Communication Breakdown

BY BRIAN RAFF

Effective communication about AISC Certification and its benefits leads to successful and cost-effective steel projects.

ASK SEVERAL BUSINESS PROFESSIONALS TO NAME THE BIGGEST CHALLENGE FACING THEIR COMPANIES, AND YOU WILL OFTEN HEAR THE SAME RESPONSE: COMMUNICATION. Communication is essential to developing and advancing any relationship—personal or professional. So it's probably not surprising that communication is one of the biggest challenges facing the design and construction industry in today's fast-track world.

For the past two years, I've traveled to more than 20 cities, meeting with structural engineers, steel fabricators, and erectors. When I'm not on the road, I'm on the phone with these same professionals. And although every project is different, patterns started to surface in my conversations with them.

For example, structural engineers want a guarantee that their designs will be constructed in the field exactly as they intended. They cite quality as being very important, although they aren't always sure of the best way to achieve it. They often specify an AISC Certified fabricator for the project, but when a non-certified low bidder comes on the scene, their intentions are often compromised by the general contractor. The tendency is to counter with inspection, but it comes at a high premium for the owner.

And then there are questions of when, where, what, and how much. Fabricators are on the other side of the fence, holding the structural engineer's drawings and wrestling with how they can communicate their strengths to their customers. If they are AISC Certified, they have a quality management system in place that has been audited by an independent third party. Still, how does a structural engineer know what comprises the fabricator or erector's system? Most engineers haven't visited a fabrication facility, let alone observed an audit.

In the middle of this quality conundrum, we have the building code, specifically the *International Building Code* (IBC), and the Chapter 17 requirements for special inspection. The IBC puts forth the notion of an "approved" fabricator. When an approved fabricator is selected, the code-mandated requirements for special inspection in the shop can be waived. But just who is an approved fabricator? In this case it's any fabricator that the code official approves. In some instances the approval authority is passed along to the structural engineer, but it typically resides with the code official. AISC Certification programs meet the requirements of Chapter 17, but many code officials who are only now becoming familiar with the IBC are even less familiar with certification programs. Of course this varies from jurisdiction to jurisdiction, which only increases the confusion.

Getting on the Right Track

The situation is this: Structural engineers talk with code officials, but seldom discuss quality management with steel contractors. Steel contractors rarely interface with the code official. And while the code official interacts with the structural engineer throughout a project, he typically does so only in a reactive capacity.

The obvious question becomes How can we get everyone together on this? Let's start with a proactive relationship between the steel fabricator and the structural engineer. In contrast to code officials, the majority of structural engineers are aware of the AISC Certification program. Engineers appreciate the value of the program, but they must be able to advocate it and its value to their clients, as well as to general contractors. Awareness of the program isn't really an issue among designers, but perhaps understanding more about what goes on behind the scenes is.

When I'm making a presentation to a structural engineering group, I often ask who has ever been to a fabrication shop. More often than not, I only see a hand or two go up, and they typically belong to some of the more seasoned designers. I ask: Wouldn't it be exciting to see the fruits of your labor? To witness a 1-in.-thick base plate being cut with a plasma cutter? To see a 30-ft beam being cambered? But according to many engineers I talk to, they feel that their design firms want to put them to work immediately and don't put much emphasis on their professional development. On that same note, my experience as an engineer has taught me that typical corporate mentality is that responsibility for continuing education belongs to the individual, not the company. In fact, before starting with AISC, I worked as a design engineer for almost five years without ever setting foot in a fabrication shop. So, to get a "real world" perspective on the actual size of members or the time it takes to lay down a weld would have been extremely valuable.

Here's where certification comes in: It allows fabricators to prove to specifiers that they have the knowledge, training, experience, capability, personnel, equipment, organization, and commitment to produce a quality product, similar to the way an engineer proves his or her credibility with a professional engineering license. So why not see for yourself? I encourage all of you to contact your local AISC Certified shop, schedule a tour for your group, and really see what Certification is all about. It's a great way to learn how your drawings come to life and is also an extremely valu-

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How Many Certified Companies is Enough?

Since I started with AISC in June of 2005, the number of Certified fabricators and erectors has increased by 22 (4 percent) and 25 (31 percent) respectively, indicating a significant interest in Certification. AISC now has more than 650 Certified fabricators throughout the U.S, making something that was once rare, now fairly commonplace. We have already gained widespread acceptance on a nationwide scale, but the distribution of these Certified shops is not even, with about 75 percent of our Certified companies located east of the Mississippi River.

But why is this? For many designers back East, their local markets have paralleled national trends, and have reached a tipping point. Contractors and owners feel very comfortable with the four or five bids they receive on a job from Certified companies. Other engineers deal with markets that lie on the cusp, with perhaps one or two certified bids. In this case, it can be difficult to convince owners and contractors not to waive the Certification requirements. With such a small difference in numbers between these two scenarios, what is the magic number that leads to the tipping point?

From the conversations I've had with engineers, they have all stated that with least three Certified bids, they have more leverage to convince owners and contractors about the added value of AISC Certification. Our hope is that once these "cusp" markets experience a nominal increase of one or two more Certified companies, owners and general contractors will have enough competition among Certified companies to maintain the requirement.

So what can engineers do to tip the scales? The first thing to do is stop waiving the requirements! Maintaining your Certification requirements is one of the strongest messages you can send to your local market. Waiving Certification requirements initiates a cycle that is often difficult to overcome, and by doing so, engineers communicate that they don't take the program's added value seriously. In turn, uncertified shops anticipate bidding on future projects without consequence. By maintaining the requirement for Certification, engineers make a statement to their community that they value quality and appreciate a company's Certified quality management system.

Each time you specify Certification, you are acting as an advocate for the AISC Certification program, as well as for the overall quality of the steel industry. AISC Certification provides tools to help you, as the engineer, convey why Certification is so important and why you specified it to begin with. To download a brochure to help better communicate the advantages of the AISC Certification program to your contractors and clients, visit www.aisc.org/certbrochure.

able learning experience for your younger engineers. (For a list of Certified shops to visit in your area, take a look at our Certification search engine at **www.aisc.org/certsearch**.)

Certification Saves Costs

It's clear that familiarity between the design and fabrication worlds can facilitate better communication. But is the added time and effort required to improve understanding and communication among the project team players worth it in terms of financial cost?

Yes! According to a study conducted by CASE/Minnesota (a committee of the American Council of Engineering Companies (ACEC), special testing/inspection generally runs only about ⅜ percent to ¾ percent of the construction cost. If the local code official recognizes AISC Certification programs as a means of approving steel fabricators, there is a significant potential for savings, as the shop special testing and inspection can be avoided. Engineers and code officials familiar with AISC Certification recognize that it certainly supports and requires inspection throughout the fabrication process. These types of inspections primarily focus on verifying process control, which already has quality built in. They are included in a company's Certified quality management system and are in place to ensure that deficiencies are recognized and addressed before the product reaches the customer. The code-required special inspection is an additional set of inspections paid for by the owner, that focuses solely on product conformance. Special inspection offers limited control over process and the potential added cost of scrap, rework, and schedule adjustments that will be required if the non-conforming product isn't caught until it's in the field.

Passing the Buck

We've seen how structural engineers can become more familiar with steel fabricators, but what about the code officials? Based on a recent conversation with one California building code official, his staff is becoming increasingly concerned that growing complexity in building codes and certification requirements may be extending the approval process beyond reason and eroding their ability to provide for public safety. This sounds like another communication issue. As you now know, most building code officials must use their judgment to interpret the code and determine which fabricators are "approved," despite the lack of a clear definition. Because there is no real road map for code officials to make these decisions, this scenario leads to inconsistency among officials throughout the U.S.

These inconsistencies have created a demand for AISC's Certification program as a more defined approval process, which would make the job of code officials easier and more consistent. Throughout 2007, AISC Certification will work to close the aforementioned communication gap and make this approval process easier, by educating code officials about the fundamentals of the AISC Certification program and explaining how all of our Certified fabricators meet the IBC requirements of an "approved" fabricator. By requiring the use of an AISC Certified fabricator, engineers allow the burden of approval to rest not on the code officials, but on AISC's shoulders. If you would like assistance in making a case for acceptance of AISC Certification to your local building code official, call 312.670.7520 or e-mail certinfo@aisc.org. MSC

Brian Raff is AISC's manager of certification business development.