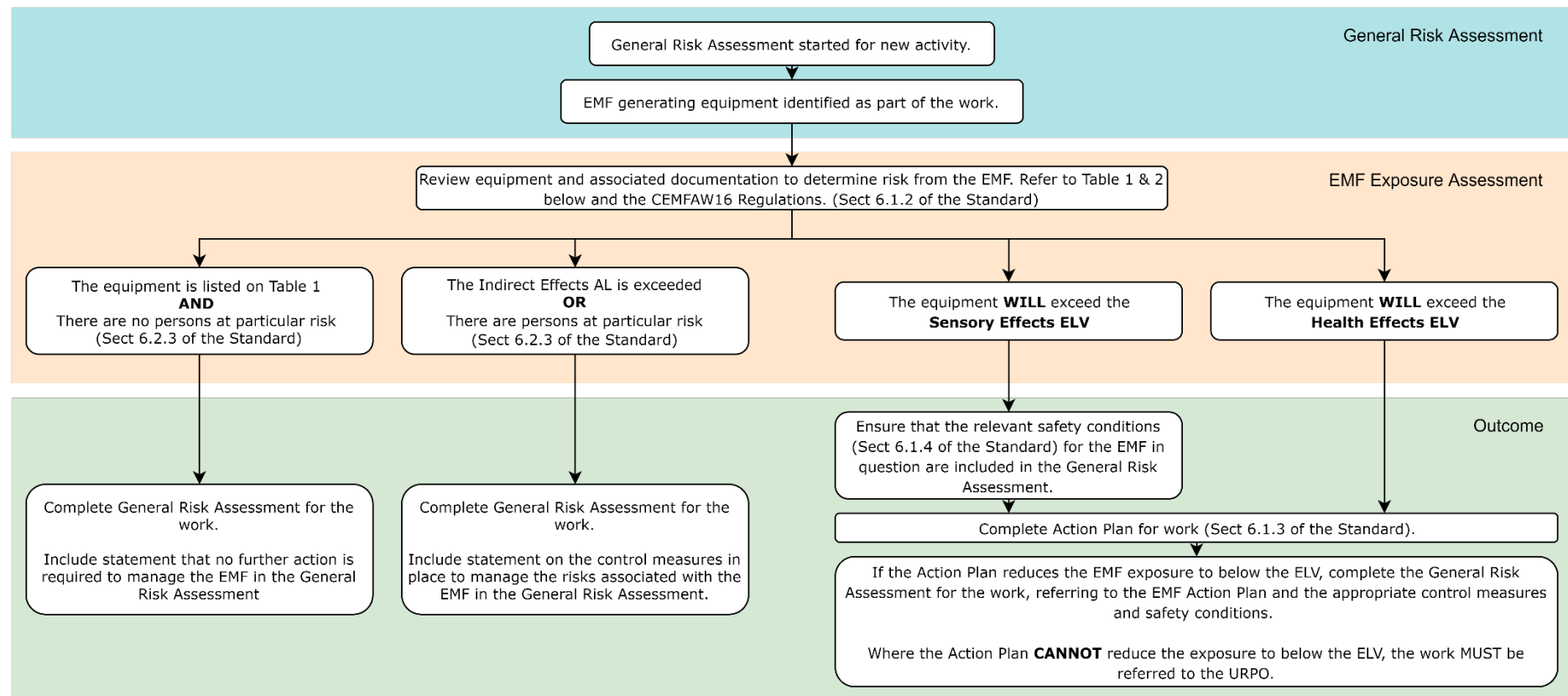


University Health and Safety Information Sheet

DETERMINING THE RISKS FROM EMFS

1. Risk Assessing work involving EMF generating equipment

All work activities involving the use of EMF generating equipment requires a suitable and sufficient risk assessment. The following flow chart facilitates the risk assessment process and identifies where an EMF Action Plan is required. These tables (see Section 1.1. and 1.2) will assist the assessors with following the flow chart.



1.1 Sources of EMF below which will not exceed the indirect effect AL

Table 1 contains examples of equipment that will not exceed the indirect effects action level, and therefore will require only the completion of a general risk assessment for the work activity.

Table 1. Sources of EMF below which will not exceed the indirect effect AL

(This is not an exhaustive list. Where there is doubt, contact the URPO).

Wireless Communications
Landlines, mobiles phones, cordless phones or fax machines.
Wi-Fi or Bluetooth devices including access points.
Office
Any type of AV equipment (e.g. TVs & DVDs)
Computer & IT equipment wired networks (e.g. any form of office IT equipment)
Electric fans, fan heaters and room heaters
Buildings and Grounds
Alarm Systems (e.g. any part of any University building alarm systems)
Base station antennas outside the operators designated exclusion zone (When remaining the specified minimum distance from a radio transmitter)
Electric garden appliances (e.g. lawn mowers)
Electric handheld and transportable tools (e.g. hedge trimmers or drills)
Lighting, including desk lamps
Non-Bluetooth or Wi-Fi household & professional appliances. (e.g. fridges or microwaves)
Electrical Supply
Overhead lines at any voltage crossing the workplace (magnetic Risk)
Overhead lines at any voltage crossing the workplace if the exposure is indoors or if outdoors but not directly below the lines (electrical risk)
Overhead lines at any voltage up to and including 275kV if the exposure is outdoors and directly underneath the lines (electrical Risk)
Any electrical installation where the cables carrying the electrical current are bundled together so that they are always touching or nearly so and there are no unusual earthing arrangements that could create unbalanced currents.
Any electrical installation where the cables or bus bars carrying the electrical currents are separated and the rating of the circuit or that part of it is <100Amps.
Light industry
Coating and painting equipment (e.g. spray-painting equipment for vehicle panels)
Control equipment not containing a radio transmitter (e.g. wired crane remote control)
Measuring equipment and instrumentation with no radio transmitter (e.g. fluke / multi-meter)
Miscellaneous
Non-inductive coupling battery chargers designed for household use (e.g. mains powered Non-Wireless battery charger)
Battery powered portable equipment that does not contain radio frequency transmitters (e.g. torches of portable radios)
Hydraulic ramps
Workplaces containing electrical handheld, portable tools (e.g. workshop with only handheld tools)

This table is non-exhaustive. If the item in question is not listed here, then further assessment must be carried out to determine the potential hazard from the EMF. Where there is doubt regarding the potential hazard and associated risks, then the University Radiation Protection Officer must be contacted for advice.

1.2 Sources of EMF which MAY exceed the ELV and/or the indirect effect AL

Table 2. contains examples of equipment which may exceed the ELV and/or indirect effects AL, and therefore will require the completion of an EMF Exposure Assessment to determine if the ELV is exceeded and whether an EMF Action Plan is required

Table 2 – Sources of EMF which MAY exceed the ELV and/or the indirect effect AL.

(This is not an exhaustive list. Where there is doubt, contact the URPO).

Infrastructure (Buildings & Grounds)
Broadcast and telecoms base stations, inside the operators designated exclusion zone (When working within the specified minimum distance from a radio transmitter in operation)
Radio frequency or microwave energised lighting equipment
Radio and TV broadcasting systems and devices
Electrical Supply
Any electrical circuit or installation where the cables carrying the electrical currents are bundled together so that they are always touching, or nearly so, but the earthing arrangements mean that cables collectively carry an unbalanced load of >100Amps (e.g. main electrical supply to any University building)
Any electrical circuit or installation where the cables or bus bars carrying the electrical currents are separated and the rating of the circuit, or that part of it, is > 100Amps (e.g. substations)
Light Industry
Dielectric heating and welding (e.g. RF induced welding equipment)
Resistance welding: manual spot and seam welding
Induction heating (e.g. AC powered heating ovens)
Induction soldering
Magnetic particle inspection (e.g. crack detection equipment)
Industrial magnetiser and demagnetisers (e.g. tape erasers)
Microwave heating and drying
RF plasma devices including deposition and sputtering
Heavy Industry
Industrial electrolysis (e.g. any form of electrical oxygen producing device)
Furnaces, arc and induction melting
Construction
Microwave drying in the construction industry
Medical
Magnetic resonance imaging equipment
Medical diagnostic and treatment using EMFs (e.g. diathermy and transcranial magnetic stimulation)
Transport
Electrically-powered trains and trams
Any form of RADAR (e.g. air traffic control, weather and long range)

This table is non-exhaustive. If the item in question is not listed here, then further assessment must be carried out to determine the potential hazard from the EMF. Where there is doubt regarding the potential hazard and associated risks, then the University Radiation Protection Officer must be contacted for advice.