STFC QUANTITATIVE RISK ASSESSMENT PRO-FORMA

Ref:	Target	Description:	Inspection and/or swapping over of MICE Target optical fibres
Assessment Date:	28th January 2016	Location/Site:	R5.2 Rack Room 1 / R5.3 ISIS synchrotron / R5.4 RF Hall
Assessor:	J.J. Nebrensky	Department:	PPD
Assessment Team:	HN	Persons Exposed:	Experimenter, Others in vicinity
Activity/Task: The position of the MICE Target is monitored remotely with a laser-based optical system transmitting over optical fibres. The state and connectivity of the fibres is checked by visual inspection of the illumination at the patch panels. Faulty fibres are by-passed by re-arranging the connections at the patch panel. Single-mode illumination fibres are driven with up to 2.5 mW @ 635 nm (Class 3R). Multi-mode return fibres carry some fraction of this.			

Step 1 What are the hazards?	Step 2 Who might be harmed and how?	What are you already doing? (see guidance attached)	What is the level of risk? (see guidance attached)			Step 3: What further action is necessary?	Step 4: How will you put the Assessment into action?		
Hazard/Task or Situation			H Harm	L Likelihood	R Risk		Action by whom	By when	Done
Exposure to laser radiation when approaching work area or working nearby, due to light leaking from system.	Experimenter or others nearby could suffer eye damage if fibres have been damaged exposing the core.	**Engineering Controls:** Jacketed fibres are further enclosed in trunking. The patch panels are enclosed in "junction boxes" (metal cabinets) requiring a key to open. Within said cabinets the bare fibres are within a dedicated opaque splice tray. **Administrative Controls:** Restrict access to Junction boxes to trained members of the MICE Target Group. **PPE:** "Class 3R" laser warning signs on junction boxes	M	VU	Low	None			

Exposure to laser radiation when inspecting splices or inspecting or moving connectors within cabinets.	Experimenter could suffer eye damage while examining fibres or connectors. Hazard limited by blink response and high divergence: beam from SM connector has 7mm diameter (eye pupil) after only 27mm.	**Administrative Controls:** Staff trained not to stare into beam or bring close to face. Turn down source laser power to below 1 mW during inspection.	M	VU	Low	None			
Fragments of glass fibre may cause skin punctures.	Experimenter could suffer skin damage or irritation from fragments of any broken fibres.	**Engineering Controls:** Broken fibre cores or splices will be contained by the jacketing or splice trays. **Administrative Controls:** Tweezers and sharps bin to be provided for any work within splice trays.	S	VU	Low	None			
Ionising radiation around Junction Box C (ISIS Synch).	Experimenter will be exposed to increased levels of ionising radiation due to activation of area from ISIS operation. Planned work must be compatible with the Prior Risk Assessment.	**Administrative Controls:** ISIS synch is a Controlled Area. A System of Work applies. A Radiation Survey must have been carried out since the previous ISIS run. **PPE:** RADOS with appropriate alarm limit must be worn.	M	VU	Low	None			