

RISK ASSESSMENT RECORD FORM

Please refer to the accompanying guidance when completing this form

Section 1: Administrative Details

Name of Assessor:

Job Title:

Date of Assessment:

Section 2: Activity/Task

Activity /Task

Provision of an MRI service

Risk:

Fire in the MRI Unit

Area affected:

MRI

Source of Risk (Background):

The MRI scanner contains a powerful magnet that will attract ferromagnetic equipment that fire fighters might wear. This could result in entrapment on the magnet or injury from projectiles.

To enable fire fighters to enter the magnet room the magnetic field must be removed by operating the emergency field shut down button to quench the magnet. To ensure the emergency quench circuit will operate, even if a fire is established, the connecting cables are either fireproof or run in a fire retardant enclose raceway.

NOTE: During a quench cryogenic gas is rapidly exhausted and if the quench vent pipe has been damaged by a fire the exhaust gas may displace oxygen in the magnet room. A quench may be initiated automatically if a fault or over-pressure is detected, such as could occur during a fire. Therefore, evacuation or breathing apparatus will be required in the event of a quench with a blocked pipe.

Supporting Evidence:

Published data on MRI safety. MHRA guidelines on safe use of MRI [1].

Factors the risk contains: (if for COSHH include route of exposure, length of exposure time and exposure limits)

Magnetic fields.

Asphyxiation due to oxygen displacement.

Potential Consequence if risk is realised:

- Death or serious injury due to projectiles or entrapment.
- Death by asphyxiation if quench exhaust gas fills the magnet room.

Section 3: Current Control Measures

Fire procedures are in place and on display in each MRI Unit.

Firefighting equipment provided in the MRI unit is non-ferromagnetic.

Hospital staff with responsibilities for attending in the event of a fire out-of-hours receive MR safety training.

Signage identifies the emergency quench buttons used to remove the magnetic field to allow fire fighters to enter the magnet room with ferromagnetic equipment..The location of emergency quench buttons is indicated on a plan in the MRI Local Rules.

The cable connected to the magnet emergency field shut down buttons, which initiates a quench, will either meet the flammability rating specified within IEC 60601-2-33:2022 or, if indicated in the MRI installation documentation, be installed in a fire retardant enclose raceway (for guidance on raceways see clause 560.8.1 of the current version of BS7671 [2]).

Section 4: Risk Rating

<i>Use the consequence, likelihood and risk score tables in the accompanying guidance to identify the scores below.</i>
Consequence Score:
Likelihood Score:
Risk Score:
Initial Risk Grading:

Section 5: Risk Reduction Options		
Options	Revised Risk Score	Cost
Provide information/training to Fire Service		

Section 6: Agreed Actions		
Actions	Lead	Target Date

Section 7: Risk Grading				
	Consequence	Likelihood	Score	Grade
Initial:				
Current (will be the same as initial to begin with):				
Residual:				

Section 8: Review
Risk Owner:
Planned Review Date:

Reference
[1] MHRA Safety Guidelines for Magnetic Resonance Imaging Equipment in Clinical Use (Medicines and Healthcare Products Regulatory Agency).
[2] Requirements for Electrical Installations, IET Wiring Regulations, BS 7671.