



# Roles and Responsibilities

This TIF Planned Advisory Notice or PAN continues to build off the previously published PAN 'A Safe Job Site is No Accident' (2013) and the TIF White Paper 'Appurtenance Installation Impact to Climbing Facilities and Antenna Supporting Structures' (2019). The intent of this PAN is to provide examples encountered in the field and review the impacts and potential dangers they cause in order to improve communication amongst industry Stakeholders, and to develop and plan more effective telecommunications infrastructure installations and maintenance.

The women and men who perform this work are incredibly talented individuals that make telecommunications possible; however, everyone can improve in recognizing risks and communicating with colleagues and other impacted industry stakeholders to support the telecommunications industry.

The development and maintenance of an effective telecommunications infrastructure requires the expertise of multiple practices. Below we review some of the different types of stakeholders in the telecommunications industry:

Stakeholders may include:

- Carriers, government bodies (E.G. e911), broadcasters, the entity engaging a contractor to perform the installation, and other end users (together, the "end users");
- Structure owners, tower owners and communication facility owners (together, "structure owners");

CONTINUED ON NEXT PAGE

Authors: **Ken Hill, Brian Bicknese, and Scott Kisting**. The members of the PAN Advisory Group who are involved in the writing and researching of each PAN topic include: Michelle Kang, Scott Vance, Scott Stekr, Dale Heath, Brandon Chapman, Carlo Franceschino, Joshua Huff, and Scott Kisting.

- Manufacturers;
- Architectural and Engineering firms assisting in the design and/or Installation and the Engineer of Record or "EOR" (together, the "Engineer");
- General contractors, subcontractors and other contractors (together, the "Contractor(s)"); and
- A Standards Body who produces voluntary consensus standards for products, services, processes, systems and personnel in the United States.

Ultimately, the quality and safety of a telecommunications installation is the responsibility of the contractor, as they are the final stakeholder to perform work on any telecommunications antenna supporting structure ("structure") new build, modification, maintenance, or demolition of the structure and/or the appurtenance(s) affixed thereto. The contractor shall designate the authorized person(s) on site who, under the supervision of a competent person(s), is/are empowered to do no harm; together, they are the front line in ensuring a safe working environment. To support them, the contractor must work with the structure owner and the end user to determine their expectations when it comes to a safe and quality installation. This also requires the contractor to understand the standards and requirements that apply to the scope of work ("SOW"). A critical question now becomes; how does the end user or structure owner intend to support the contractor when there are design concerns that will adversely impact the structure, climbing facilities, safety climb (if present), or other known systems installed upon the structure?

The contractor must be empowered by the end user or structure owner to escalate valid concerns. In many cases, the end user or structure owner will have engaged an engineer that will develop specifications and material lists from qualified manufacturers to allow an installation that achieves its goals without causing damage to the structure, climbing facility, safety climb (if present), or any other known system installed upon the structure. The engineer is required by the ANSI / TIA 222 Standard to create a design and prepare material specifications that will "do no harm" to the structure, ensure that the structure is able to perform as designed, and that any modifications or installations cause no harm to structural members, climbing facilities, safety climb (if present), or any other known systems installed upon the structure.

Contrary to popular belief, effective planning and communication does not slow a project down. Instead, it allows the work to occur in an effective, safe, and quality manner that increases overall productivity,

efficiency, and helps ensure a safe work environment. To see this in action, please see Figure 1 (F-1) and Picture 1 (P-1) below (NOTE: F-1 IS THE DRAWINGS FOR THIS MOUNT INSTALLATION).

The good news is that the climbing facility was identified in F-1 by the engineer who created the draw-



PICTURE 1 (P-1)

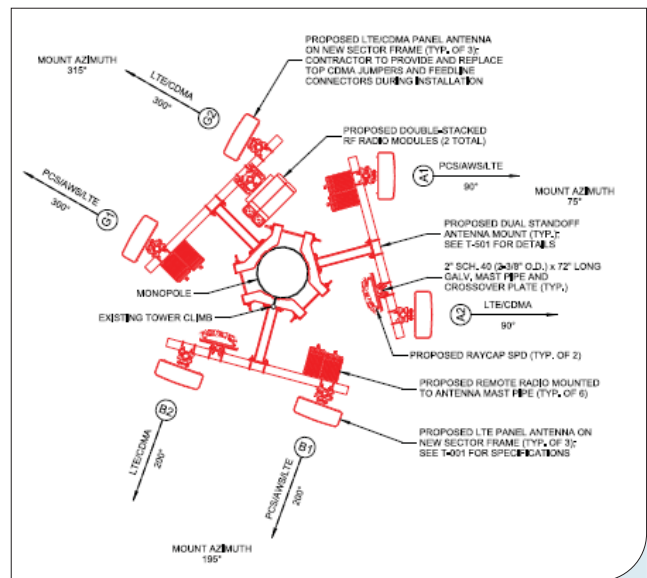


FIGURE 1 (F-1)

CONTINUED ON NEXT PAGE

ing. This is a marked improvement since previous drawings in our industry rarely identified any parts or components of the climbing facilities. However, F-1 depicts the new mount being installed towards the top of the tower within 12" of the safety climb head assembly; there is no way to achieve this mount installation without causing damage to the safety climb. The engineer should have considered that they are requesting the mount to be installed in such a manner where the only outcome is damage to the safety climb. In this scenario, there is no path to success for the contractor other than to work with their client to address the issue during the pre-construction planning phase.

Look closely at F-1; it depicts the mount being installed on the safety climb. When the contractor followed the direction of the engineer, it caused damage to the safety climb. It must be noted that climbing facilities can, and sometimes must, be obstructed. But as is seen in the 'Appurtenance Installation Impact to Climbing Facilities and Antenna Supporting Structures' TIF White Paper, such obstruction shall never cause damage. Now reference P-1 and you will see how problems can multiply when there is not proper planning and communication.

The mount was installed as shown on the drawing and the safety climb is now damaged. THINK for a moment - please just pause, does it make any sense to damage the safety climb that is intended to protect people? This safety climb was intended to help tower climbers access this site and increase tower climber productivity while maintaining our industry's 100% tie-off at all times requirement. Remember that all work must be planned to ensure a safe working environment and the use of the safety climb as part of a fall protection plan shall only occur under the supervision of a competent person. It will take all of us acting from our given roles and levels of responsibility working together, but we must stop damaging the climbing facilities and safety climbs on structures.

To recap, what happened; the drawings were incorrect and the engineer should have applied the knowledge that they had of the location of the climbing facilities and safety climb in planning the mount layout to ensure that the safety climb would not be damaged. Some simple solutions that may have been used would have included rotating the mount or installing a mount that would allow the safety climb to pass through the mount (see below Picture 2 [P-2]).

In this scenario presented in P-1 and F-1, the contractor arrived on the site before the issue with the drawings was noticed and they did not escalate the situation seeking an effective solution, so the mount was installed as designed and damage has now



PICTURE 2 (P-2)

occurred to the safety climb. In this case we have a failure attributed to the engineer from a design standpoint and a contractor installation failure. The failure occurred because the design did not allow for a quality install and instead of escalating the issue for resolution, the contractor installed as-designed causing damage.

Rather than blindly installing what is depicted on a drawing, a more effective approach is to have a path that allows the contractor's competent person on site to be able to stop work if it is going to cause damage to the structure, climbing facilities, safety climb (if present), or any other known system installed upon the structure. What would that look like? How do we as an industry achieve this? Let's first look at it for a moment and understand the schedule and cost impact from the perspective of the contractor. The women and men installing the telecommunications infrastructure often are not subject matter experts on available products or even understand that there is an escalation path in order to not cause harm. They are often only following the information that was passed down to them; and if the information is unclear, the installation may not have the best outcome. A contractor's goal is to finish the project safely, meet client expectations, and make a profit so it can stay in business, pay their employees, and be in a position to support its' clients' next project. The contractor is engaged to perform the SOW, not to field-engineer a solution, however, a quality contractor can effectively relay information when an issue is identified so that the stakeholders involved in the project can come together to support a quality installation in a safe and efficient manner.

CONTINUED ON NEXT PAGE



A competent person should have access to the drawings for the site well in advance of performing the work. This allows them the opportunity to review and raise concerns or gain clarification from the client before work is scheduled. If they did not have an opportunity during pre-construction to review the drawings (or the drawings did not accurately reflect the climbing facilities) and are on site, the best recommendation is to conduct a thorough site assessment. The site assessment should involve comparing the drawings to actual field conditions. The competent person shall then communicate with the client on the issue(s) and provide recommendations. As the old adage says, time is money. The quicker these issues can be identified, the higher the probability of eliminating down-time on sites from not only communicating and approving solutions or changes, but possibly ordering different or additional parts to complete the project successfully.

Recall P-2 which depicts the wire rope properly routed through a mount. Now, in P-3 below there is a mount that could have been slightly rotated to allow the wire rope to pass through without damage. However, due to lack of awareness or understanding in how to properly communicate the issue, the contractor installed the mount in such a manner that it damaged a wire rope. It is imperative that damage not be caused; to avoid it, communication must occur.

In closing, the goal of this PAN is to assist the industry in recognizing how far we have come and the opportunity we have to improve in the areas of communication and planning while maintaining respect for each stakeholder's roles and responsibility. If we achieve this improvement, together, we can ensure that damage is not caused to the structure, climbing facilities, safety climb (if present), and other known systems installed upon the structure. ■



PICTURE 3 (P-3)