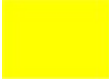





## RISK ASSESSMENT SUMMARY - AUTHORISED Sample Environment Testing and Calibration

Risk Rating  Medium  
Target Risk  Low

### **Introduction**

**Assessment date**

06/09/2019

**Revision No**

4

**Site**

Diamond Light Source Ltd., Life Sciences, Soft Condensed Matter, Lab 38

**Reference**

SC\_SCM/DLS/RA/2014/00157

### **Description/Operations/Activities covered by this assessment**

Testing sample environments for integration into EPICS and GDA

**Assessor carrying out risk assessment**

Paul Wady

**Name(s) of employee(s) consulted**

Andy Smith, Olga Shebanova, Sam Burholt, Luka Krmpotic

**Job title(s)**

Beamline Scientists and EPICS Engineer

**No of people at risk**

2-5

**First assessed**

29/05/2019

**Review date**

04/07/2024

**Groups of people at risk**

Cleaners, Data Acquisition Scientist, Users, Scientists, Engineering Group, Controls Group

**Task/Hazard Analysis**

<b>Task Hazard Effects Groups of People at Risk</b>	<b>Existing Controls</b>	<b>Risk with Existing Controls (S x L)</b>	<b>Further Controls</b>	<b>Target Risk (S x L)</b>
<p><b>Task</b> 01 Maintenance Checking Sample Environments Talks to EPICS</p> <p><b>Hazard:-</b> Trailing cables</p> <p><b>Effects:-</b> Trip hazards trailing cables and hoses Personnel injury caused by sample environment integration</p>	<p>All equipment to be connected with cables, hoses, etc. routed safely away from access routes.</p>	<p>3 x 4 = 12</p>	<p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>	<p>3 x 1 = 3</p>
<p><b>Task:-</b> 01 Maintenance Checking Sample Environments Talks to EPICS</p> <p><b>Hazard:-</b> Manual handling</p> <p><b>Effects:-</b> Manual handling injury from sample environment set up. Personnel injury caused by sample environment integration testing</p>	<p>Large or heavy sample environments to be handled with care. 1 person lift &lt;25 kg, 2 person lift &lt;40 kg Palatized and moved using lift truck (&lt;120 kg), scissor jack (&lt;1000kg). Sample environment to be palletised if possible.</p>	<p>3 x 4 = 12</p>	<p><input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>	<p>3 x 1 = 3</p>

Task Hazard Effects Groups of People at Risk	Existing Controls	Risk with Existing Controls (S x L)	Further Controls	Target Risk (S x L)
<b>Task:-</b> 02 Laboratory Experiments Commissioning tests for sample cells. Will include Temperature, pressure and moving parts depending on Sample Environment <b>Hazard:-</b> Electricity <b>Effects:-</b> Potential Electric Shock	All Equipment must be PAT tested and show up to date labelling	2 x 2 = 4	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	2 x 2 = 4
<b>Task:-</b> 02 Laboratory Experiments Commissioning tests for sample cells. Will include Temperature, pressure and moving parts depending on Sample Environment <b>Hazard:-</b> Heat <b>Effects:-</b> Minor Burns	All furnaces will be labeled to show hot surfaces	2 x 2 = 4	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	2 x 2 = 4
<b>Task:-</b> 02 Laboratory Experiments Commissioning tests for sample cells. Will include Temperature, pressure and moving parts depending on Sample Environment <b>Hazard:-</b> Moving machinery <b>Effects:-</b> Trapped digits	Warning signage to highlight motion might occur. Motion onl to occur by control within lab local to instrument being tested	3 x 1 = 3	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	3 x 1 = 3

<b>Task Hazard Effects Groups of People at Risk</b>	<b>Existing Controls</b>	<b>Risk with Existing Controls (S x L)</b>	<b>Further Controls</b>	<b>Target Risk (S x L)</b>
<b>Task:-</b> 03 Use of Cryogenics Cooling for heating stages, <25l in whole of lab <b>Hazard:-</b> Cryogenics <b>Effects:-</b> Burns	Use appropriate PPE when pouring cryogen from storage dewar to local dewar User to show evidence of competence Unattended LN2 to be labelled	1 x 3 = 3	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	1 x 3 = 3
<b>Task:-</b> 04 Use of Specialist Equipment Testing/calibration of Beamline sample environments <b>Hazard:-</b> <b>Hazard/Effects:-</b> Hazard - Specific Risks to be defined by individual Risk Assessment N/A	To be determined by individual Risk Assessments	2 x 2 = 4	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	2 x 2 = 4

**Risk Factors**

**Severity**

- 1 Trivial effect - First Aid may be required but no lost time(away from work)
- 2 Minor effect - lost time, medical attention and rest of the day off work
- 3 Moderate effect - up to three days off work
- 4 Major injury - more than three days off work or HSE reportable
- 5 Death of one or more persons

**Likelihood**

- 1 Improbable
- 2 Unlikely
- 3 Occasional
- 4 Frequent
- 5 Regular

**Personal Protective Equipment**



Cryo Gloves



Face Shield

**Additional Information**

**Overall controls**

Lab follows a Lab Safety Risk Assessment form

**Health surveillance**

**Workplace Instructions**

**Step by step instructions**

**Equipment needed**

**Training required for the task**

**Personal protective equipment details**

Cryogloves and face mask should be used when transferring LN2.

**Actions**

Task/Hazard	Risk	Further Controls	Person Responsible	Residual Risk	Approved	Action Taken	Target Completion	Date Completed
					<input type="checkbox"/> Yes <input type="checkbox"/> No			

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**Conclusions****Change details****Revision No****Authorisation****Authoriser comments**

New Sample Environments should have their risks assessed and added to this form when used in Lab 38

Authoriser comments by Nick Terrill on 29/5/2019

Comments -

Authoriser comments by Nick Terrill on 6/9/2019

Comments -

Authoriser comments by Nick Terrill on 5/11/2019

Comments -

Authoriser comments by Nick Terrill on 4/7/2022

Comments -

**Authoriser****Date authorised****Linked Documents**