people built houses, etc., a long time ago they were designed to be comfortable. When air conditioning was developed we stopped designing that way and just loaded up on the AC. Now we're just reverting back to what made sense in the first place.

The suggestion was made to come up with a checklist of reasons to obtain each point with the incremental cost changes associated with each point. For example, if someone were looking at the point for the bike rack. The checklist would show the value/intent of the point, a few reasons why someone might choose it, state the up front cost of buying the appropriate number of bicycle racks and showers if necessary, and the life cycle cost increase or decrease for the point. There would need to be a significant amount of study to show the cost per SF to get each point since they are somewhat interdependent. It might be possible to generalize it to what is the minimum cost per SF to step from the bare minimum of one certification to the next. There would be less adjustment and the dependence of the points would balance themselves out.

Another area that could be researched would be which points are most and which are least often obtained on a project. Then also correlate them to what level of certification the building received. One area of suggestion, when comparing the US to Europe, was cradle to the grave analysis of energy input into various items involved in construction, as well as LEED point items. One question raised was how many owners get a LEED certification, then decide not to pursue the certification on another project. What reasons do they have for this, is it the cost of documentation, or are the projects no longer green, etc.

When recycling moved into the forefront of the discussion, the issue was raised of how could the logistics of recycling be handled. The area of concern seemed to lie in the enforcement of the recycling plan. It was suggested that recycling could be improved significantly through education of the workers, in the same manner that safety has. Also, planning to minimize waste on site can save a significant amount of non-recycled garbage.

**Critical Industry Issues continued**

*Guest Speaker: Chris Hewitt of AISC: "Managing steel prices and a volatile market."*

Chris gave a brief overview of the myriad of issues that were causing the price of steel to rise. He started by showing how originally the price of steel was actually artificially low in the US due to an oversupply, a strong dollar, and cost pricing of the milling and fabrication. Recently, China has been beginning to build up its infrastructure, and with the size of China the affects of their purchasing has had a significant financial impact worldwide. On top of that the American dollar value has dropped, shipping prices are rising, and global demand has increased. All in all the price of steel has just been moved much closer to the global price of steel. The effect of China's influence is not limited to the steel market, the effect will also be felt in wood and cement as well.

He then reviewed the five V's that have an influence on the steel prices. Volume of work is actually less than what the American steel fabricators can handle currently. The businesses can handle about half again as much work as they are currently performing (throughout the country, that does not mean that individual companies can handle that much more work). Velocity, the standard mill and fabrication cycle has not changed recently by any significant amount. Value, mill prices have risen by approximately 50%, raising project costs directly by 1.5-2%. Variety, many contractors are stockpiling rebar in stock sizes to keep their prices artificially low for the time being. With steel, stockpiling is not easy due to the large variety of sizes specified in drawings. Volatility, the price of steel has been unpredictable for the last 9 months, which has led to higher prices mainly to protect those giving prices. All of the issues together are leading to an increase of 10-12% for projects overall, regardless of the materials used.

Some of the ways contractors can manage the process is to bring the specialty contractors in early to get their perspective and influence in minimizing the cost to the project. Some of the other ways to manage the costs are through the management of expectations, through realistic risk identification and acceptance, consistency completeness & coordination of structural drawings.

**Critical Industry Issues continued**

*Session 3: Leadership Jump-Start for Entry Level/Undergraduates*

The last session of the day focused on Leadership, the characteristics needed for leaders, and the ways new hires can learn to become good leaders. The discussion started out in simple terms, set expectations, learn to be a good follower as a starting point to being a good leader. One of the keys was in observing traits of good leaders and people that others want to work for. Too often students rely on their technical skills, they need to learn to delegate and give proper guidance when delegating. Also, the delegation of responsibility and authority need to go along with the onus of the task.

The students felt that they could benefit from more feedback from companies. The industry members replied that the students needed to learn to read the feedback they were already getting. Possibly a class on reading body language would be beneficial. The idea that motivation and initiative were the most commonly sought traits arose. Also, the idea that the company's goals, mission, values, vision, etc., should be thoroughly driven into the new company members. Also, new hires should be given an understanding of the potential growth path that is available to them and that through their understanding they can define their own path through the company.

The value of appropriate mentors was touted as a strong method for weaving new staff into a company. The comment that if you don't make a mistake then you're not trying hard enough. The new hires should make mistakes, but also should own up to them immediately so they have an opportunity to learn and grow. Also, the reasons for making the mistakes should be worked through so the errors are legitimate and educational, not through laziness or ignorance. A potential research question is what first and second year hires in a company find to be their most valuable resources and what resources they wish they had available, as well as what they wished they new about companies before they went to work for them.

The areas that industry members said they were expecting from new staff was commitment and flexibility, the challenge and reward aspects of the construction industry as an incentive, people have to be ready to respond and make decisions because those are what's needed in construction. Also, new members of the staff should be ready to challenge the company to make them work, learn to be good at face to face conversation. The issue of reading body language was reiterated. Lastly, the effective use of email since the "now" generation has a tendency to avoid confrontation.