



PLANNING ADVISORY NOTICE

S.A.U.C.E. Stop-Assess-Understand-Communicate-Engage

The telecommunications industry is a rapidly evolving sector which places a high degree of pressure on all stakeholders to keep up with the deployment and maintenance of telecommunications infrastructure. This need for telecommunication places a huge responsibility on the contractors engaged to support these needs. These deployments are increasing the rigidity of construction schedules for contractors. While promptness and meeting customer cycle times are important, all stakeholders want to ensure quality work is performed in a safe manner. In fact, it is a contractual requirement in many cases. Another essential skill for contractors is the ability to recognize when it is time to stop performance of the work due to quality concerns or unsafe conditions. At this point, it becomes necessary to assess and understand the individual site conditions, communicate the issue(s) to the customer and engage the necessary stakeholders. This procedure is commonly referred to as 'SAUCE' which is an acronym for STOP-ASSESS-UNDERSTAND-COMMUNICATE-ENGAGE. While this procedure is applicable to all of the various stakeholders, this PAN will focus on the applicability of SAUCE as it pertains to contractors.

(For a review of the various stakeholders, please refer to the TIF White Paper, Appearance Installation Impact to Climbing Facilities and Antenna Supporting Structures on the Telecommunications Industry Foundation (TIF) website at tifonline.org).

S.A.U.C.E. – Stop, Assess, Understand, Communicate, Engage

A great way to understand SAUCE is by way of reviewing real-life examples that have occurred in the field. However, prior to exploring a few examples it is imperative to review some

best practices for the contractor's escalation hierarchy. In general, escalation hierarchy is subdivided into two parts; first, internal escalation procedures within your company, and secondly, the escalation hierarchy amongst stakeholders. Internally, when a contractor runs into a hazard or issue with the scope of work (SOW), the first thing the contractor should do is STOP. This does NOT mean that all work on a site must stop. It means that the contractor needs to stop any work that may be hazardous (or create a future hazard) or is a principal impediment to the quality execution of the SOW. Contractors then ASSESS and seek to UNDERSTAND the situation; this is when contractors internal escalation protocols should be implemented. The first communication is made to the appropriate project supervisor. From there, the project supervisor should COMMUNICATE the issue and any potential solution(s) to the customer. Lastly, the contractor and/or the customer should ENGAGE the appropriate stakeholder(s) (as indicated in the contract or SOW) to correct or mitigate the hazard or quality issue. The project supervisor should ensure that a responsible party is identified for correcting the hazard and that the proposed solution is documented.

As an industry, utilizing the SAUCE process and following the escalation protocols outlined in the specific SOW and contract documents lowers the risk for injury to site personnel, prevents incorrect or subpar installations, and increases accountability across all stakeholders, including contractors. This promotes a safe work environment by not causing damage to the structure or any systems installed on the structure. Additionally, by actively engaging the responsible stakeholders we are able

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to craft a solution in a timely manner. Lastly, the SAUCE method fosters an environment of accountability, where the stakeholders are actively engaged in supporting each other rather than simply shifting the hazard or SOW issue down the line as someone else's problem to mitigate or pretending that a problem does not exist. Accountability and communication will reduce downtime for all stakeholders involved in the use, installation, maintenance, and recovery efforts of telecommunications infrastructure.

The viability of the SAUCE method is dependent upon the contractor actively communicating with their customer and engaging the other stakeholders, who must also respond to the contractor's engagement.

Example 1: Damage Caused to the Climbing Facilities

Moving to our first example; here we have a monopole which had upgrades installed that caused damage and an unapproved obstruction to the climbing facilities (see Figure 1). Here, the new radio mounts have completely blocked the climbing facilities. As explained in the TIF White Paper previously referenced, the contractor shall not cause damage to the structure or climbing facilities and shall also endeavor to avoid obstructing the climbing facilities.

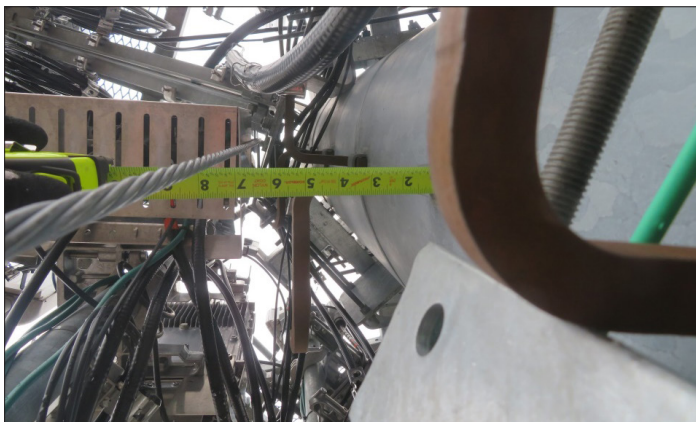


Figure 1 shows that the completed installation only left seven inches (7") of climbing space. The safety climb wire rope and equipment will also eventually be damaged from rubbing.

Rather than installing the new radio mounts in a way that damaged and obstructed access to the climbing facilities, the contractor should have utilized SAUCE. After reviewing the Construction Drawings (CD's) and observing the site conditions, the contractor should have noticed that damage or obstruction to the climbing facilities would occur. When the field crew realized they were going to compromise the structure and climbing facilities, they should have stopped, assessed the site conditions and applicable drawings, and initiated their company's internal escalation hierarchy to fully understand the issue. If the contractor would have used SAUCE before the installation was 'past the point of no return', a new plan of action could be quickly implemented. In many situations, the resolution is very simple and causes little downtime. Here, the contractor should have communicated the issue to their customer so they could have engaged the engineer of record and resolved the issue by simply rotating the RRU mounts on the structure and/or revising radio placement on the mounts. New material would not have been needed and the issue could have been resolved while the crew took lunch. By applying SAUCE, the crew can proceed with the revised installation and not compromise the structure, climbing facility and/or the safety climb system (if present), with very little down time. It should be noted that the construction drawings for this site clearly communicated that the climbing facility was not to be impacted this way; here the contractor failed to properly utilize the CD's to effectively communicate the issue which impeded the ability of the other stakeholders to support the contractor to ensure the installation did not adversely impact the use of the site.

Example 2: Improper Installation of an Appurtenance

Our second example involves the improper installation of RRU mounts. Our contractor in this example was tasked with installing new RRU's by utilizing existing mounts on the structure. To accomplish this, the contractor attached mount pipes to the gate of the antenna mount with angle adapters and 3/8" threaded rod (see Figure 2).

First and foremost, this is NOT the intended use of angle adapters. It is, at best, a field-fabricated mount that is not going to meet any of the current design standards. The cantilevered radio mass exacerbates the forces applied to the half clamp and the angle adapters. Additionally, the mount analysis in the construction drawings showed this pipe as being present, but when the contractor arrived on site it was not. The contractor attempted to complete the

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SOW with the changed condition, but instead of applying the SAUCE method, they applied “imagining”.

In this case, a change order for the contractor would ultimately save the stakeholders money as it prevents future work when the installation fails. Likewise, it is important to recognize the other Stakeholders must support the contractor and respond to engagement in order to facilitate a quality and safe installation that does not cause damage. In this example, the contractor should have stopped work, assessed the site conditions, and sought to understand the issue by thoroughly reviewing the CD’s and other site documentation. Then, the contractor should have communicated the site conditions and proposed resolution to its customer so that they could engage the appropriate stakeholder (which in this case would be the engineer). Note, when we say ‘contractor’ that does not necessarily mean the crew on-site would be the point of contact for the engineer in this example, that is dependent upon the specific contract and SOW governing the work.

Conclusion

When a contractor becomes aware of changed conditions that will impact the quality of work or the safety of the working environment, it is a best practice for the contractor to apply the SAUCE method. However, for the SAUCE process to work, stakeholders need to support the contractor when they are engaged. Collaborating with other stakeholders demonstrates that the contractor is committed to performing a safe and quality installation. Collaboration and communication do not delay projects, rather, they allow them to move forward in an efficient manner while resolving issues. Finally, it is imperative that the solution is captured via redlines in the CD’s and other site documentation as this provides the proper reference point for future work to be successful.

Thank you to the many men and women who support this great industry and all it does to support our society. With these steps in place, contractors can execute work in a safe and quality manner ensuring that the infrastructure will perform as intended for years to come. ●

When the CD’s or site conditions call for an installation that will cause damage to the structure or any systems, best practice is for the contractor to use the SAUCE method.



FIGURE 2

The entire mount is being secured by two angle adapters and threaded rod which will fail and could potentially walk off the angle and fall off tower.