

# OSHA Advisory Committee for Construction Safety and Health (ACCSH)

## Health Hazards, Emerging Issues & PtD Workgroup Meeting

May 8, 2012. 3:15pm- 5:00pm

35 Attendees (See attached list)

Co-Chairs: Matt Gillen, Walter Jones, and Mike Thibodeaux presided

### 1) Radio Frequency (RF): Hazards, Exposures, Precautions

*Two speakers were scheduled to provide background information on this emerging health hazard issue. Rick Burnheimer of RFCheck was the first speaker. RFCheck is a consulting firm that provides site-specific RF safety plans using a proprietary database. He reported that there are 600,000 cell phone antenna systems in use, projected to exceed one million over the next several years. Health effects associated with high short term exposure to RF from cell phone antennas can include heat injuries, behavioral disturbances and cognitive impairment. The Federal Communications Commission (FCC) is the primary government regulator for RF and they use licensing obligations to address occupational exposure. No worker is supposed to be exposed to RF radiation levels that exceed FCC human exposure limits. He stated that the FCC does not have an enforcement mechanism for checking on occupational exposures. He indicated that cell phone antenna installer exposure is typically addressed by cutting off the power to the antenna during installation and maintenance.*

*The issue for ACCSH and construction is inadvertent exposure to what Burnheimer called "3rd party" construction workers performing roofing, painting, HVAC or similar work in close proximity to these antennas. He showed several slides of actual cases to show how it is common (in some cases mandatory) to hide the antennas for aesthetic reasons using fiberglass (which is transparent to RF emissions) panels and structures. As a result, there is no visible indication of the antenna and workers are often not aware that they are working adjacent to one. Sometimes these structures are used for sign or advertising placement necessitating close worker access to change the signs. While FCC regulations do require RF warning signs to be posted, these are often placed on doors or other locations some distance from the hidden antenna itself. Slides showed actual examples involving scaffold installers and roofers near an antenna in a church steeple and a faux wall panel and commercial sign that would require sign painter access. In another slide example, RF antennas mounted on the wall of a parking garage were not hidden, but painters working off of aerial lifts were not provided any hazard information and it was reported that they worked directly in front of the antennas while painting the wall the antennas were mounted on. The last example was for a roof hatch that opened up directly in front of roof-mounted RF emitting antennas.*

*Greg Lotz of NIOSH was the next speaker. He was accompanied by Joe Bowman of NIOSH, and they participated by bridge line from Cincinnati. Greg took issue with Rick Burnheimer's characterization of potential health effects from low and single exposure levels. He said that the science is not yet clear on long term memory and sleep loss effects from these types of exposures. He did report that the International Agency for Research on Cancer (IARC) had recently rated RF from cell phones as Group 2B (Possibly Carcinogenic to humans).*

*Greg Lotz told the group that NIOSH can perform Health Hazard Evaluations (HHEs) for RF to help determine potential exposures and risks. He reported an HHE on concerned window washers in Kentucky that measured exposures and found them below FCC limits. Not all work adjacent to a cell phone antenna will involve an overexposure. He also stated that high exposure situations were possible and could actually lead to overheating effects and heat stress that might not be readily attributed to antennas by construction workers.*

*In response to a question from Pete Stafford about what construction workers should do if they suspect they are working near a cell-phone antenna, Greg Lotz suggested they stop and communicate with the building owner. Joe Bowman indicated that posted RF warning signs include an owner phone number for questions. Regarding worst case exposures, Greg Lotz indicated that TV and radio broadcast antennas emit higher levels than cell phone antennas and he relayed a case involving the former Sears tower and leg burns.*

*In sum, while there was some difference of opinion on health effects, there was general agreement from the speakers that construction workers could experience inadvertent RF exposures from working around disguised antennas. Two additional handouts were provided with information on 1) federal web page resources on RF; and 2) existing guidance from FCC and the IEEE (Institute of Electrical and Electronics Engineers). The co-chairs thanked the speakers on behalf of ACCSH for providing useful information to spur further discussions about this issue.*

## **2) Diisocyanate Developments**

*Janet Carter of OSHA's Directorate of Standards and Guidance (DSG) provided a comprehensive update on current developments related to Diisocyanates. Also called isocyanates, these substances (there are several types) are most commonly known from their use as an ingredient in spray polyurethane foam (SPF). SPF is viewed by some as a "Green" product because it is very effective in insulating homes to save homeowners on energy bills and because some formulations include other plant-based ingredients.*

*Isocyanate-containing products are also used for roofing, sealants, glues, and some paints. Janet explained that isocyanates have been reported to be the leading attributable chemical cause of work-related asthma. Exposed workers experiencing asthma may not make the connection to isocyanates. Sensitization can occur from*

*either dermal or inhalation exposures. Once workers are sensitized to isocyanates, their asthma can be triggered from exposures well below the current OSHA Ceiling PEL. This may require them to leave SPF insulation work.*

*Janet described how construction workers can be exposed during spraying of SPF; from bystander exposures near SPF jobs; from trimming freshly sprayed foam; from heating previously sprayed foam; and from mixing or cleaning up. She reported on exposure studies that indicate the potential for overexposures to isocyanates during SPF application operations. She described precautions that can be used to protect workers, and how pre-job planning, job set up, controls, PPE, and work practices are all important. Air supplied respirators are required because isocyanates lack warning properties. She described relevant OSHA regulations for SPF jobs. She described federal agency efforts addressing isocyanates, trade association development of worker and contractor training materials, and information available from OSHA, NIOSH, and EPA on these materials. She reported that OSHA was planning a "National Emphasis Plan" (NEP) aimed at reducing worker exposures to isocyanates was planned for later this year. The NEP will focus will include construction along with maritime and general industries.*

*Because of the length of the presentations, there was reduced time for discussion. Walter Jones expressed reservations that small contractors would have the technical capability to develop and implement the strict precautions needed to use isocyanates safely -for both workers and homeowners. He thought use of alternative products would be a better approach.*

*The co-chairs thanked the speakers for their presentations and suggested that this information would provide the workgroup with ideas for future discussions. The meeting adjourned at 5:10pm.*