



## Research & Education

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### Radio Frequency (RF) Radiation: What's the Risk to Roofers?

A simple answer is that the risk can be serious and should be taken seriously. Roofers can be exposed to radio frequency radiation when working around wireless antennas on rooftops. There are currently over 600,000 such operating devices in the United States alone and that number is expected to double in the near future as the demand intensifies for more powerful wireless devices.

That means a greater number of roofers will be exposed to a hazard they cannot see, cannot hear, cannot taste and cannot smell. Moreover, as more and more of these devices become camouflaged and concealed entirely within buildings, roofers won't know that the devices are even present in their work area.

### What is Radio Frequency Radiation?

Radio waves and microwaves emitted by transmitting antennas are a form of electromagnetic energy collectively referred to as radio frequency or RF radiation or energy. Many types of wireless services make use of RF radiation to transmit from **antennas** to wireless devices. Cellular phones, two-way radio services (police, fire, EMS), pagers, television, radio, wireless internet and satellite communications systems all operate using RF radiation.

### What Are the Health Risks?

RF radiation is recognized as a known health and safety hazard. The risks depend on the power, channels, frequency and proximity to the RF source, type of antenna and the duration of exposure. And without knowing all of these factors, it's not possible for roofers to safely work near an RF transmitter. In fact, there is no "rule of thumb" when it comes to exposure distances. Each antenna is unique. RF emissions can extend from 1 foot to more than 20 feet from the antenna.

The FCC human RF Exposure limits are based upon behavioral and cognitive effects. These can include depression, memory loss, mood disorders, sleep disorders and diminished cognitive function. High levels of exposure can have thermal effects. These high intensity exposures can result in the heating of biological tissues, causing damage to these tissues.

### How Can Roofers Be Protected?

All FCC licensees, including the Wireless carriers, have a legal obligation to ensure that their antenna emissions do not overexpose individuals to RF radiation. They can be sued, fined or they can lose their licenses if they fail to prevent exposing individuals above the RF radiation limits set by the FCC.

Roofing contractors also have a responsibility. There are Federal OSHA standards that come into play, such as the General Duty Clause and standards requiring construction employers to provide safety programs, including frequent inspections and training, to protect workers from all hazards, including RF radiation hazards. There is also a construction standard for non-ionizing radiation, which includes RF radiation, but simply prohibits workers from being exposed above an exposure limit.

Despite these standards and shared responsibilities, roofers remain vulnerable to RF radiation overexposures. If it is necessary to work close to wireless antennas, workers through their employer should request and obtain a power-down before beginning the work. However, obtaining and verifying the existence of a power-down can be problematic.

### What about a Solution?

RF Check Inc. is a company that has a patented solution and is preparing to implement a National RF Radiation safety protocol to help roofers and other workers protect themselves from overexposure to RF radiation. The protocol includes the ability of roofers and contractors to download, at no-cost, a site-specific safety plan prior to working at the site. The plan will include all of the information necessary to work safely around the site's wireless antennas, ensuring that no one will be overexposed.

Check out our Website [www.unionroofers.com](http://www.unionroofers.com) for more information. And please take the RF Check survey. The survey will take 5 minutes and provide RF Check Inc. and the International Union with the data necessary to help develop a baseline of information regarding RF overexposures and will assist in the development of a comprehensive RF safety solution. ■



Picture shows potential RF exposure near a roof access hatch.



## Support for the Foreman Training Program Remains Strong

Since the fall of 2009, four foreman training programs have been delivered, and more are scheduled for March and April of this year. Two-day programs were delivered to foremen in Local 26, Merrillville, IN; Local 23, South Bend, IN; Local 20, Kansas City, MO; and Local 2, St. Louis, MO.

That 11 training programs have been delivered since its roll-out in February of 2009 is impressive by any standard and is a testament to the quality of the program and the skill and professionalism of the instructors who deliver it.

The highly interactive program currently comprises six modules: Communication Skills, Problem Solving Skills, Safety Skills, Teaching Skills, Reporting Information Skills and Math and Measurement Skills. The seventh module, Managing the Project and Workforce Skills, is still under

development but close to being finished.

A total of 244 foremen have completed the two-day training program. Attendees included both new and experienced foremen. Upon conclusion of the program, each foreman is asked to write up a brief evaluation of the course. It's not a formal process, but it has been very informative. Attendees are consistently impressed with the professionalism of the instructors and have highly rated both the instruction and the materials used in the presentations.

Congratulations go out to all of the foremen who completed the program and a sincere thanks to the local unions, apprentice programs and their signatory contractors for their support and assistance in making this program so successful.

### LOCAL 26, MERRILLVILLE, IN (11/12 – 11/13/09)

Mathew Bajza	Marcus Bass	Joseph Bircher	Antonio Sanyet	Cliff Hayes	Sean Refbord
Craig Yonker	Brian Kiszka	Tully Lunsford	Paul Liakos	Richard Howe	Timothy Stineback
Richard Grisham	Scott Allen	John Tomaszewski	Jerome	Daniel Mata	
Andrew Rogyom	Frank LaPorta	Mark Huber	Tomaszewski	John Bennett II	



Local 26 Apprentice Instructor Keith Vitkovitch joins foreman attendees and foreman training instructors Pat Gilliland, Marty Headtke, Dan Knight, Jim Currie and Jack Collins for a group photo.



Instructor Jim Currie leads a group activity on listening skills with Local 26 foremen.



Instructors Jim Currie, Dan Knight, Jack Collins, Marty Headtke and Pat Gilliland gather for group photo with Local 26 Apprentice Coordinator Keith Vitkovitch (center).



## LOCAL 23, SOUTH BEND, IN (12/3 – 12/4/09)

Joel Stockbridge	Derek Carrington	Cynthia Finney	Kenneth Jones, Sr	Joshua Mouglin	Joshua Clemons
Danny Van Sant	Robert Davis	George Finney	Anthony Squint	Kent Henderson	David Martin
Scott Anglin	Peter Spezia	Drew Holston	John Purvis	Michael Grabarek	Jeff Wroblewski
Charles McBain	Anthony Walker	Layne Marshall	Donald Irwin	Victor Womack	



Foreman training instructors Pat Gilliland, Marty Headtke, Dan Knight, Jim Currie and Ed Rolfe join Local 23 Apprentice Instructor Drew Holston and foremen attendees for a group photo.



Decision making skills is the subject of this discussion between Instructor Dan Knight and foremen from Local 23.

## LOCAL 2, ST. LOUIS, MO (01/28 – 01/29/10)

Jason Burgdorf	Jerry Sample	Ryan Flecke	Tim Hodges	Kevin Kehrer
Donald Clinton	Glenn W. Hicks	Mark DeRousse	Kenny Walthes	Chris Kehrer
Kerry S. Metcalf	Jerry Stevenson	William Prosser	Rocky A. Goodson	Alejandro Ramos
Desmond Moore	Keith Lawrence	Randy Pate	Charles Shelton	Mike Rosa
Tihomir Tochev	Jeremy Pirtle	Tim Simpson	Jeff Pauli	Don Crist



Local 2 Business Manager and International Vice President Dan O'Donnell, Local 2 Business Agent Denny Marshall and Doug Jones, President of the South Side Group LLC, join instructors and foreman attendees for a group photo.



## LOCAL 20, KANSAS CITY, MO (12/10 – 12/11/09)

Melvin Swietkoski	Jeff Resler	Bill Hisey	James Tindall	Shawn McCartney	Jeramie Reno
Walter Geib	Jason Godard	Mark Goodell	Jason Cruse	Steve Orozco	Rob Reffett
Russell Fetters	Cade Stark	Jim McClellan	Larry Hillig	Ron Parr	Kevin King
Brian Plake	Steve Woodward	Sean Owens	Stacey Mitts	Ken Moore	Matt Lloyd
Steve Resler	Steve Frogge	Carl Rodgers	Dennis Guist	Ron Moore	James Scott



*Local 20 Apprentice Instructor Matt Lloyd and foremen attendees take this photo op with foreman training instructors Pat Gilliland, Marty Headtke, Dan Knight, Jim Currie and Jack Collins.*



*Instructor Jack Collins works with two foremen from Local 20 on a group activity.*



*Instructor Marty Headtke shares a laugh with Local 20 foremen while going over exercises on math and measurement.*