

## Code of Practice J: Use of the Cold Room (CG211)

1. Before using the cold room, researchers should ensure familiarity with the procedures for operation of the room, particularly operation of the door, the location of the emergency button, and the appearance of the luminescent exit markings when the light is off.

### 2. Hazards and Risks

#### (a) Hazards

The main hazards result from the room being a confined space, without windows, that is maintained at a low temperature (4 °C). Additional hazards arise from the noise generated by the cooling fans in the room.

#### (b) Description of Risks

The principal risk from low temperatures is death or serious injury in the event of an accident should a worker be unable to exit the room. This risk is significantly amplified by the lack of windows and low ventilation. The confined space and low ventilation present a risk of asphyxiation from the accumulation of carbon dioxide or other gases that displace air. Volatile chemical hazards could accumulate to dangerous levels. Mould formation presents an inhalation risk from the resultant spores. Noise from cooling fans presents the risk that an activated fire alarm in the building may be inaudible.

### 3. Operating Protocols

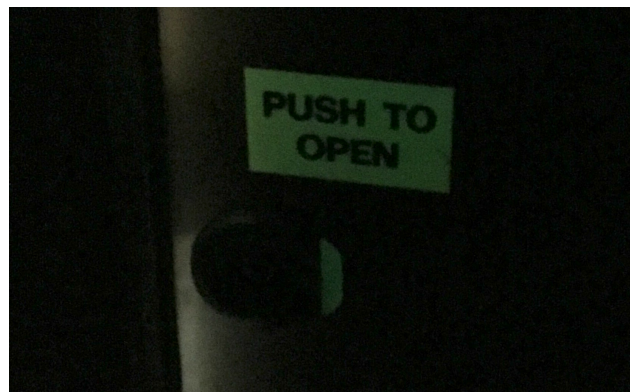
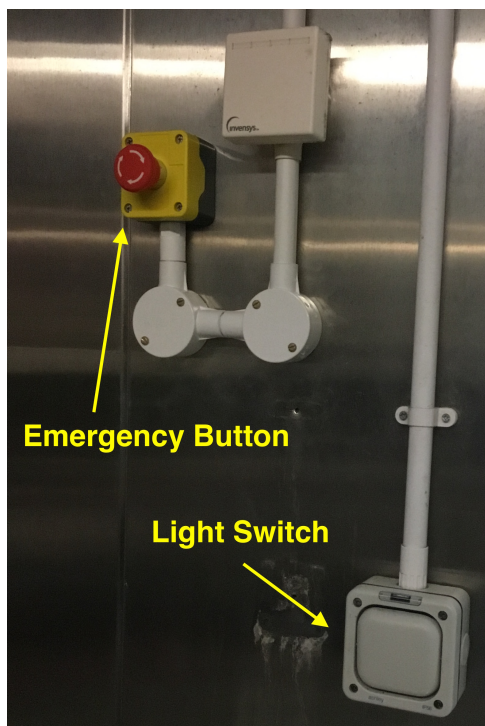
#### (a) General rules:

- (i) Do not **under any circumstances** take cryogenics (carbon dioxide, nitrogen) into the cold room. This includes cryogenics that may have been used for packaging commercial materials. Do not put samples received from external sources into the cold room without checking the packaging materials first.
- (ii) The floor must be kept **free from obstruction**.
- (iii) Materials left in the room must be in plastic, glass or metal containers and labelled with the date and name of the principal investigator. Do not use paper labels.
- (iv) Do not use compressed gases in the cold room.
- (v) Do not take flammable solvents or pyrophoric materials into the cold room.
- (vi) Do not take volatile materials classed as hazardous by inhalation into the cold room.
- (vii) Clean up spillages promptly.
- (viii) Do not leave exposed paper, cardboard, or any other materials with a high cellulose content in the cold room – put these in a sealed plastic bag as soon as possible. Take your waste with you when you leave.
- (ix) Do not take food or drink into the cold room (or leave them there).
- (x) Maximum occupancy is 2 person hours per 24 hours (e.g. 2 people for 1 hour, 1 person for 2 hours etc).
- (xi) Take portable lighting into the room if possible to assist with egress in the event of a power failure.

- (b) **For Short Duration Work** (< 5 min), e.g. depositing material for use later, the door should be left open whilst the work is conducted.
- (c) **For Long Duration Work** (> 5 min), e.g. to perform chromatography, users should discuss their plans with their supervisor and:
  - (i) ensure that there is sufficient time available for the work, within the 2 h per 24 h limit;
  - (ii) use appropriate personal protective equipment (PPE). This includes warm clothing (hat/jumper/gloves) in addition to (underneath) the PPE needed according to the risk and COSHH assessments and good laboratory practice (GLP);
  - (iii) establish protocols for monitoring, usually involving a colleague who can monitor the time spent in the room and periodically check on the wellbeing of the occupant of the room. These protocols need to be agreed with the supervisor of the work and documented;
  - (iv) on completion of the work, ensure that other users are aware of the safe operating time that is remaining.

#### 4. Emergency Measures

The cold room has a red emergency button to signal that help is needed. On pressing the button an alarm sounds in the corridor outside the room. The functioning of the button is checked during routine annual safety inspections. Researchers planning long duration work in the room should check its function immediately before starting their work.



In the event of a power failure, the button to open the door is marked by a luminescent tab, with a luminescent “Push to Open” sign located above it.

J M Sanderson  
Departmental Safety Coordinator  
6 September 2019

(Review date: 6 September 2020)