

# STFC QUANTITATIVE RISK ASSESSMENT PRO-FORMA

Ref:	Description: <b>Operations of MICE Superconducting Magnets in Step IV Channel</b>
Assessment Date: 15/07/2015	Location/Site: <b>MICE Hall (R 5.2)</b>
Assessors: Stephen Harrison, Jaroslaw Pasternak	Department: <b>Particle Physics Department (owner),</b>
Assessment Team: MICE	Persons Exposed: <b>MICE magnet experts, MICE shift crew, ISIS crew</b>
Activity/Task: <b>Operations of MICE Superconducting Magnets in Step IV Channel associated with training preparations, magnet training and operations for data taking</b>	

Step 1      Step 2      Step 3:      Step 4:  
What are the hazards?    Who might be harmed and how?    What are you already doing?    What is the level of risk?    What further action is necessary?    How will you put the Assessment into action?

Hazard/Task or Situation	H Harm	L Likelihood	R Risk	Action by whom	By when	Done			
Trip hazard and falling from heights	MICE magnet experts, MICE shift crew, ISIS crew	Safety boots and hard hats in place, personnel instructed to pay extra attention, safety rails in place	Moderate	Unlikely	Medium	Dedicated access platform will be installed. Risk of falling from heights will be mitigated by enforcing presence of at least two members of personnel during the work with this type of risk before the platform is available.	J.Tarrant	August 2015	
Use of tools	MICE magnet experts, MICE shift crew, ISIS crew	Safety boots and hard hats in place, personnel instructed to pay extra attention, appropriate tools carefully selected. Competencies for work in the Hall with magnets energised define two categories:	Moderate	Very unlikely	Low	N/A			

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		magnet experts and MICE personnel. MICE personnel are excluded from crossing the 5G line and are trained not to approach the PRY with ferrous tools.							
Hazard of manipulating cryogens, including filling magnets from dewars	MICE magnet experts, MICE shift crew, ISIS crew	Tasks of manipulating cryogens will be limited to magnet experts only, who accomplished the RAL cryogenic training and will use PPE (protective goggles and gloves), the Hall will be closed and all actions performed under the controlled access.	Moderate	Very unlikely	Low	N/A			
Hazard of shock during electrical tests	MICE magnet experts, MICE shift crew, ISIS crew	The tests will be performed under controlled access by magnet experts only (including hi-pot test)	Moderate	Very unlikely	Low	N/A			
Hazard of shock during magnet energising	MICE magnet experts, MICE shift crew, ISIS crew	The risk is moderate due to very low voltages associated (max 20 V). The risk is also mitigated by minimising the number of open terminals.  The magnet	Moderate	Very unlikely		N/A			

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		energizing will be performed with Hall secured by PPS system.			Low				
Exposure to high magnetic field with magnets on	MICE magnet experts, MICE shift crew, ISIS crew,	<p>PRY is installed and low field limits drawn, however pacemaker and magnetic material surgical implant holders will be excluded during magnet operations.</p> <p>Powering the superconducting magnets requires that the SC Magnet Permit be enabled. This requires that the Hall be searched and locked. Controlled access will be allowed when magnets are on and appropriate competencies have been defined. No magnetic tools and materials will be allowed beyond 5Gs limit. Magnet experts will be allowed to cross 5Gs limit only according to a separate dedicated method statement.</p>	Moderate	Very unlikely	Low	Hall will be searched against left over magnetic materials.	Andy Nichols	19/07/2015	

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Oxygen Deficiency Hazards	MICE magnet experts, MICE shift crew, ISIS crew	Calculations show that the only area where the oxygen level may drop below acceptable level of 19% is the upper mezzanine.	Moderate	Likely	Medium	ODH system will be commissioned. In addition access will be blocked into the upper mezzanine by installing dedicated barriers and sign indicators in all cases, when this hazard may occur.	Andy Nichols	16/07/2015	
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Distribution List:	Signed:	Date:
MICE GLIMOS (A. Nichols)		
MICE Spokesperson (K. Long)		
ISIS representative (Z. Bowden)		
SHE representative (M. Dickson)		
<b>Step 5 Review Date:</b>	<ul style="list-style-type: none"> <li>▪ Review your assessment to make sure you are still improving, or at least not sliding back.</li> <li>▪ If there is a significant change in your workplace, remember to check your risk assessment and where necessary, amend it.</li> </ul>	