15. CLEANING OF LABORATORIES

15.1.1 Contents:

15.2.1 Aim: To summarise procedures for protection of the heath and safety of laboratory cleaners servicing University buildings on the Edinburgh bioQuarter site.

15.3.1 Introduction: Laboratory cleaning is an essential and valued service delivered to the Chancellor's Building by EQUANS (formerly ENGIE) and to the QMRI and CRM buildings by the University of Edinburgh's Estates Department. The range and complexity of potential hazards in most laboratory environments dictates special provision for the health and safety of cleaners. Changes of cleaning staff, including supervisors, may be fairly regular, and the need for induction safety information and instruction may be significant.

15.3.2 The role of cleaning staff absolutely **does not** absolve staff of the responsibility to ensure that their own offices, workstations and laboratories are kept clean and tidy, and left in a safe state by unplugging unused electrical equipment, *etc*.

15.4.1 Policy: All staff, whether laboratory-based workers or cleaners, have a responsibility to work safely and in a safe environment. Part One of this Section contains guidance for laboratory managers and supervisors, while Part Two contains guidance for cleaning staff. Part Three contains explicit rules for laboratory cleaners. These represent policy related to laboratory cleaning and health and safety support for cleaners.

PART ONE
GUIDANCE FOR MANAGERS AND SUPERVISORS

15.5.1 General Information: The cleaning of floors and hand wash basins and emptying of waste paper bins are the basic tasks that it is reasonable to expect a cleaner to undertake without any specialised training. However, in order to work safely, the cleaner must be made aware of the need always to follow some basic precautions.

15.5.2 Additional hazards arise when general laboratory sinks are also cleaned. If cleaners are expected to clean laboratory sinks, then more detailed information and instruction should be provided to avoid mishandling chemicals, accidents with glassware or potential contamination with biological materials.

15.5.3 Specific arrangements should be made for cleaners working in biological containment laboratories and/or laboratories where radioactive material is handled.

15.6.1 Responsibilities of Laboratory Personnel: Laboratory workers have responsibilities to ensure they take account of cleaners gaining access to the facilities, and that the areas are safe for cleaners to carry out their work. It should be noted that much of the cleaning operation takes place after laboratory staff have left the building at the end of their normal working day. Laboratory workers must ensure that communication is adequate so that cleaners are not put in a position where they themselves have to make a decision as to whether the laboratory is safe to clean or not.

15.6.2 Laboratory workers should check, each day, before they finish work, that no hazardous items have been left in areas where there is the potential for cleaners to disturb them and compromise the cleaners health and safety. In particular:

- Where cleaners are expected to clean laboratory sinks, both the draining board area and the sink itself should be free of glassware or other items of equipment;
- Chemicals should not be stored on the floor, unless in purpose-built facilities, but stored instead in suitable chemical store cupboards, of construction appropriate to the hazard(s) that they present. Liquids should be stored on drip trays. Flasks containing culture supernatant should be placed in some type of secondary containment to prevent them from being knocked over and damaged during floor cleaning (and also during routine laboratory work);
- Sharps bins must not be overfilled;
- Small, working amounts (up to 500*mls*), of chemicals that may be within the open laboratory should be securely closed and labelled with the name of the chemical and, where appropriate, hazard warning pictogram(s). Such chemicals should be placed to the rear of the bench. Corrosive chemicals should not be left on the open bench overnight;
- Where hazardous experiments are left running overnight, it may be appropriate to exclude cleaners from the laboratory by way of the entrance door being locked and warning signage being displayed. An exception to this may be, subject to risk assessment, if the experiment is (for example) wholly confined within a fume cupboard with the sash fully closed;
- All apparatus left running overnight must be clearly labelled, providing information about actions to be taken and the person(s) to be contacted in the event of an accident involving the equipment;
- Cleaners should not be expected to clean laboratory benches. An exception to this may be where the benches have been completely cleared of all hazardous

materials/items for periodical deep cleaning of the laboratory, but this would be subject to special arrangement with cleaning supervisors;

- Hazard warning signs should be used judiciously. For chemical hazards these should be affixed to bins, bottles, *etc*. that contain the relevant hazardous material, and directly to (or adjacent to) equipment that presents the particular hazard that the signage applies to. For these types of hazards, an abundance of warning signs should, generally, not be affixed to the exterior of laboratory doors, as this may confuse both cleaners and any attending firefighters. However, in the case of biological and radioactive hazards, there are requirements to display the appropriate hazard warning signs at the point of entry to the laboratory or area;
- The other exception to the above is where a hazard has the potential to immediately adversely affect the health or safety of a person entering the laboratory (*e.g.* strong electro-magnetic field/person with pacemaker fitted), when (again) signage should be affixed to the point of entry. As individual cleaning staff may change without the prior knowledge of the laboratory manager, it is suggested that cleaning staff are excluded from such areas and that cleaning is either undertaken by laboratory staff, or by cleaning staff only under the direction of the laboratory manager after he/she has discussed and assessed the particular risks with the individual(s) concerned; and
- All pressurised gas cylinders must be securely fastened, in an upright position, by the use of purpose made clamps, brackets and chains/belts, and their presence indicated by the display of suitable signage.

15.7.1 Biological Containment Levels One and Two Laboratories: Particular risks to cleaners within these areas should be identified by laboratory managers and, where necessary, relevant additional information and instruction, which may vary depending on the specific nature of the work being done in the laboratory, be provided to cleaning supervisors. In some cases it may be more appropriate for laboratory staff to be in attendance whilst "Containment Level 2" laboratories are being cleaned in order to ensure an appropriate level of supervision and provide assistance in the event of accidents, *etc*.

15.8.1 Radiation Supervised Areas: In the case of areas designated as "Radiation Supervised" because of the use within these areas of unsealed sources of radioactivity, cleaning staff may work without any special precautions only once the source of radioactivity has been properly re-contained by laboratory workers. In the case of areas designated as "Radiation Supervised" because of a contamination risk, cleaning staff must not undertake any cleaning unless explicitly advised by the laboratory staff that they can safely do so. The distinction will be made clear by the use of a notice placed on the door leading into the area concerned. Unsupervised cleaning staff will clean only the laboratory floor in these areas. Any other part of the laboratory will be cleaned only at the specific request of members of laboratory staff who are competent to supervise the cleaner(s) and who remain present in the laboratory while that is being done.

15.9.1 Biological Containment Level Three Laboratories and Radiation Controlled Areas: Routine cleaning of biological "Containment Level 3" laboratories and "Radiation Controlled Areas" is to be undertaken *only* by authorised laboratory staff. However, arrangements may be made for cleaning staff to clean these areas during periods of temporary shutdown, when the areas have been made safe by laboratory staff for cleaners to operate under a permit-to-work system. This arrangement is considered satisfactory as long as appropriate control and supervision arrangements are in place to ensure the safety of the cleaning staff concerned.

15.10.1 Provision of Information and Instruction: All cleaning staff should be given instructions on things that they should and should not do whilst working in laboratories, with a brief explanation of why it is important to follow simple basic rules. It is recommended this be discussed with them when they first start work in the laboratories and then be re-enforced and supported by provision of appropriate written or verbal information and instruction. Due regard should be given to ensuring the information is understood by any cleaners who are not necessarily fluent in English. The cleaner should be given time to think about what they have been told and given to read, and they should feel able to ask questions or express any concerns they may have about working in the laboratories.

15.10.2 The University's support services organisation provides a verbal induction programme for University-employed cleaners that covers the relevant basic information. However, senior laboratory managers should consider the need to provide additional information to cleaners who may be working where there are specific hazards, or where the need for the cleaning of a particular area is uncommon. Training is also available, upon request, from the Health & Safety Manager for University buildings on the Edinburgh bioQuarter campus.

15.10.3 Where laboratories are cleaned by staff other than those employed by the University's support services organisation, laboratory managers should provide those personnel with relevant information and instruction in order they can carry out their work safely.

15.10.4 Where contract cleaners are working in laboratories, they too should be provided with information on the nature of the hazards in the area, supplemented with adequate instruction to ensure they work safely. However, in this case it is the responsibility of laboratory managers to provide the information to the contractor, rather than to the individual cleaners. The contractor, having been notified of the risk and control measures to be taken to work safely, is then under an obligation to pass the information on to their employees. This Section could be used to form the basis of information provided to contractors and cleaning supervisors.

15.11.1 Supervision and Monitoring: Laboratory managers have responsibilities for people working in their areas, and should monitor and review the arrangements in place to ensure that they are working effectively. Managers should, therefore, satisfy themselves that cleaners are working safely in their laboratories, irrespective of who employs them.

15.11.2 A named person should be designated as responsible for ensuring the safety of cleaners whilst cleaning a laboratory complex. Local Health & Safety Advisers will provide support and assistance as appropriate, and the local Radiation Protection Supervisor will do likewise for supervised and controlled radiation areas.

15.11.3 Cleaners provided by the University's support services organisation will have a supervisor whose role is not limited just to whether the laboratories are being cleaned satisfactorily, but also to give due regard to health and safety matters. The named person should monitor the cleaner's activities to ensure the requirements are being met. Any problems that may be identified should be taken up with the cleaner's supervisor rather than individual cleaners.

15.11.4 For contract cleaners, the named person should provide the information and instruction discussed above, and they should monitor the cleaner's activities to ensure the requirements are being met. Any problems that may be identified should be taken up with the contractor rather than individual cleaners.

PART TWO
GUIDANCE FOR CLEANERS WORKING IN LABORATORIES

15.12.1 Introduction: This guidance is designed to help the provision of safety instruction to cleaners whose job involves them entering and working in a laboratory. It is important that everybody who carries out such work is fully aware of and understands the information, by whatever means it is communicated. The following information can also be provided to the relevant staff as a support to the instruction.

15.13.1 General Hazards: As well as any normal workplace risk such as slips and trips, electricity *etc*, laboratories invariably use chemicals, and some might also use micro-organisms and radiation. By using basic hygiene precautions, allied to common sense, and following some simple rules, cleaners can be safe whilst carrying out their work in laboratories where chemicals, micro-organisms and radiation are used.

15.14.1 Chemicals: Not all chemicals are harmful, but some are, with vastly differing effects, such as irritation of the skin or lungs, burns, or illnesses such as asthma.

15.15.1 Micro-organisms: These are often commonly referred to as "germs" or "bugs". Many of them are quite harmless, but it is possible that in some cases if people come into close contact with these germs they may be infected and in some instances become ill. Researchers often work with micro-organisms or use samples or materials that may contain them (for example, blood and tissues). This type of work has to be carried out in containment laboratories and there are three different levels depending on the type of materials present:

Containment Level 1 - The germs are unlikely to cause any harm

Containment level 2 – Risk is intermediate between levels one and three

Containment level 3 - The germs may cause serious illness

15.15.2 You can tell the type of lab by the number shown on the sign at the door. The signs look like this:

15.15.3 You may clean Containment Level 1 and 2 laboratories once you have been given instructions on how to work safely within these. In some cases, additional information and instruction may need to be given before you begin working in Containment Level 2 laboratories. You are not allowed to enter Containment Level 3 laboratories unless special arrangements have been made. Such facilities will display a Containment Level 3 sign at the entrance, and these will be locked when not in use.

15.16.1 Radiation: There are also three different categories of laboratories where radiation or radioactive material is used:

Non-designated - Risk from Radiation is very small

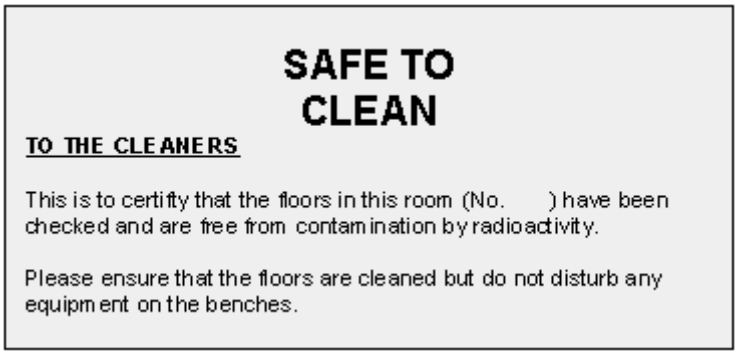
Supervised Area – Risk is intermediate between non-designated and “Controlled”

Controlled Area - Risk from Radiation is high

15.16.2 You can tell the type of lab by the sign at the door. There is no sign for non-designated areas. The signs for Supervised and Controlled areas look like this:

15.16.3 Non-designated areas - You may enter without any special controls to clean the floors. Normally, you should only clean the floor. If laboratory staff would like you to clean other parts of the laboratory, they will provide specific instructions.

15.16.4 Supervised Areas - Laboratory staff have to put all radioactive material away and check that there is no residues before you may enter to clean the floors in these. You will know that it is okay to enter because there will be a notice on the door which looks like this:



SAFE TO CLEAN

TO THE CLEANERS

This is to certify that the floors in this room (No.) have been checked and are free from contamination by radioactivity.

Please ensure that the floors are cleaned but do not disturb any equipment on the benches.

15.16.5 Normally, you should only clean the floor. If laboratory staff would like you to clean other parts of the laboratory, they must be in the laboratory with you, and provide specific instructions.

15.16.6 Controlled Areas - You must *not* go into Controlled Areas.

RULES FOR CLEANERS IN LABORATORIES

15.17.1

DO

- *Always* wear the overall that has been provided and see that it is properly fastened. Keep your overall apart from your outdoor clothing, and do not take your overalls home to wash. Do not wear your overall in the staff room or canteen; take it off when you go for your break.
- Wash your hands regularly, and *always* when you have finished work or stop for a break. Before you start work, always cover cuts and grazes (however small) with a waterproof dressing until they are fully healed. Feel free to use sticking plasters from any of the first aid boxes within the building for that purpose,
- When cleaning sink areas, *always* wear gloves.
- *Immediately* report any accidents or incidents (including if anything is leaking or knocked over) to the person in the laboratory and also your supervisor.

15.18.1

DO NOT

- Do *not* attempt to clear up after an accident unless a member of the laboratory staff has told you it is safe to do so. Never pick up broken glass with your fingers; use a dustpan and brush. If there is no-one around to tell you whether or not it is safe to clear up a spillage, then you should put out some hazard warning signs and leave it for the laboratory staff to deal with.
- Do *not* eat, drink, smoke, chew or apply cosmetics in the laboratory. Never put *anything* mouth whilst you in the laboratory. This includes pens, pencils, tools, cables, fingers, *etc*. Do not take food, drink, cigarettes, overcoats *etc* into the laboratory. These must be left outside the laboratory.
- Do *not* touch anything whilst in the laboratory unless required to do so to carry out your work and you have been told it is safe to do so by your supervisor. In particular, do not touch anything on the benches and only move things on the floor if you have been told it is safe for you to do so. Do not touch, empty or move things in the laboratory sinks unless you have been told exactly what you can or cannot do.
- *Never* attempt to clean up a spillage of unknown material, no matter how harmless it may seem (*e.g.* many hazardous chemicals may look like water, but can damage your eyes, skin or lungs); always get advice from laboratory staff if there is a spill.

15.19.1

IF

- If you have an accident and injure yourself, especially if you break the skin or get something in your eye or mouth, you *must* inform your supervisor at once and see that the details are committed to an accident report. If you become ill, you should tell your doctor where you work so, if necessary, they can talk to someone in the University about what you do.
- If you accidentally spill a chemical on your skin, *immediately* place the affected area under running water for approximately 15 minutes, or until a colleague has obtained knowledgeable assistance. If you have to go to hospital, take a note with you of the name of the substance, as shown on the label of the container.
- If you have any doubts that it is safe to start or continue work, then you should you should *not* start or continue until the matter is sorted out. You should report any such problems to your supervisor.

15.20.1 Waste Management: Information regarding aspects of waste management for University buildings on the Edinburgh bioQuarter site are described in Section 18 of this Manual.

15.21.1 Further Information: The University's Health and Safety Department may be contacted for further advice (Tel: 514255 or email: Health.Safety@ed.ac.uk).

15.21.2 General information on procedures for cleaning laboratory areas appears on the University's Health and Safety web site:

https://www.ed.ac.uk/health-safety/guidance/laboratories-workshops/cleaning-maintenance

15.23.3 If you have a query that relates specifically to biological safety matters, then contact the University's Biological Safety Adviser (Tel: 514245 or email: Biosafety@ed.ac.uk) or, for radiation matters, the University's Radiation Protection Adviser (Tel: 502818 or email: Radiation@ed.ac.uk).