



“Ask What You Want and Want What You Ask”

By C. Ben Nelson, P.E., SECB

There are a lot of very smart people in the world, although being smart doesn't always equate to being wise. The late structural engineering icon Milo S. Ketchum was a wise man who was one of my first engineering mentors. He told me to “ask what you want and want what you ask”. He applied this gem throughout his engineering career, and it has been carried out in his successor firms over fifty years. We often cite this advice to our project managers as we assemble construction drawings involving “deferred submittals”.

In simple terms, IBC section 106.3.4.2 defines a deferred submittal as “those portions of the design that are not submitted at the time of application, and have received prior approval from the building official to be deferred.” Although simple in definition, many structural engineers misunderstand the process, resulting in a wide variety of design errors. Problems with deferred submittals are also among the most commonly cited complaints building officials have with structural engineering permit documents.



To address this gap in structural engineering teachings, NCSEA is assembling practitioners and authorities from around the United States to present their advice regarding deferred submittals in the upcoming Winter Institute on February 25-26, 2011 at the Amelia Island Plantation near Jacksonville, Florida. Structural engineering experts, specialty structural engineers, and building officials will discuss deferred submittals and describe how they can be successfully implemented on projects. Perhaps the most enlightening presentation will feature a joint discussion led by two nationally recognized building officials, who will “have their say” regarding deferred submittals. Ron Lynn and Jim Schock will discuss how engineers can smooth over common problems and delays with permit applications involving deferred submittals. Later in the program, specialty engineers will talk about common and avoidable mistakes regarding their designs. Finally, structural engineering experts will share strategies for success and ways to avoid having your next deferred submittal become a horror story.

An easy-to-remember strategy is to “ask what you want and want what you ask”. The Engineer-of-Record needs to know what to require from specialty engineers designing segments of their projects; and this needs to be followed by a thorough review of the deferred submittal. Errors resulting from misunderstanding the deferred submittal process are known to have caused project delays, overly conservative designs, underperforming structural systems, and the engineer's worst nightmare – structural failure. How could such a simple concept result in so much confusion and so many errors?

Perhaps the simplest error can be avoided simply by checking to see if any deferred submittals are likely to be required for your project in the first place. As simple as this sounds, some engineers overlook this type of

review, which can delay permit approval in jurisdictions that have strict deferred submittal requirements. Ask yourself: Do our construction documents define all structural framing, components, connections, and systems? If the drawings don't define everything that resists gravity and lateral loads in a complete load path, deferred submittals are likely to be needed in some form.

Another easily-avoidable, common error is to request, in advance, the building official's approval to defer portions of the project design. Most building departments routinely allow commonly deferred submittals (steel joists, precast concrete, metal buildings, etc) but, nevertheless, request advance notification and pre-approval of the anticipated deferred submittals.

Common and preventable errors occur on projects involving deferred submittals because the design intent and criteria are inadequately, or incorrectly, summarized on the construction

drawings; and, often, they are in locations that are so hard to find in the documents that even a conscientious specialty engineer can miss them. I think of Milo's advice and chuckle whenever I come across the famous “tire swing” comic, revered by engineers, that shows a simple tire swing hanging from a tree branch and how it would be constructed if left to the interpretation of various people. While all versions meet the project intent in general definition, only one meets all of the technical requirements. The humor of the comic lies in the implied instructions and how their (mis)interpretation leads to the flawed end result. Think about this comic as you prepare your documents that involve deferred submittals.

The NCSEA Winter Institute has evolved into a not-to-be-missed event, and we hope to see you there in February! Until then, in light of the upcoming gift-giving season, I'll sign off by reminding us all to “ask what we want and want what we ask”. ■

C. Ben Nelson, P.E., SECB is Treasurer for NCSEA and will be speaking at the upcoming NCSEA Winter Institute on Feb 25-26 in Florida. He is a Principal at Martin/Martin, Inc. and can be reached at bnelson@martinmartin.com.

STRUCTURE[®]
a member benefit

SEA
NATIONAL COUNCIL

CASE
Council of American Structural Engineers
The Strength Behind the Beauty

SEI
ASCE
STRUCTURAL ENGINEERING INSTITUTE