

## Safety Services

### Guidance on Overnight and Long Term Running of Experiments / Equipment

#### Introduction

1. Unplanned incidents involving long term and overnight running of experiments / equipment can pose a risk to buildings, staff, building users and members of the emergency services especially where chemicals, machinery, gases or power supplies are involved. This guidance note describes good practice in managing such risks.

#### Guidance

2. Where experiments / equipment are intended to run overnight or for longer periods, Schools should establish clear procedures for approving arrangements and risk control measures. These should be described in the School's Health & Safety Policy Statement (in the detailed arrangements) and drawn to the attention of all staff and post-graduate students.
3. Permission to run such equipment should be obtained BEFORE it is left to operate - from a Principal Investigator (or other specified person such as a Laboratory or School Chief Technician, or School Safety Advisor). Permission should be granted only after the production and scrutiny of a suitable and sufficient risk assessment for the work which includes an assessment of the risks associated with leaving the experiment / equipment unattended.
4. The risk assessment should describe basic details such as the location, duration, those involved in the work (and therefore knowledgeable about it), and specify : -
  - Who is to set up the experiment / equipment, their competence and whether any special training required
  - What fail-safe devices or alarms are required (if any)
  - Who will respond to the activation of any alarm, and how
  - How all services connections are to be made, tested and maintained
  - The arrangements for regularly checking that the equipment is still operating safely over weekends, or during holiday periods when the University is shut down
  - Any specific safety risk associated with leaving equipment running for long periods (eg overheating, drying out)?
  - Any hazardous materials used, and what controls are in place to control exposure to them
  - The worst-case scenario if the equipment was to fail e.g. explosion, fire, chemical release, risk of electrocution
  - Control measures necessary to protect those attending in such an emergency
  - Any other risk that might be specific to the site or activity

5. Once the risk assessment has been approved, a permit to run experiment / equipment should be completed, and attached to the equipment. The information included on this should be clearly legible and easy for non-laboratory staff (e.g. Security, Fire Service crews) to understand. A pro forma is given in the Appendix.
6. Schools should establish a system for keeping copies of permits and risk assessments, so that safety personnel can monitor permit operation and cancel permits when required. The system could also provide back-up information in the event of a major emergency when access to a laboratory is restricted by the emergency services or due to a fire or explosion. (For example, School of Chemistry retain copies at a reception point separate from laboratory areas, which is permanently staffed or accessible to authorised persons.)
7. Investigation of incidents arising from the failure of unattended equipment have highlighted the following points which should be considered:
  - The failure of equipment or services should result in a safe shut down, ie equipment should be designed to fail to a safe condition. This may mean fail-safe devices are fitted which guard against the failure of services e.g. water, electricity or gas supplies.
  - Water connections should be screw clip or similar devices. Other connections should also be securely made.
  - Building and University fire precautions should be observed.
  - Stocks of hazardous materials not actually in use should be either removed from the area where the work is to take place or kept within proper stores/cabinets in the area. This especially applies to flammables, gas cylinders and hazardous chemicals.
  - The equipment should be observed for at least one hour under the exact conditions under which it will run before being left unattended.
  - Waste outlets should be checked at regular intervals to ensure they are clear of obstruction (frequency of checks will depend on the circumstances, and this should be stated in the risk assessment)
  - Procedures for isolating services safely should be described in the permit attached to the equipment (so that isolation can be carried out safely, if necessary by Security or emergency services)
  - The effect of an adverse event on other experiments / equipment in the vicinity, which could lead to additional or different risks.
8. The permit should be completed by the PI or other authorised person, and attached to equipment. Contact details and any instructions in the event of an emergency must be clearly indicated. This permit notifies Security that equipment is being left running and should not to be altered under normal circumstances.

## **Security**

9. University Security Service staff should report to Safety Services any instances of equipment found running overnight without authorisation.

10. If any Security Officer encounters a problem with equipment / experiments left running overnight or for long periods they should assess the situation, and have regard to the information displayed, before taking appropriate action.

### **Completion / Cancellation of Permit**

11. On completion of the experiment or if the period of operation is exceeded then the permit should be cancelled. If work re-commences, a new permit should be obtained.
12. On completion of the experiment then the permit should be cancelled. If work re-commences, a new permit should be obtained. If the period of permit operation must be exceeded either an extension should be agreed or new permit obtained otherwise the work should cease immediately.
13. If equipment is found to be running in contravention of any specified and agreed controls such that a significant risk exists or could exist, the permit should be cancelled and this action reported to the school Health & Safety Committee.

**Appendix : Proforma Permit for overnight running of equipment.**

(NB: Former UMIST permits can still be used)

<b>Ref No.</b>		
<b>Permit for Equipment / Experiment to Run Overnight</b>		
School / Department:		
Location of Equipment		Room:
		Building:
Person Responsible		
Contact Details		Room   Tel no
Details of Equipment to Run overnight:		
Period* (*Complete one section)		
PERMANENT (1 YEAR MAXIMUM)	or	TEMPORARY
From:		From:
To:		To:
The following services are required: -		Details of services: -
1. Electricity	Yes / No	
2. Gas	Yes / No	
3. Water	Yes / No	
4. Steam	Yes / No	
5. Fume Cupboard	Yes / No	
6. Cylinder gases		
7.		
8.		
9.		
10.		
Are all service connections wired or clipped?		Yes / No
Are waste outlets clear of obstruction?		Yes / No
How frequently will the equipment / experiment be checked and by whom?		
Approved:  (Supervisor / Head of School)		Date:
Out of Hours Contact Details		
Emergency telephone number		
Shut down sequence:		

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Guidance title:	Guidance on Overnight and Long Term Running of Unattended Equipment
Implementation date:	Issued by Safety Services Mar 2013
Version:	V1.3 (August 2016) Lead update V1.2 (August 2016) personnel update V1.1
Supersedes:	v1.0 Nov 2007
Previous review dates:	N/A
Next review date:	Upon significant change
Equality impact outcome	Initial screening : low
Related Policies:	Health & Safety Policy
Related Procedures	<a href="#">A-Z of documents on specific health &amp; safety topics</a>
Related Guidance:	<a href="#">Guidance on lone working</a>
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