

Generic Risk Assessment:

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| <b>Risk Assessment Title: Electromagnetic Fields (EMF)</b>   | <b>Date Reviewed: June 2026</b>  | <b>Review Date: June 2029</b> |
| <b>Overview/Description of Activity:</b> Assessment of the potential exposure of persons to Electromagnetic Fields during work activities at the University of Bath. This assessment only covers hazards associated with EMF exposure; other incidental hazards associated with the operations covered should be included in the specific assessment for the task. | <b>Duration/Frequency of Activity:</b> Activities can vary in duration and length depending on the type of work being carried out. This assessment applies for short term and long term work of any frequency. |                               |
| <b>Location of Activity: University of Bath premises</b>   | <b>Generic or Specific Assessment: Generic Assessment</b>  |                               |

| # | Hazard(s) identified  | Who might be affected and how  | Existing controls & measures   | Severity (a) | Likelihood (b) | Risk Rating (a x b) | Additional control/action required |
|---|---|--|--|--------------|----------------|---------------------|------------------------------------|
| 1 | Exposure to EMF in range 0-1 Hz, e.g. Nuclear Magnetic Resonance (NMR) spectrometers, MRI scanners. | Persons subject to scans, those carrying out the work activity and in operational area. Direct effects may include micro-shocks, nausea, vertigo, metallic taste in the mouth, flickering sensations (magnetophosphenes) in peripheral vision. Indirect effects such as uncontrolled attraction of ferromagnetic objects with risk of physical injury. | <ul style="list-style-type: none"> <li>Equipment manufactured in accordance with requirements of PUWER and Machinery Directive 2006/42/EC (CE marked)</li> <li>Equipment operated by trained, competent persons in accordance with manufacturer's instructions</li> <li>Equipment maintained in accordance with manufacturer's instructions</li> <li>Local operating instructions and risk assessments in place</li> <li>Access control, warning signs and floor markings where required</li> <li>Appropriate PPE provided and worn, e.g., insulating shoes, gloves and protective clothing</li> </ul> | 2            | 2              | 4                   |                                    |

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|---|---|---|--|--------------|----------------|---------------------|------------------------------------|
| 2 | Exposure to EMF in range 1Hz-10MHz, e.g., Use of electric hand held tools | Persons carrying out the work activity.<br>Experience nausea, vertigo, metallic taste, flickering sensations, nerve stimulation, tingling, muscle contraction, heart arrhythmia. Possible shocks/burns from contact currents. | <ul style="list-style-type: none"> <li>Equipment manufactured in accordance with requirements of PUWER and Machinery Directive 2006/42/EC (CE marked)</li> <li>Equipment operated by trained, competent persons in accordance with manufacturer's instructions</li> <li>Equipment maintained in accordance with manufacturer's instructions</li> <li>Local operating instructions and risk assessments in place</li> <li>Appropriate PPE provided and worn, e.g. insulating shoes, gloves and protective clothing</li> <li>Electric hand held tools defined as being below Exposure Levels (<a href="#">HSG281</a>)</li> </ul> | 2            | 2              | 4                   |                                    |

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|---|---|---|---|--------------|----------------|---------------------|------------------------------------|
| 3 | Exposure to EMF in range 1Hz-10MHz, e.g. welding (spot and arc) | Persons carrying out the work activity. Main hazard from magnetic fields.<br>Experience nausea, vertigo, metallic taste, flickering sensations, nerve stimulation, tingling, muscle contraction, heart arrhythmia. Possible skin burns. | <ul style="list-style-type: none"> <li>• Equipment manufactured in accordance with requirements of PUWER and Machinery Directive 2006/42/EC (CE marked)</li> <li>• Equipment operated by trained, competent persons in accordance with manufacturer's instructions</li> <li>• Equipment maintained in accordance with manufacturer's instructions</li> <li>• Local operating instructions and risk assessments in place</li> <li>• Minimise duration of work and proximity to magnetic field (electrodes)</li> <li>• Appropriate PPE provided and worn, e.g., welding visor with filter shade or goggles with correct level of protection, flame retardant clothing and gloves</li> <li>• Warning signs, barriers and restriction of access to work area where necessary</li> </ul> | 3            | 2              | 6                   |                                    |

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|---|--|---|---|--------------|----------------|---------------------|------------------------------------|
| 4 | Exposure to radio frequency (RF) sources, such as mobile phone base stations and other radio transmitters in the environment. University has base stations on buildings leased to companies. | Employees, students, contractors, members of the public | <ul style="list-style-type: none"> <li>• Design of base stations comply with the ICNRP exposure guidelines. Documentation has been provided by mast operators to demonstrate this.</li> <li>• HSG281 Table 2 identifies base station antennas outside operator's designated exclusion zone as being sources which will not exceed the indirect-effect action levels.</li> <li>• Base stations are located on building roofs, a significant distance from persons generally on campus.</li> <li>• Occupational and public exposure zones have been identified by the Mast Operator. These do not impact generally accessible areas of the campus.</li> <li>• Access is restricted to roofs; risk assessment and permit required</li> <li>• Exclusion zones in place on roofs, if work required within exclusion zones permission is required from owner (initiating shutdown of base station) before access is provided to the roof area.</li> </ul> | 1            | 1              | 1                   |                                    |

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|---|---|--|--|--------------|----------------|---------------------|------------------------------------|
| 5 | Persons using general office /household type electrical equipment, e.g., computers, AV equipment, mobile phones, lighting, room heaters, microwave ovens, toasters etc. | Exposure to very low levels of EMF to person/s using equipment                 | <ul style="list-style-type: none"> <li>This type of equipment is determined to be below action levels and so risk is within acceptable levels and no further control is required.</li> </ul> | 1            | 1              | 1                   |                                    |
| 6 | Exposure of "persons at particular risk", e.g. Persons with implanted medical devices, body worn medical devices and pregnant workers                                   | Persons may be more susceptible to effects of exposure to EMF as stated above. | <ul style="list-style-type: none"> <li>A specific risk assessment must be carried out for workers who have declared such a condition.</li> </ul>   | 3            | 2              | 6                   |                                    |