

# Standard? What Standard?

More affordable, more accessible standards related to jobs that involve climbing telecommunications towers could save lives, especially the TIA 1019A standard. A safety advocate offers suggestions for improvement.

By Dr. Bridgette Hester

**T**he number of safety standards for the telecommunications tower industry from OSHA, ANSI and TIA can be overwhelming. The many available standards save lives when they are followed appropriately. The Occupational Safety and Health Administration (OSHA), when investigating a fatality or injury, draws upon its own OSHA telecommunication standards, general construction standards, general industry standards and standards from the Telecommunications Industry Association (TIA) and the American National Standards Institute (ANSI).

If you aren't familiar with all of the standards, you should be. It's daunting to go through all of them and hope to obtain a clear and concise knowledge of them all. Short of having an eidetic memory, you need them on hand for reference.

The following information looks at the TIA 1019A standard from not only my point of view, but also from the point of view of an industry professional who has been in telecommunications for 11 years. My view includes my opinion and overview of the standard, how it applies in the field and hindrances that affect employers who want to have every

standard they need. I urge you to obtain a copy.

## Saving Lives

If used more often, the TIA 1019A standard could save lives. Adherence to the standard could have saved four lives this year alone. TIA approved the standard in the summer of 2011. Yet even now, when I ask climbers through social media or on the phone, few have an idea as to what TIA 1019A is. Some climbers have a general understanding of it, but they are in the minority.

TIA 1019A is the "Standard for Installation, Alteration and Maintenance of Antenna Supporting Structures and Antennas." Eighty-four pages long, the standard replaced the ANSI/TIA-1019-2004 standard, "Structural Standards for Steel Gin Poles Used for Installation of Antenna Towers and Antenna Supporting Structures." It explains in meticulous detail the accepted industry minimum standard for installing, altering and maintaining antenna supporting structures and antennas. Using criteria based on both Load and Resistance Factor Design (LRFD) and Allowable Stress Design (ASD) methods, TIA adopted the standard to cover

construction and loading requirements for antenna supporting structures and antennas.

The standard allows for an engineered approach and construction guidelines for work being performed on towers such as structural upgrades, guy wire replacements, gin pole operations and special engineered lifts. Put more plainly, the standard answers the question of how to complete the job in a safe manner for the employees while still protecting the company's (the tower owner's) infrastructure.

If you need to modify the tower, you use TIA 1019A. If you are changing guy wires, you use the TIA 1019A. If you are removing structural members or appurtenances, you use the TIA 1019A. When followed accordingly, the potential for partial or complete failure is greatly reduced. If precautions are not adhered to, there are many elements that can go awry. For example, pulling angles out to put new ones in can cause incidents of catastrophic proportions. Pulling and replacing angles reduces structural integrity because the compression and tension on the components of the tower are not being properly managed during the replacement. Temporary supports may need to be used during



such a job in which the compression and tension forces need to be managed to maintain the tower structure's integrity.

### Example

The triple fatality accident in West Clarksburg, West Virginia, earlier this year is a prime example. Based on reports, this incident occurred when T.J. Richards and Kyle Kirkpatrick, two Oklahoma tower technicians, and Michael Garrett, a Nutter Fort firefighter, were killed. The tower they were reinforcing collapsed when the techs were replacing horizontal braces. Garrett was in the process of trying to rescue other injured workers and was killed when a second tower fell on the first structure, striking the guy wires.

On July 31, 2014, several sources reported that OSHA inspectors cited the company for directing their employees to remove members from the structure without the use of temporary braces while the employees were tied off to bracing that wasn't capable of holding a minimum of 5,000 pounds. Both are violations. In turn, it means that there was a substantial probability that death or serious physical harm could result from a hazard about which the employer knew or should have known. Given this information, it is reasonable to speculate that somewhere in the process of the tower being worked on, TIA 1019A wasn't utilized at all. Perhaps the company performing the work wasn't familiar with the standard or knew about it and didn't follow the standard's protocol properly. In the process of this particular job — or any job where the 1019A should be

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implemented — several steps must be followed.

A rigging plan has to be constructed for any job classified as a construction class II, III or IV. For classes III and IV, a qualified person will coordinate the involvement of a qualified engineer as required (You may or may not have to involve an engineer for class III. It depends on the scope of the work, but construction falling into class IV needs to have the rigging plan reviewed by an engineer because class IV jobs have the highest risk). When establishing rigging plans for a construction class IV, the engineer is required to perform an analysis of the structure and the components. The engineer won't articulate measures to be taken for the job, but will tell the company and the author of the rigging plan if the plan can be

executed and will state whether or not the work can be completed. In this case, I wonder if such a rigging plan was approved, much less written.

### Accessibility to Standards

TIA 1019A is not law. It's not mandated that employers utilize the standard. However, if it will preserve the life of the employees and the structural integrity of the tower, why is it not being utilized more than it seems to be? Why don't more workers and employers have access to the standard? Why is it that so many climbers, and presumably training managers and coordinators, especially at small companies, have problems obtaining all of the industry standards, mandated or not? Do climbers and trainers have the standards and just don't use them? Is it a matter of standards being

inaccessible? In my conversations with industry professionals and climbers, I was told that many owners, especially small business owners, are unwilling to pay the several hundred dollars it costs to acquire standards that are not mandated.

These OSHA, TIA and ANSI standards might be able to save lives, but the companies aren't paying the money to obtain TIA 1019A and the subsequent costs that go along with executing the standard. In short, if the customer or the government isn't requiring companies to own and comply with a standard, there isn't anyone pushing for an owner to buy the standard. Companies and organizations are out to make money. They are out to turn a profit, but at what cost? The fact is, unless standards such as TIA 1019A are mandated as law, chances are good that most employers won't buy the standard or follow its guidelines.

Conversely, we could potentially ask for some accountability on the part of those writing such standards. OSHA standards can be found online for free, and TIA standards seem reasonably priced (TIA1019A is \$174), but others are priced to the detriment of some companies. For instance, ANSI standards are expensive, especially for small business owners just getting started. The complete construction package is \$2,000. Individual standards are priced from \$125 to well over \$1,000, depending on what industry the standard is for. From what I was able to locate, if you are a member of ANSI, you may qualify for a discount, but if you are not, no discount is available. I may have missed something in my research on pricing, but even at



a discounted rate, some standard packages are so expensive that even a discount might still cause budgetary problems for a smaller business owner.

Similarly, at the National Association of Tower Erectors, safety resources are available to NATE members only, with the exception of the NATE Tower Climber Fall Protection Training Standard and Coffee Table Book, which is available to members and nonmembers.

What about companies that can't afford to become NATE members? What about all the good information in the NATE educational resources about other aspects of the industry other than fall protection? What about the company that can't afford ANSI standards? Some will say that it is the company's fault for not spending the money to have the most

up-to-date safety information for their employees, but most companies in this industry are subcontractors and may not have the funds.

Let's be realistic. Most contractors and subcontractors are not at the top of the telecommunications food chain, making the big money within the industry. Given that, if the standards were more readily available and reasonably priced, it's likely these smaller companies would have access to tools to make the workplace safer. Why not allow companies to access a standard for a fee per access? If they have jobs in which they have to reinforce a structure, why not make available a copyrighted protected version (one that can't be copied) of the standard for a nominal single-use fee so that the company can take notes and get the information it needs to follow

the protocols? Would all companies buy these invaluable pieces of information even if they were available in a different format? Well, of course not, but making it reasonable so the ability is there for companies to purchase them or have access to them not only gets the information into more hands, it also places the responsibility on the employers to be more accountable for ensuring a safe workplace. When the safety information is easily accessible or affordable, you in essence eliminate the excuse for not having or utilizing it.

All industry participants, in whatever capacity, are looking to make money and become a viable part of the industry. That will require some give and take when it comes to things like standards that potentially save lives. Standards that are not available

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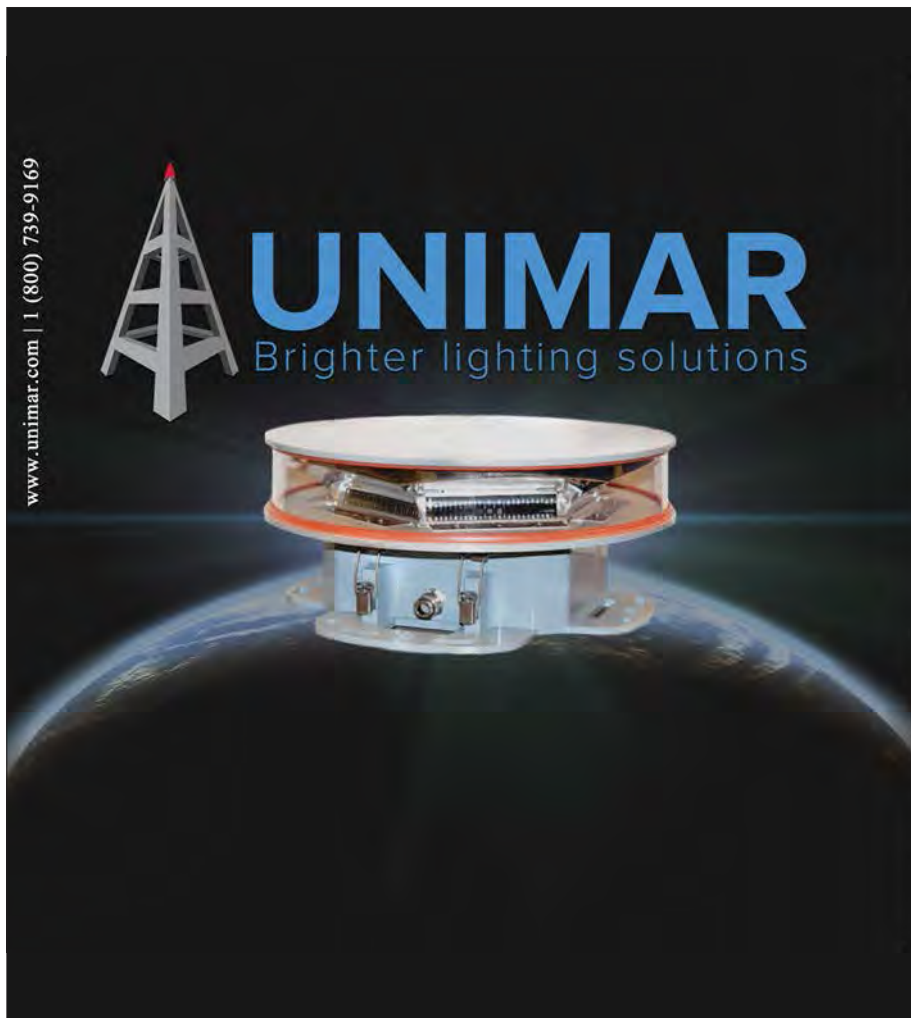
to all industry personnel or not available at a reasonable cost (when taking into account business size) seems counterintuitive to producing a safe workplace. I am not suggesting that these organizations give standards away for free, but scaled pricing based on the size of a company or the number of employees in a company would be feasible.

Employers have to be willing to

make the investment and they should be mandated to utilize standards such as TIA 1019A to ensure the safety of their workers and infrastructure. Because that may take an act of Congress, which would not be likely to happen, an effective compromise might be called for if we want to take a serious step toward saving lives. By adjusting the accessibility and pricing of such standards, the information

will potentially make it into the hands of more company owners, trainers and safety coordinators. If that is accomplished, it is more likely that more workers would be made aware of the standards, and the probability of safer worksites would be on the horizon.

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