

Laboratory Risk Management Guidelines

Version 1.4

All activities carried out in the CARES laboratories at Level 7, CREATE Research Wing, 1 Create Way, Singapore 138602, must be covered by the necessary risk assessment(s).

The Laboratory Manager must have a soft copy of all risk assessments. The original copy of the risk assessment must be kept by the assessor or the Laboratory Manager. All risk assessments must be reviewed every 3 years basis or when significant modifications to the procedure/equipment(s) take place.

The type of risk assessments required depends on the activity as detailed below:

1. Laboratory activity risk assessment (LARA) and Standard Operation Procedure (SOP):

Any laboratory activities must have a LARA and either a SOP or Operating Manual for the equipment. LARA and SOP beyond their date of validity are not effective. All these documents should be made available to users for reference.

All rigs made in-house must have a separate research apparatus risk assessment (RARA, see item 2 below). All activities involving hazardous chemicals must have a corresponding risk assessment (HSRA, see item 3 below).

1.1. Contractor work:

All contract work should follow CREATE management of contractor and in house rules & policies. Additionally, a Permit to Work (PTW) or a Hot Permit to Work (HPTW) when applicable must be in place. Consult the Building Management Office (BMO) or the lab manager for when in doubt.

The risk assessment forms filled in by the contractor must be signed off by the National Research Foundation (NRF) and BMO.

1.2. Commercial equipment:

All commercial equipment should have an operating manual stored in an easily reachable location near the apparatus or manual cabinets.

2. Research apparatus risk assessment (RARA)

The operation of any composite rigs designed and constructed in-house or any modified commercial equipment must be accompanied by a RARA, all duly signed, with the names of all authorised users indicated on the RARA.

A soft copy of the RARA, the SOP of the apparatus must be made available on CARES dropbox, linked to the corresponding equipment.

2.1. Construction or fabrication of apparatus by CARES members:

The construction, fabrication and commission of apparatus by CARES members must be covered by a LARA form. A RARA and SOP must all be in place prior to the testing phase.

A soft copy of the RARA and SOP of the apparatus must be stored at an easily reachable location near the apparatus or manual cabinets.

3. Hazardous Substances Risk Assessment (HSRA)

All activities involving hazardous substances listed in the MOM WSH Act for hazardous substances must have a completed HSRA.

The HSRA should be completed based on the material safety data sheets (SDS) provided by the supplier. For activities involving a non-commercial substance, where SDS is not available, its hazards should be deemed the same as all the hazards of its raw materials combined, unless there is overwhelming evidence in the literature to indicate otherwise.

A soft copy of all SDS should be stored at an easily reachable location when carrying out your experiment and at the SDS folder of the Lab. In case of emergencies, the Site Incident Controller (lab Manager) should have a hard/soft copy of all SDS in the Lab.

4. Work outside hours

All activities to be performed out of normal working hours (defined as Monday to Friday, 0900 to 1800), must be risk assessed. Permission to carry outside hours work must be granted by the supervisor and lab manager. For medium risk work, permission should be granted after following special criteria specified in the Outside Hours form.