



SAFETY IN WORKING AROUND RF ANTENNAS TOOLBOX TALK

WHAT IS RF?

RF is short for radio frequency. RF is any frequency within the electromagnetic spectrum associated with radio wave propagation. When an RF current is supplied to an antenna, an electromagnetic field is created that is able to travel, or spread through space.

WHY AM I AT RISK FROM ANTENNAS WHEN USING A MEWP?

Transmitting antennas emit radio frequency (RF), which is a type of non-ionizing radiation. This type of radiation does not carry sufficient energy to alter DNA (unlike ionizing radiation), but exposure can cause biological effects that can result in hyperthermia, headaches, nausea and damage to the eyes and testes.

Antennas are often situated on masts, towers, rooftops, the sides of buildings and street furniture, and the height of installation generally prevents exposure to members of the public. However, mobile elevating work platform (MEWP) users, once they start to ascend, can easily enter RF fields and put themselves at risk. Some emissions from antennas can cause the induction of current in tall metallic objects like MEWPs which can result in electric shock to those who touch the equipment and provide a path to earth. In extreme cases, electronic controls can be affected.

It is important to note that antennas are often disguised as chimneys or hidden behind hoardings and signs, this is because they are designed to blend into their surroundings.

The risk from radio-frequency radiation is increased by the fact that it is an invisible hazard and antennas are often even hidden or disguised, making identification difficult for those without a level of prior awareness.

WHO NEEDS TO KNOW?

This Toolbox Talk applies to all individuals involved with a Mobile Elevating Work Platform (MEWP) in an environment where there are RF antennas, this includes:

- Users – who have control of MEWPs on site
- Site Managers and Supervisors where MEWPs are in use
- MEWP operators/personnel in the platform

CAN RF AFFECT MEWPS?

There have been instances where RF has affected the electrical systems on MEWPs, in particular older machines. Examples include electrical interference to monitors and displays, which has potential to cause failure of operating systems or cause the MEWP to go into alarm mode, sometimes causing a loss of power.

WHAT SHOULD I DO?

- Carry out radio frequency awareness training to better understand the risks.
- Adhere to your employer's RF risk assessment and safe work method statement.
- Never work in front of an antenna until you can prove that it has been isolated and made safe.
- Always follow local/regional guidance in the area you are working in.
- Be vigilant and look out for antennas or signs warning of the presence of antennas – adhere to any warning signs or instructions.
- Descend and seek further advice if antennas are observed or if symptoms of exposure are felt, such as sweating extensively, increased pulse rate, nausea, headaches.
- If in doubt, cease work and ask your employer and the antenna owner for information.

REMEMBER

- Report problems or potential health problems.
- If in doubt, do not put yourself at risk. Stop and ask.
- Do not attempt a task if you have not been trained on how to do it and made aware of the hazards and risks.

USEFUL REFERENCES

- IPAF Operators Safety Guide (available on the ePAL app www.ipaf.org/ePAL)
- HSG 281 Electromagnetic Fields at Work 2016
- ICNIRP GUIDELINES For limiting exposure to electromagnetic fields (100kHz to 300 GHz)
- Manufacturer Operators Manual (available via www.ipaf.org/manufacturers)
- Andy Access poster (available at www.ipaf.org/andyaccess)