



Safety News

Dedicated to ensuring the safest and healthiest working environment for our members

Winter 2019 | Issue 18

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Our Vision

The United Association and its local unions will apply its best practices and resources to build the best educated and safest workforce in all sectors of the piping industry.

Message from Cheryl Ambrose Health, Safety and Environmental Administrator



As 2019 draws to a close, there are countless things for which to be thankful. Looking back over the past year has reminded me how important it is to find joy in life's little moments wherever we can, to cherish family and friends, and be supremely

thankful in all things big and small.

Time has a way of ticking by faster with each passing year and this year was no exception. In this year's last issue of Safety News, Pete Chaney of the MCAA takes time to remind us about an often-overlooked hazard with his article on radiofrequency (RF) radiation. Hard to believe but it's almost time again for the 2020 MCAA Safety Directors' Conference. The International Training Fund is once again happy to have offered grants for first-time attendees to the conference, which will be held January 21-23, 2020 in San Antonio, Texas.

OSHA Master Instructor Kevin Hendrickson from Local Union 533 in Kansas City, Missouri, shares tips and ideas on how OSHA Outreach Instructors can ensure that two-thirds of the time spent in their OSHA 10 and 30-hour Outreach training classes includes activity-based learning. There has been a recent push by OSHA

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for Outreach instructors to devote at least two-thirds of class time to activity-based learning.

We want to congratulate Dale Walker with Local Union 495, Cambridge, Ohio, on becoming the UA's newest OSHA Master Instructor in November. Dale is one of only five instructors who currently hold this designation for the UA. Well done, Dale!



Finally, during this season of giving and all year long, time is a precious commodity. It only takes a moment to thank someone for working safely or listen when they have a concern. It only takes a moment to thank that instructor for their hard work and dedication. Thanking that mentor who taught you so much or taking time to help find a safe solution to a concern can prove invaluable. Being a mentor by sharing time and knowledge to help improve the safety and health of our brothers and sisters is priceless. To everyone who had even the smallest part in making 2019 safer and healthier for all of our members, let me close by just saying, "Thank You." ■

What Mechanical Industry Service Workers Need to Know About Radiofrequency (RF) Radiation Safety

Submitted by Pete Chaney, CSP – Director of Safety, Mechanical Contractors Association of America (MCAA)

Radiofrequency (RF) radiation is the transfer of energy by radio waves. It is used to provide cellular phone and telecommunications services, such as satellite communications, television broadcasting, and portable radio communications without wire. RF radiation sometimes affects mechanical service technicians and other workers on commercial building rooftops since radio waves are transmitted by antennas, which are prevalent on commercial building roofs.



Most of the antennas mounted on building rooftops are cellular antennas. These types of antennas are typically mounted on roof edges transmitting out and away from the building. When this is the case, there is no significant exposure. However, substantial exposure could occur in some cases. Therefore, it's important for service technicians to have some knowledge about RF radiation where its presence overlaps with mechanical service work.

The primary hazard is overexposure to RF radiation, a non-ionizing radiation. It is not known to cause long-term health effects associated with ionizing radiation, such as x-rays and radiation generated by nuclear power. However, under the right circumstances, it can be harmful. If you are working close enough to one or more RF radiation-emitting antennas, the antenna(s) have sufficient power and are emitting RF radiation within a certain frequency range, and you are exposed for a long enough period, the penetrating energy would overheat your body tissue, including your internal organs. It's really not different than heating meat in a microwave oven.

The good news is that most of the time, avoiding overexposure is simple. The best way to avoid it is to stay out of RF radiation fields as much as possible. Recognizing and identifying RF antennas and understanding how each type works goes a long way toward avoiding overexposure. Information about the primary types of RF radiation-emitting antennas that you could encounter follows.

- **Cellular Antennas** – Cellular antennas are shaped like rectangles with vertical panels. They emit RF radiation straight out and away from the antenna. There is no significant exposure when this type of antenna is emitting RF radiation away from you and your work area.
- **Parabolic Antennas** – Parabolic antennas are dish shaped and emit RF radiation in one general direction. The RF radiation travels out in a cylindrical shape about the same size as the circumference of the dish - picture a spotlight beam. If you're not in the path of that spotlight beam like pattern of radiation, there's no significant exposure.
- **Cylindrical Rod Antennas** – Cylindrical rod antennas are shaped just like the name suggests. Picture a long thick piece of rebar mounted vertically. These types of antennas emit RF radiation in all directions, i.e. 360° from the rod. It can sometimes be a little more challenging to avoid exposure when working close to this type of antenna.
- **Microwave Antennas** – Microwave antennas are typically shaped like giant drums. They emit RF radiation in a single direction out and away from the face of the antenna. However, the RF radiation emitted from microwave antennas is much more potent than RF radiation emitted from cellular, parabolic and cylindrical rod antennas. You'll need to stay far away from the RF radiation fields emitted by these antennas to avoid overexposure.
- **Stealth Antennas** – Stealth antennas are cellular, and telecommunications antennas designed to blend into the building or landscape. They are all about aesthetics, made to look like trees, plants, flag poles, clock towers, steeples, Christian crosses, parts of actual building structures, etc. Learn to identify stealth antennas, so that you won't end up working near them unexpectedly.
- **Antenna Clusters** – Several antennas mounted in a cluster will emit more RF radiation than a single antenna. Watch carefully for clusters of antennas in your work areas.
- **Antennas on Adjacent Structures** – Watch carefully for one or more RF radiation emitting antennas mounted on nearby buildings or other adjacent structures. If they're emitting a significant amount of RF radiation in your direction, and they're close enough to your work area, overexposure could occur.

RF radiation dissipates and loses its potency the farther away it travels from its antenna. Therefore, the farther away you are from an RF radiation-emitting antenna(s), the less likely you are to be exposed. Distance is your best ally when it comes to protection from overexposure. Staying as few as



three feet away from the RF radiation emissions of cellular, satellite, and cylindrical rod antennas would most likely provide adequate protection. However, RF

radiation can be fickle, so it's always best to include a safety factor as follows.

- *Single Cellular, Satellite, or Cylindrical Rod Antennas* – Keep at least 6 feet away
- *Multiple Cellular, Satellite, or Cylindrical Rod Antennas* – Keep at least 10 feet away

Time is another great ally when it comes to protection from overexposure. The less time you spend in an RF radiation field, the less likely you are to become overexposed. Think again about meat heating in a microwave oven. The longer it's in the oven exposed to RF radiation, the hotter it gets.

If you ever must work in an RF radiation field where you could be overexposed, try to get the antennas powered down before you start the work. If you can't get it done, there is personal protective equipment (Nomex clothing) available that can be used for protection, and Electromagnetic Field (EMF) monitors that will warn you if the RF radiation in your work area reaches a hazardous level. However, Nomex material presents an electrical shock hazard. It has stainless steel fibers woven into the material, and these fibers are highly conductive. Make sure you never approach energized electrical conductors or circuit parts while wearing Nomex clothing. When you need protection from RF radiation and arc flash/electrical shock hazards simultaneously, get your supervisor involved to negotiate getting the antennas temporarily powered down so that you can wear your electrical safety-related protective clothing without concern for overexposure to RF.

Overexposure to RF is rare for mechanical service workers, but it can happen. The good news is it is easy to prevent once you learn to recognize and identify RF radiation-emitting antennas and understand the basic characteristics of each type of antenna.

Additional resources on RF Radiation Safety

- Contact Pete Chaney at the MCAA (pchaney@mcaa.org)
- Visit CPWR – The Center for Construction Research and Training's website at www.cpwr.com/research/rf-radiation-awareness ■

The MCAA will be hosting the

**2020 MCAA Safety Directors' Conference at
The Westin Riverwalk, San Antonio, TX
January 21-23, 2020**

A special grant has been made available by the International Training Fund to assist local unions in sending eligible instructors to this event. Safety is a core value for the United Association and we encourage our local union training programs to take advantage of this opportunity. See you in San Antonio!



<http://www.mcaaevents.org/safety-directors-conference/>

FOR MORE INFORMATION
Education and Training Department
410-269-2000
Tammie Parezo (ext 4074)

<https://www.puresafetygroup.com/news/pure-safety-group-recalls-guardian-and-web-device-3-way-srls-immediate-stop-use-required>

PRODUCT RECALL

IMPORTANT - STOP USE IMMEDIATELY
#10981 and #10974 3-Way SRL

November 14, 2019
 No. GFP-S001-A

This notice is intended to communicate product recall information regarding the Guardian Fall Protection and Web Devices 3-Way Rescue and Retrieval self-retracting lifeline. Under certain conditions, braking forces may cause gear misalignment, potentially resulting in diminished rescue/retrieval functionality.

THERE HAVE BEEN NO ACCIDENTS OR INJURIES RELATED TO THIS PRODUCT RECALL.

PART NUMBERS AFFECTED:

The recall affects all 3-Way SRLs manufactured prior to March 2019. The recall includes the following part #: Guardian #10974 (50') and #10981 (65'), and Web Devices #0501312 (50') and #0651312 (65'). Any and all custom or private-labeled 3-Way SRLs are also affected.

**Please note, 3-Way SRLs are also sold in the following Arc-O-Pod kit part #: #20001, #20004.

PLEASE TAKE IMMEDIATE ACTION TO COMPLETE THE FOLLOWING STEPS:

STEP 1. DETERMINE DATE OF MANUFACTURE

Product date of manufacture is located on the top right of the back label. If the recorded date of manufacture is 3/2019 or later, no further action is necessary. If the recorded date of manufacture is prior to 3/2019, or if the date of manufacture is unknown for any reason, proceed to Step 2. See Fig. A.

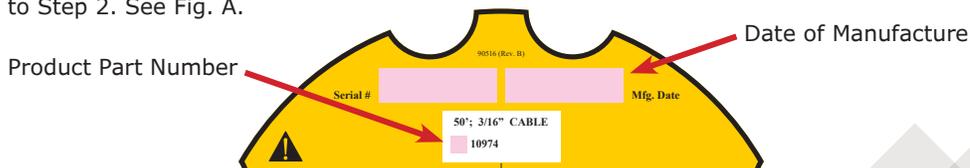


Fig. A - Date of Manufacture Label

STEP 2. REMOVE AFFECTED PRODUCT FROM SERVICE

If the date of manufacture is prior to 3/2019 the product must be immediately removed from service. Removal from service is also required if the date of manufacture is unknown. All affected product must be returned to Pure Safety Group for repair. DO NOT ATTEMPT TO REPAIR THE UNIT.



ADVANCING
 FALL PROTECTION

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OSHA OUTREACH TRAINING TIPS

The following article is the second in a series of articles authored by UA OSHA Master Instructors designed to assist UA OSHA Outreach Instructors teaching OSHA 10 and 30-hour courses at UA locals.

Let's Talk About Two-Thirds!

Submitted by Kevin Hendrickson - UA OSHA Master Instructor, Local Union 533, Kansas City, Missouri

Any OSHA 10 or 30-hour Outreach Instructors who have taken the OSHA 510, 500 or 502 class within the last couple years have probably already heard about OSHA's upcoming "two-thirds" rule. Although OSHA has not mandated it, building trades affiliates were notified by our OSHA Education Center, the National Resource Center, that OSHA is in the process of requiring two-thirds of all OSHA 10 and 30-hour classes to include "activity-based" learning. Like myself, many of you may be thinking, "What in the world is activity-based learning and how do I accomplish it in my OSHA classes?"

Activity-based learning is a concept born to engage today's student better than traditional lecture-type delivery. There are several methods available to accomplish activity-based learning including student-led teaching activities, demonstrations by industry leaders, hands-on activities and computer-aided resources.

During a recent OSHA 502 Outreach Instructor Update class, OSHA Master Instructor Dale Walker (LU 495) and I tasked

the students with developing a learning activity and then sharing how they would administer it to a class. Some of the ideas that were developed included creating a spread sheet relating to Safety Data Sheets (SDS's) and having students find specific information in the SDS's to enable them to get familiar with how to find and use the information found in the SDS's. This activity could be completed on an individual or group basis, and all students could be provided the same SDS or each person given a different one. Another example of an activity presented by the group which could be used during the required time for the Introduction to OSHA module, is utilizing a blank OSHA 300 log and a list of accidents to learn how to complete the log. Still another idea included parking a vehicle in an open parking lot and while one student sits behind the wheel, other students are placed around the vehicle to illustrate blind spots while driving or operating equipment. Dale and I received numerous great ideas throughout the class and most of them are fairly simple and inexpensive to administer. If you choose to have an activity that revolves around inspecting damaged equipment such as tools or rigging equipment, make sure it is stored properly when not in use so as to prevent it from being used mistakenly by another class.

Over the years, I have developed several activity-based learning sessions that I successfully incorporated into my OSHA 30-hour course at Local 533. For trenching and shoring, we have a backhoe dig a trench in an adjacent field to the training center. With the guidance of a local shoring specialist, the students install shoring in accordance with OSHA standards. The students are also tasked with properly assembling a trench box in the parking lot. The shoring specialist provides not only guidance but also all of the material for the class at a reasonable rate knowing his company is being exposed to future decision makers in the industry. By assigning a student foreman to these activities, leadership skills can also be nurtured. Explain the task to the foreman and

have him or her relay the task to the class. I performed a similar activity with scaffolding where the class is required to assemble the scaffold in a proper manner. Confined space training is also a great place to have a group hands-on learning activity and a necessary component to this training. Reach out to local vendors for equipment and assistance with this if needed. Many places inside a building can be used as a mock-up confined space without having to actually enter a confined space. CPWR – The Center for Construction Research and Training (www.cpwr.com) can assist with confined space training and is a great training resource for this topic.





Utilizing industry specialists who bring in devices or tools for visual effects constitutes activity-based learning where students get to interact with the items. Many fall protection manufactur-

ers such as 3M Fall Protection and Guardian have trucks or vans equipped with demonstrators to show the effects and impacts associated with falls and the protection that different styles of equipment offer. There are many opportunities available through local vendors.

OSHA Secondary Master Instructor Will Marable (Local 372) and I recently taught an OSHA 510 Standards course together for the International Training Fund (ITF). In an effort to start using more activities in class, we incorporated crossword puzzles and word searches related to topics we were covering. "The Teacher's Corner" (www.theteacherscorner.net) is one of many free online resources for creating such puzzles. Google is your friend when looking for ways to create these. I will often take material from the MCAA and MSCA Safety Resources (www.mcaa.org) and use a topic as the foundational material for creating the puzzle. After the class has completed the puzzle, they will have the handout that you provided to meet your requirement of material that must be sent with them per OSHA. If you choose to use the 1926 standards as a basis for your puzzle, make sure whatever edition you use is the same edition the students will use during the training and adjust accordingly when needed.

"Kahoot" is a fun web-based, online quiz tool (www.kahoot.com) that most students find entertaining. It is free to use with upgrades available. The students will need to download an app on their mobile device in order to participate, so if you have a no phone policy or poor service where your classes are held this may not be a good option for you. One word of caution however, there are ways around it but if you're not careful your quizzes or "Kahoots" will be made available to anyone who is a user, so be careful when saving quizzes on this site. It is very user-friendly and easy to administer and

you will find that the competitive nature of the games makes it very entertaining for the students.

While there are numerous places that you can obtain safety-related videos, the MCAA and MSCA Safety Resources (www.mcaa.org) is my favorite. Remember—OSHA only allows videos to be used as a maximum of 25 percent of a topic's length. To make your time with videos more activity-based try incorporating some type of quiz or puzzle related to the video that will lead to discussion after the video is complete. It is also a good idea to look for places within the video where you can pause it and focus on a discussion relevant to something within the video.

With the ever-expanding field of virtual reality and other technologies, there are more and more tools available that

put the user in lifelike circumstances. The UA's virtual reality apps including Safety VR and Trench Safety VR are just two examples of instructional technology available to enhance your classes. Your local union can obtain the specialized equipment to run the VR apps through a grant offered by the International Training Fund so your local can start using this technology in your training. Countless hours went into the development of these programs and it shows in the end product. There are also VR training tools available for aerial lift safety training and crane signaling. I believe one day we will be using virtual reality for confined space training and much more! We are only limited by our ability to dream how to use technology in the future.



These are just a few ideas that were shared with me as well as ones I have used in the past. Many of these

ideas will help meet OSHA's requirement for inclusion of activity-based learning to meet the two-thirds activity-based learning requirement. My suggestion to instructors is to review your OSHA 10 and 30-hour classes and see where you can start making changes now to incorporate activity-based learning. We must prepare ourselves if OSHA should mandate the two-thirds rule, so that UA instructors remain the industry leading trainers that we are! We look forward to helping you better understand these different techniques during your OSHA 510, 500 and 502 classes.

Best of luck to you all, be safe and continue the great work you all do as UA craftsmen and instructors! ■

Dale Walker, Local 495 - UA's Newest OSHA Master Instructor

The International Training Fund would like to congratulate Willard "Dale" Walker, Jr. (pictured, top left) with UA Local 495 in Cambridge, OH, upon his approval as an OSHA Master Instructor in November 2019. Dale is now authorized to teach the OSHA 500 series classes including the OSHA 510, 500, and 502 as a lead instructor for the UA under CPWR – The Center for Construction Research and Training, and the National Resource Center. Dale has been teaching for the ITF as an OSHA Secondary Master Instructor since 2017. He was audited by CPWR during a recent OSHA 500 course held in Ann Arbor.

We want to also congratulate the UA instructors (pictured to the right) who completed the OSHA 500 course and are now authorized to instruct the OSHA 10 and 30-hour courses at their JATCs.



Front Row – from left: Michael Falkenstein (LU 136-Evansville, IN), Joe Shelton (LU 33-Des Moines, IA), Jeffrey Gray (LU 704-Detroit, MI), Calvin Walker (LU 72-Atlanta, GA)
Back Row – from left: Dale Walker, OSHA Master Instructor (LU 495-Cambridge, OH), Anthony Venezia (LU 200-Nassau-Suffolk, NY) and Robert Mullins (LU 392-Cincinnati, OH)

Merry Christmas

&
H A P P Y N E W Y E A R !