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Risk Management & Insurance Part 3: Responsibilities to Specifiers & Building Officials by Kirk Grundahl, P.E. (Based on his BCMC 2002 presentation)

The following is a review of the seminar I presented at BCMC 2002. I spoke about the responsibilities that component manufacturers should consider when working with specifiers and building officials. Within the design process, there is great possibility for details to be overlooked. With careful consideration and a little homework, however, the liabilities and risk your technical department faces can be reduced.

Within our industry, engineers are held to a high standard and there is a substantial amount of responsibility when placing an engineer's seal on any document. There are also differing opinions in local jurisdictions and states as to which truss industry documents should and should not be sealed, the implications of that sealed document, and the scope of responsibility truly undertaken.

There is a significant amount of information available on engineering and engineering laws, and we must be careful that we build on technical substance by researching and understanding the laws of our state and be discerning on how we use information and what we say.

Looking to the future, it is imperative that we ask ourselves: "What is our relationship with engineers and as we evolve, will we become more or less involved in the engineering and building design process? Are we adding value to the wood and plates we buy or will our industry eventually just be manufacturing yet another commodity?"

TRUSS TECHNICIAN TRAINING Training (TTT)

In order to add value to our industry, TTT was designed to provide foundational education on industry engineering. Truss technicians need to understand engineering details and terms, their design responsibilities (including scope of responsibilities and the expectations of engineers) and how to speak the engineering language fluently. More importantly, technicians must be able to competently communicate with all engineers, so there is no misstatement that can result in future problems.

There is a great deal of risk in saying and doing the wrong thing. An example of one common mistake is being seen as undertaking engineering without a license or incorrectly using the title of "engineering department" when there are no engineers on staff.

How does TTT satisfy concerns of the engineering/specifying community? TTT provides technician certification that is meaningful to engineers. It allows for better management of technical staff, revealing employee strengths and weaknesses, where improvement is needed, as

well as providing continuing education.

Additionally, many engineers are concerned with the gap of knowledge they experience between classical training and practical engineering practices that are specific to our industry. TTT permits an engineer to assess and measure their skills specifically related to our industry.

WTCA is now offering TTT online. By delivering the content through an Internet platform, adding the audio of an instructor and combining that with a visual presentation of the course material, what used to only be offered in a classroom setting is now accessible at all hours of the day and in any location around the world. This online training capability adds a dimension of convenience and flexibility to the existing course content to bring the course directly to the student. Now it is easier than ever for industry technicians and engineers to sharpen the skills that apply to this industry. Beyond that, these courses can be used by anyone in your business including, salespeople, office staff, production staff, to have a greater understanding of our industry and how it functions.

WTCA-QC

When you manufacture a product, what does the quality control standard mean to you? In our industry, Chapter 3 of ANSI/TPI 1-2002 states the minimum standard for the manufacture of wood trusses. If that standard is not met, the performance of the truss as designed can be called into question and may not be what an engineer expects it to be. At times, engineers assume that the truss technician has complete control over the truss plant process and quality assurance. A quality control program is the bridge between the manufacturing operation, the truss technician, the truss design engineer and building design engineer.

How does WTCA-QC satisfy concerns of the engineering or specifying community? WTCA-QC creates a comprehensive database of performance that can be used as point of reference to demonstrate compliance with the ANSI/TPI standard. Graphs show trends, including where processes are in control and where they are moving out of control, which allow management to take action in advance of a trend becoming a problem. This program also helps establish a record of a specific problem being noted and later corrected. Without a quality control program, there is no data available to be referenced. If a problem occurs downstream, one does not need to rely strictly on opinion, but one has demonstrable facts that can be very helpful in problem resolution.

WHAT IS GENERALLY TRUE

Contractual Relationships: Contracts, plans and specifications generally prevail in transactions that involve structural engineering. Do you have a contract? Sometimes a contract does not exist particularly where one sells the product through two-step distribution. This process allows for the potential to have misperception, missed expectations and vulnerability to risk: specifically if a construction defect issue arises. To avoid this occurrence, the scope of responsibility that you believe you are undertaking and other provisions should be clearly defined in writing to avoid miscommunication between the two parties involved. Kent Pagel discussed the key elements of customer contracts in his BCMC seminar on responsibilities of component manufacturers (see [SBC](#)

Design Specifications: Where there are projects that require a registered building designer (architect or engineer), there are usually plans and specifications (building system structural design documents or construction documents) provided for the project in writing. If there is not a registered building designer, the plans and specifications responsibility will fall to the building owner, builder or contractor. Ideally, these are also clearly written, but if not, it is important to get both your and your customer's clear understanding of the project details and responsibility expectations. It is also very important that there is a good review and approval process in place. Get a sign-off by the individual responsible for the project that he/she has reviewed and approved your work on this project and finds that it has conformed to their expectations. At times this is not possible, but where possible it should be the goal of all involved. This is just an ounce of prevention in case something becomes a problem downstream.

This is becoming a more important process to many involved in construction. Some states, like Florida, have state laws that say "The Structural Engineer of Record shall provide design requirements in writing to the Delegated Engineer and shall review the design documents of the delegated engineer for conformance to his written instructions in accordance with Chapter 61G15-30.005."

Sealed Cover Sheet: A sealed cover sheet is allowed within the professional engineering laws of most states and should be an acceptable substitute for sealing individual truss design drawings. The sealed cover sheet aids in speeding up the engineering process and allows for more time to be spent on tending to the review of critical engineering issues. In Florida, we have worked very hard to modify the existing law to define a specific sealed cover sheet that is easy to use and acceptable to all involved in the construction process.

A sample index sheet form for a truss design project. The form includes fields for project name, location, and dates. It also contains a table with columns for drawing numbers and descriptions. The form is titled "Sample Index Sheet" and includes a note about the use of the form.

Structural Framing Plan: A good structural framing plan, prepared by an engineer, architect, owner, builder or contractor helps to make the plans and specifications for the project very clear. This document can then be tied directly to the truss placement diagram and make implementing the application of the structural components much easier.

As we all know, there are times when the expectation is that our industry cleans up the plans and specifications provided by our customer. We input this into our computer programs and provide back computer-generated truss placement diagrams and truss design drawings.

When undertaking all this work, it is very important to have a clear and detailed understanding of the engineering laws, as once a document is sealed these laws guide all the requirements for doing so. For instance, in the majority of instances in our industry, truss placement diagrams are not prepared by an engineer so by law would not be required to be sealed. Therefore, if sealed, the sealing process may not have been in conformance with the law. Conversely, if an engineer prepares a truss placement diagram, that diagram is likely to be required to be sealed and the engineering law then prevails. In this situation, so long as it is consistent with a state's law, such engineer should strongly consider specifically defining exactly what work was been performed

under which the seal is placed.

So that knowledge of engineering law becomes more engrained in our industry, TPI and WTCA are working together on summarizing each state's law as it applies to our industry for everyone to use as a guide.

Truss Manufacturer's Responsibility: The truss manufacturer only has control over the design and manufacture of the trusses and should not be held responsible beyond this, unless there is a contract to do so. Ideally, once the truss package is shipped and product has been delivered the responsibility for the truss package and its handling and installation shifts to the buyer and the install-er. We all know that the truss manufacturer/truss designers are getting pulled into more and more responsibility beyond the design and manufacture of the trusses. This is precisely why we need to become more focused and better at tending to contractual agreements, whether written or oral. The last thing anyone wants to have happen is to have our responsibilities defined for us by a plaintiff's attorney. Being diligent in this process can remove the majority of responsibility expansion risk.

GOALS & ACTION FOR THE INDUSTRY

As our industry gets involved in engineering laws in various states, our main goal is to help make existing engineering rules and regulations more practical, workable, understandable and fair as they pertain to truss design drawings, truss placement diagrams and truss cover or index sheets. The better we understand the law, the more likely we are to be able to comply with it and even in some instances use it to our industry's advantage.

Once we understand the law well we can then begin educating building officials, builders, and specifiers of the particular aspects of the law that are advantageous to our collective industries to use, such as sealed cover or index sheets. Finally, as we work with engineering laws and the Professional Engineering Boards it is very important that we have in-depth understanding of what we are doing and stand united in our approach. When we are not, the result is often negative for our industry. When we have a thoughtful plan and speak in unison, generally great progress is made that is truly beneficial to all parties involved.

The PowerPoint® slides for this session are available at www.bcmcshow.com. The complete audio visual presentation of this session is also available for purchase on the web site.

[SBC HOME PAGE](#)

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