

The big event

BY RICHARD NIX

It helps to be prepared.

THE WORD “BLINK” IS WRITTEN on the dry-erase board in my kitchen to serve as a constant reminder of how things can change in an instant. Change is always coming. Walk with me for a bit. Let’s stroll down a path....

ESTA’s Technical Standard’s Program was formed for a singular reason: to develop industry standards for compatibility and safety of entertainment technology equipment and systems, and work practices. While forming the program, discussions included the importance of standards for industry self-regulation, to keep the government from intervening with impractical rules and regulations. Better to write our own standards and to self-regulate, than to have government imposing its will and limiting the boundaries of our creativity.

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The first two ESTA standards covered wire-rope ladders, and aluminum trusses, both ubiquitous throughout the concert and touring-show world. Now, over 50 published ESTA standards exist, covering the gamut of rigging, control protocols, electrical power, atmospheric effects, floors, and stage lifts. We’ve come a long way from nothing in 1994 to where we are today in 2017, and we’ve been successful at keeping government enforcement at arm’s length. Perhaps that is because of our diligence in writing standards? I think so, but unfortunately, accidents have occurred in spite of those standards’ existence.



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This set-up was on a sunny day, but will the weather be pleasant during the event? *F310-16* now requires public safety plans that include weather monitoring and personnel who are authorized to cancel the event if the weather is likely to turn bad. (Genentech “Gives Back” benefit concert, June 2014, at AT&T Park)

Today’s technology creates a very efficient information delivery system. We all know when there is a significant incident. When it is a workplace accident, OSHA investigates, then enforces Title 29 of the *Code of Federal Regulations*. In their violation citations, OSHA staff uses existing standards where OSHA requirements do not directly address the incident. Such has been the case in several circumstances, wherein OSHA officials have either asked for available ESTA standards for informational purposes or have cited one or more ESTA standards directly in the violation description. ESTA standards have been used as a basis for litigation, thus establishing case law precedent. Our standards have been useful for enforcement, even in the worst of consequences. These circumstances also validate our hard work by further promulgating ESTA standards. The more widespread our standards are, the more apt they are to be used, both by industry and—even more importantly—by enforcement agencies such as OSHA or a permitting agency in your local jurisdiction.

Soon after the Indiana State Fair tragedy occurred, Indiana legislators reactively began to write emergency regulations to prevent such things from happening again. The Event Safety Alliance organized a group of industry professionals who responded to the Governor’s request for participants on a special steering committee that would eventually write the legislation. I accompanied that group of professionals to Indianapolis, where we met with the Governor, his staff, and other stakeholders to discuss possible options. At that time ESTA’s *E1.21* standard had already been approved and in use for a few years, so it was offered as a component of an overall set of solutions. To my knowledge, when Indiana’s emergency rule was approved, that was the first occasion where an ESTA standard was actually referenced in regulation. That was a temporary solution though, because the emergency rule contained a sunset clause permitting the rule to be superseded by formal legislation, which would take time to draft and vet through Indiana’s Legislature. *E1.21* was used in the emergency rule because it addressed many of the issues within an existing ANSI standard. It helps to be prepared. It was one small step towards a public

adoption of ESTA standards as an enforcement tool.

A few months later, Kentucky gathered code officials and subject matter experts from the tent, entertainment, and special event industries to begin work on their latest code development cycle. With the adoption of *ASCE 7-10*, and most states using other more current *IBC* versions, they knew it was time to completely overhaul the *2007 Kentucky Building Code*, not only to bring it more into alignment with current *IBC* requirements, but also to address their own growing need to enhance safety at large special events. Again, I was invited to participate as a subject matter expert for the entertainment industry, so I attended a series of coordination meetings, helped rewrite *KBC* Chapter 4, addressing tents and special construction, and also contributed wording that directly referenced *ANSI E1.21* as a required compliance reference. In August of 2012, Kentucky became the first state to formally reference an ESTA standard in their *2013 Kentucky Building Code*. It was another leap forward in getting our standards into the hands of people who would use them.

Another important thing—the very first thing Kentucky did—was to gather all of the event stakeholders together, showing them all of the enforceable rules and regulations already on the books, saying they were going to start enforcing much more aggressively. First, they wanted input on how to transition through the code change cycle to make administration and compliance easier on everyone. It was a wonderfully collaborative effort that rarely happens in such situations. Many concessions were made for tents, including the establishment of a Statewide Model Tent Program, wherein tent manufacturers could submit all of the construction documents for a one-time review, in order to receive an annual certification and approval for their structures. This meant that the amount of construction documentation required for permit submittals would be significantly reduced, since the state would already have most of that documentation on file. This also represented a generous olive branch from enforcement, by finding ways to make the permit process easier. Fast forward: Kentucky has been preparing new changes for the upcoming transition to the *2016 KBC*, anticipated for legislative review at around the publication of this article. Once again, we all collaborated to see where improvements could be made.

Meanwhile, in 2013—still in the shadow of Indiana’s disaster—the International Code Council had embarked upon their code-change cycle in preparation for the *2015 IFC*. Once again, *ANSI E1.21* was provided for possible inclusion into the *Code*. However, time was short; submission deadlines for formal proposals had passed, so a last-minute proposal was presented and passed on the public hearing floor, which introduced *ANSI E1.21* into the *IFC* to cover a newly defined structure called the “Temporary Stage Canopy.” One reason it passed was because the term “canopy” was already defined in the code. The other two words “temporary” and “stage” were both defined and readily understood, so this made the new term palatable for code change officials not otherwise familiar with our industry to accept a last-minute change. The terminology may not have been

ideal, but was approved nonetheless, because it leveraged an existing standard to address the hot topic of that day: roof systems over stages. It helps to be prepared, and it was yet another step.

In mid-2015, the International Code Council began its regular change proposal cycle for all Group B codes, which includes the *International Fire Code (IFC)* and certain sections of the *International Building Code (IBC)*. The ICC Board of Directors appoints the Fire Code Action Committee (Fire-CAC) to review current *I-Codes* and to develop change proposals for the next edition for all fire service related matter. The Fire-CAC reviews the fire safety chapters of the *IBC* and the entire *IFC*. Its participants include members of the International Association of Fire Chiefs – Fire and Life Safety Executive Board, the National Association of State Fire Marshals, the National Volunteer Fire Council, and other fire service, building official, and industry code experts. For this code change cycle, a special working group was created with a rather unique assignment: overhaul *IFC* Chapter 31, Tents and Other Membrane Structures by addressing an ongoing list of recognized issues, and improve correlation between it and the *IBC*. Approximately 40 participants comprised this special working group, which held regular meetings between April of 2015 and September of 2016, planning in anticipation of the next code. Some of those code issues had been identified long-prior to the revision cycle in which they were addressed. Three years in a code cycle is like five years in our own standards reaffirmation/revision cycle. It takes time. It helps to plan. Sometimes those code issues, like our own standards, take far longer to implement than just one revision cycle. Sometimes we make concessions now, so we can make appropriate changes in the next cycle.

F310-16 has the most significant change. E1.21 is the source of those words.

This has been quite a stroll so far, don’t you think? Let’s pause to uncover some topics we’ve passed along the way:

What is Chapter 31 and what does it mean to us? Chapter 31 of the *IBC* is entitled “Special Construction.” Its scope includes structures such as membrane structures, pedestrian tunnels and walkways, canopies and awnings, marquees, signs, radio towers, swimming pools, hot tubs, and spas. Though special in construction, most of these structures are installed in a permanent manner. Section 3103 of the *IBC* also addresses “Temporary Structures,” establishing basic permitting and safety requirements for any structure installed for less than 180 days. It also conveys the scope of compliance for temporarily installed tents and membrane structures directly into the *IFC*. This article isn’t about the *IBC*.

I hope you’ve noticed the connection between codes and standards, and between tents and stage roof systems. It’s obvious

that they are temporary structures. The obscure connection is that they are both nearly always used for special events. This article isn't about tents and stage roofs, either. It's about the event.

We have a unique objective in this industry, you and I. Most of the time, our sole mission is to create events that help the everyday person escape from the doldrums of reality. Think about it: music and theatre, circus and carnivals, weddings, and wakes—each different type of event creates an environment designed to provide a few days, hours, or even seconds of escape. Our mission is critically important to many people. These events are special and they are temporary. That said, let's continue on towards the end of our stroll: to the place of "The Event."

I am writing about the "event" of inclusion, and about how the importance of our standards development work elevated exponentially as a result.

In its requirements for stage roof structures, *E1.21* emphasizes the importance of establishing engineering controls so that they can be used to support administrative controls. All of this information is embodied in the structure's Operations Management Plan (OMP), which also is required to show consideration for variables in site, weather, structure, and loads. On the surface, this OMP information is specific to the structure. In reality, addressing variables of the event are just as important, because the event places the structure—with all of its limitations—into context. Because of this obscure relationship between structure and event, change is coming to the code requirements governing structures. Pause again for a moment, while that notion settles.

Of the 13 Chapter 31 code changes presented to the ICC in this latest cycle, four were presented by ICC's Fire-CAC and approved. In their respective code change proposal nomenclature, F307-16 changes the installation duration for "Temporary Stage Canopies" from 45 days to six weeks. This change simply revised the words consistent with other duration time references.

F308-16 contains notable revisions, one of them replacing the term "Temporary Stage Canopy" with "Temporary Special Event Structure." This change has an accompanying new definition identifying any temporary structure used for special events, including those covered by *E1.21*, as being within the *IFC* Chapter 31 scope. This change also addresses inspection requirements, and updates ICC's list of referenced standards to include the current *E1.21*.

F310-16 has the most significant change. It adds a new definition for "Outdoor Assembly Event," adds a permitting requirement for events where planned attendance exceeds 1,000 persons, and also adds permit submittal requirements that include a description of public safety plans, along with a requirement for weather monitoring personnel, who

"...shall be responsible to initiate weather related event mitigation activities, order the suspension or cancellation of the outdoor assembly event and issue the evacuation signal in accordance with the approved public safety plan." *E1.21* is the source of those words.

We have to be mindful that some of these changes contain subtle nuances pertaining to applicability: F310 contains a 1,000 person attendance threshold, for example, but the significance of changes in their entirety is a game changer, because the *Code* now begins to address the situational context of the event, rather than just the structure itself. For our industry, this may not seem like such a big change: we have been using *E1.21* and its OMP concepts for over 10 years, since it was first approved as an ANSI standard. This brings us to the point of today's journey, and ever-closer to an oft overlooked thought about inevitable change and the time it takes to occur.

The Event Safety Alliance was formed in 2011; its *Event Safety Guide* was published in 2014. In response to the ESTA Technical Standards Council's "Our Common Goals Initiative," the Event Safety Working Group was established in October of 2016. That's an unstoppable force in the face of urgent need to accomplish so much in so little time.

Code officials across the country saw a need for requirements within their jurisdictions, found the available resource, and in doing so validated the hard work of countless people by immortalizing our standard in the *International Codes*. That alone took nearly five years. In 2011, when our standard first became significant in code development circles, the *2012 ICodes* had already been vetted and approved. In codes and standards, we often make compromises in order to ensure acceptance, rather than risk carte-blanche rejection especially when the subject matter has such wide-spread

PHOTO COURTESY STEVE ABELMAN

Portable stages for short-term events often used to be dismissed by local AHJs as too short-term to worry about. The changes to the *IBC* and *IFC* will give them reason to pay attention, particularly if the event is likely to draw 1,000 people or more. (Linkin Park "Monster Mash" concert, Tempe Beach Park, November 2015)



importance. That's another example of how urgency facilitates awareness of how to solve a problem.

ESTA's Technical Standards Program began in 1994. *E1.21* was first approved as an ANSI standard in 2006. It was first recognized as a valuable enforcement standard in 2011. Its enforceable value as a code reference increased in 2012, promulgating awareness within the code development community until the point where it was referenced in the *2015 International Codes*. That's over 20 years, and is an example of how fast those 20 years have flitted by for some of us, and a sobering reminder of how much time really passes in the blink of our standards development eye.

I'm not writing so much to expound on how standards are referenced by codes, as I am writing about the "event" of inclusion, and about how the importance of our standards development work elevated exponentially as a result. It helps to be prepared. Sometimes, it takes a very long time. We have worked so hard to get here. **Don't you dare let that slip away.** "The event" is a small change compared to the scope of changes coming in the *2018 IFC*, but it has a huge impact to our industry. Take that 1,000-person permitting threshold for example: how long do you think it might take before a code enforcement official decides that 1,000 might as well be 500 people . . . or 100 people? I think that would be okay.

Our standards are voluntary up to that point where they are referenced in codes, at which point they become mandatory requirements. Our standards now provide an enhanced level of safety that did not previously exist in the codes. It helps to be prepared.

We have a mission in our industry, upon which the temporary altered-reality of so many others depend. Don't think for one fleeting minute that the people who attend our events think about their own safety; they think we've thought of everything. In any event? In every event. ■



Richard Nix is a 30-year veteran of the entertainment industry and is an active participant in ESTA's Technical Standards Program, as a leader, contributor, and evangelist for its efforts for over 20 years. He also supports tent and special events standards, participates in code development with the International Code Council, and conducts presentations on temporary structures and special event permitting requirements.