

CODE OF PRACTICE Safe management of lone working

Version 1.1



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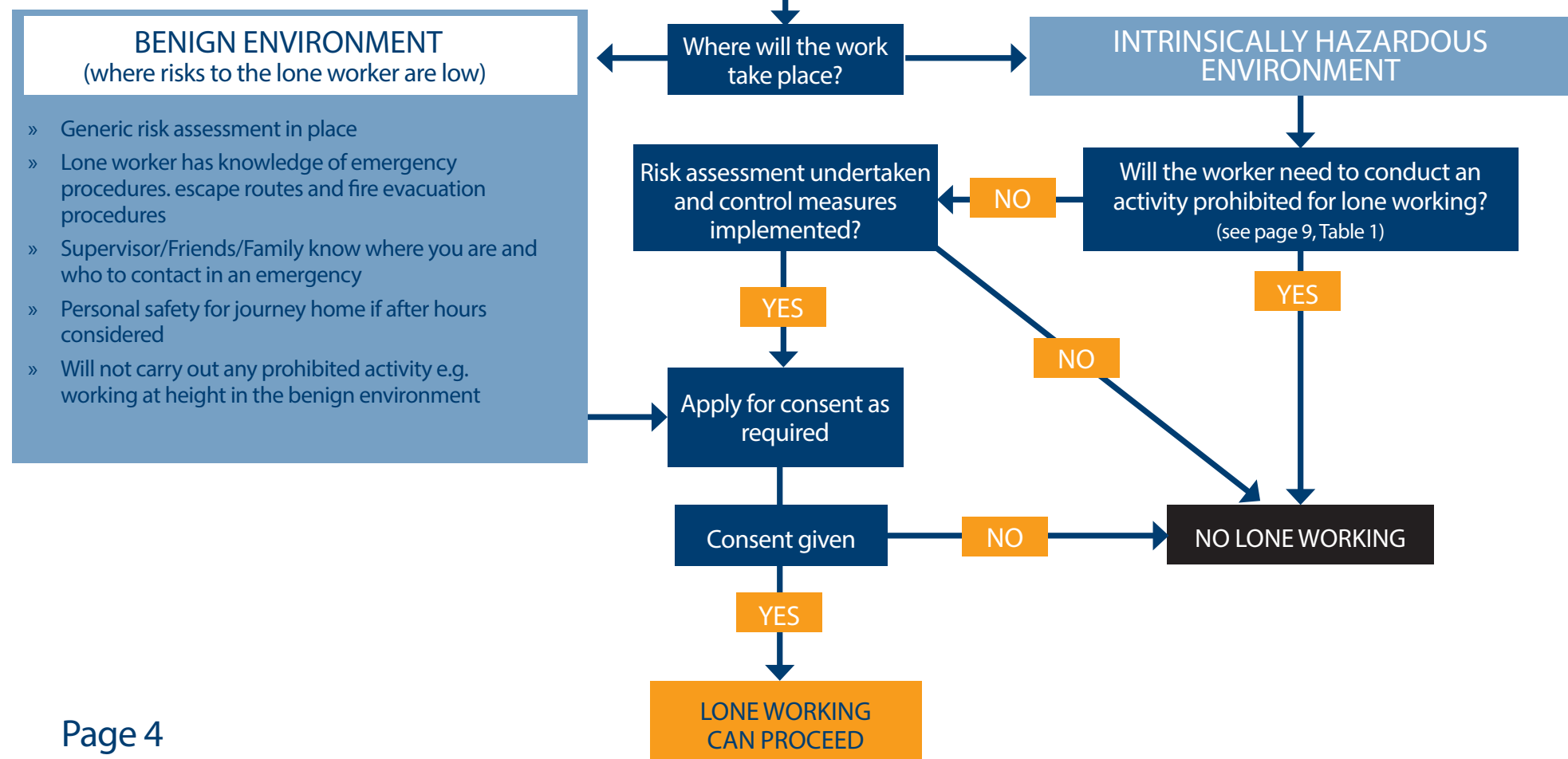
Introduction



1. The College recognises that staff and students occasionally need to work alone and that it has a responsibility to assess risks to lone workers and to take steps to avoid or control these risks.
2. Compliance with the College Lone Working Policy is mandatory and this Code of Practice (CoP) is a supporting document that must be used to assist in achieving the objectives outlined within the policy. It must be noted that this CoP does in some respects only describe a minimum compliance standard for safe lone working and Faculties are free to raise these standards within their own areas. In all cases, Imperial College must strive for best practice when controlling lone work.
3. The main thrust of this CoP is to consider how lone working can best be safely managed in laboratory, workshop and office environments on College premises. Circumstances where lone working relates to more specialised situations such as off-site working or working in spaces shared with other organisations are referenced but not considered in detail since further information exists elsewhere.
4. The procedures and requirements for lone working, as detailed within this CoP are summarised within Figure 1.



Figure 1: Summary of College lone working procedures



Definitions

LONE WORKING is where a person is by themselves in the workplace without close or direct supervision or contact with others capable of providing assistance. In practical terms, lone working is when only one person is working in an area and there is no one to provide help with the task or immediate assistance if required.

Lone working is not usually where a person finds themselves alone temporarily e.g. where the co-worker has briefly left the room, but where staff and students are knowingly and foreseeably placed in circumstances in which they undertake work activities without direct or close supervision.

BUILDING ACCESS HOURS define the period where staff and students are permitted access to a particular building. This is controlled by the electronic access control system. The building access hours are unrelated to any safety considerations and access hours can vary between different buildings and campuses.

OUT OF HOURS WORK is defined differently across the College's Faculties and Departments. This College Lone Working CoP does not make distinction between lone working in 'normal working hours' and that carried out 'out-of-hours' however it is essential that the time at which lone working will take place is considered within the activity risk assessment as risks and controls available will differ depending on the time of day.

CORE SERVICES are medical assistance, Occupational Health provision, Fire Office services, Estates Facilities and Security services. Certain arrangements for these will vary between campuses and will differ depending on the time of day. On the medical campuses, there is also a reliance on services provided by site partners rather than the College.

INTRINSICALLY HAZARDOUS ENVIRONMENT is where significant or complex hazards exist. Examples would typically include laboratories and workshops.

BENIGN ENVIRONMENT is where the function of the area, or the work activities undertaken within, either present insignificant risks to the lone worker, or risks that are easily managed. Examples would typically include offices, libraries and computer labs.

PROHIBITED ACTIVITIES are those where lone working is prohibited by risk assessment, law or by College, Faculty or Departmental policy.

BUDDY SYSTEMS are defined as the practice of pairing two or more people together to provide safety assistance and an appropriate and effective response in the event of an accident or emergency. The need for a buddy is identified by risk assessment. A buddy must;

- be physically close enough to the lone worker so as to be able to respond quickly.

- have access to all areas in which the lone worker will be working
- have sufficient knowledge of the process being undertaken and must be able to provide assistance in the event of an emergency

In all cases, the buddy must have the means by which to maintain contact with, and regularly check on, the lone worker. The buddy must also always understand what it is that they are expected to do in the event of an emergency.

EMERGENCY RESPONSE

PROCEDURE (ERP) is a College document to assist those attending to an incident in an Access Controlled Area. The document includes details of the hazards within the area and contact details for those responsible. This document must be displayed within the vicinity for all Amber and Red Access Controlled Areas.

Responsibilities

LINE MANAGERS

5. Line Managers are responsible for ensuring that:

- staff, students and contractors are made aware that lone working should be avoided where reasonably practical, and that certain lone working activities are prohibited at the College.
- lone working is justified.
- the implications for lone working are considered in the risk assessment for the activity or area.
- their own procedures for the management of lone working are developed and implemented.
- where required, and appropriate, consent for lone work is recorded using the College online lone working [form](#).
- any additional control measures specifically identified within the risk assessment as a condition of lone working are implemented, validated and monitored.
- lone working buddies carry out their duties.
- an emergency response procedure is

developed and implemented where appropriate (see section below on Emergencies)

- the lone worker and designated buddy is competent in the work technique, use of control measures and understands the emergency procedures.

THE LONE WORKER

6. The lone worker is responsible for ensuring that:

- alternatives to lone working have been considered.
- where required, consent has been obtained before lone working is undertaken.
- his or her manager / supervisor or safety officer is informed if they have a health condition, are taking medication or have a disability that may increase risk from lone working. Guidance on when disclosure may be appropriate is on the Occupational Health website.
- the identified control measures are followed in practice.
- they understand the emergency response procedures.

- the manager or supervisor is informed immediately if there are any problems or changes to agreed arrangements.
- they keep within the scope of the agreed work and work areas.

THE LONE WORKING BUDDY

7. Any person acting as a lone working buddy must;

- Ensure that they fulfil the expectations placed upon them as lone working buddies.
- Be confident that they could respond to any reasonably expected emergency.
- Ensure that they understand the activities being undertaken by the lone worker.
- Check on the lone worker at the agreed intervals.
- Remain contactable at all times whilst acting as a buddy.
- Ensure that they check that the lone worker has completed their task and has left the area by the agreed time.
- Ensure that they have access to the area in which the lone worker will be located.

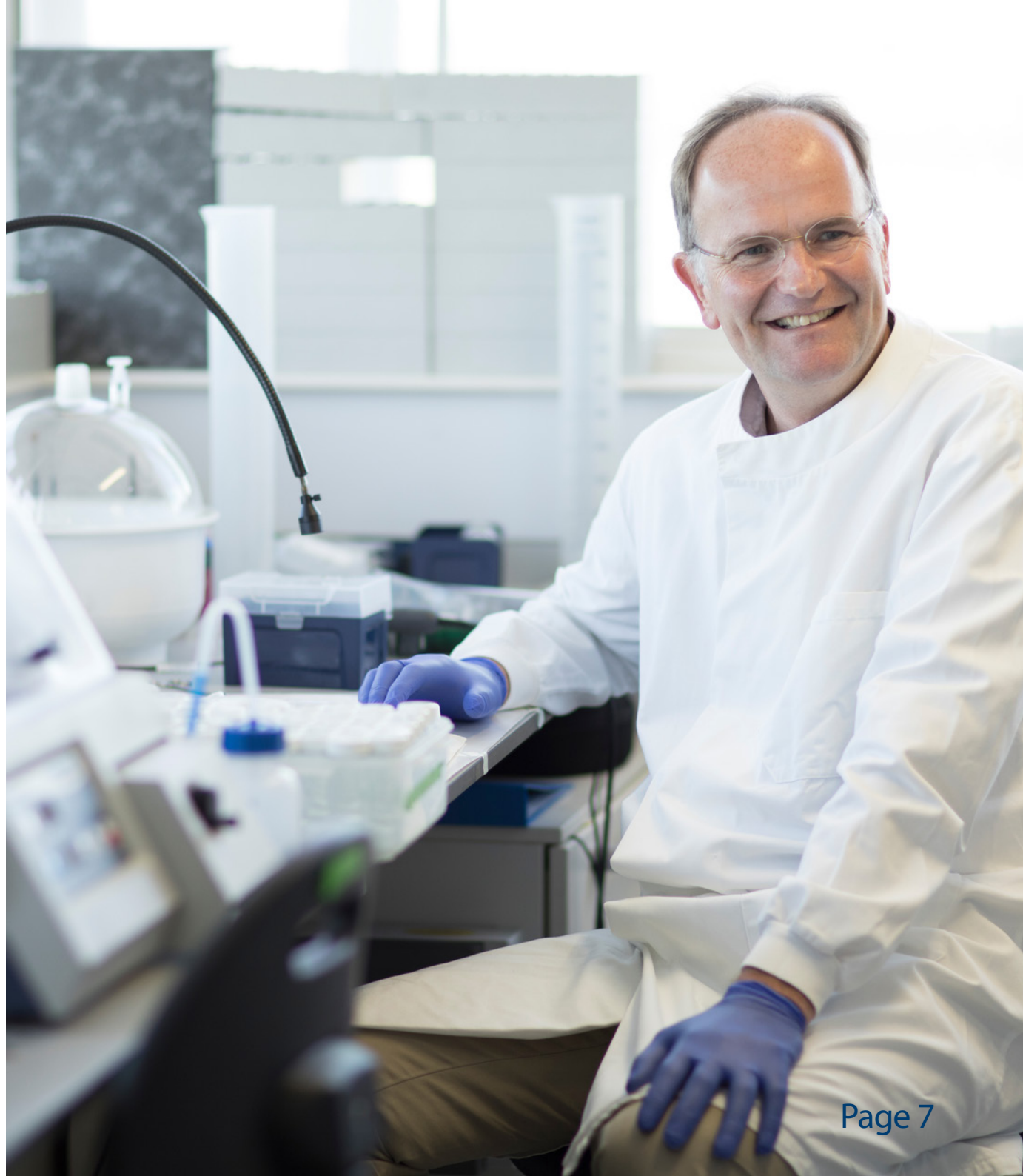
Responsibilities

SECURITY DEPARTMENT

8. Security arrangements (building access periods, core provision of security and first aid services, and Security contact telephone numbers) may vary between campuses and buildings. The Head of Security is responsible for:
- Providing up-to-date information on local security arrangements to Heads of Departments and Building Managers.
 - Working with Heads of Department/ Division to control access to their Departments/ Divisions, both during and outside normal working hours.
 - Providing security response and general first aid requirements
 - Defining the role of Security staff with regard to emergency response procedures.
 - Informing Heads of Department of instances of non-compliance with building access periods.

BUILDING MANAGERS

9. Building Managers are responsible for ensuring building occupiers are informed of building-related issues which might increase the risk to those who work alone or outside of normal working hours. This could include for example planned works to local exhaust ventilation such as fume cupboards, gas extraction systems or safety cabinets.



Risk Assessment

10. College policy reflects the legal requirement for risk assessments to be in place for all activities or areas. The extent and detail of the risk assessment required will vary depending on the risks associated; the assessment for working in a benign environment, such as an office, will by nature be less rigorous than that required for work in an intrinsically hazardous environment, such as in a cryogenics storage facility.

11. The main factors to consider when risk assessing lone working are:

- Does the workplace present a special risk to the lone worker? Is there a risk of the lone worker becoming entrapped or incapacitated so as to be unable to summon help?
- Is there a safe way in and out for one person? This is unlikely to be relevant to laboratories and offices but may be a consideration for specialised maintenance tasks or working in places that are infrequently accessed.
- Can equipment be safely used by one person? This will be particularly pertinent to laboratories and workshops.
- Will hazardous substances be used that will pose a risk to the lone worker? The quantity and the way the substances are handled should be considered in addition to the intrinsic hazard presented by the substances.
- When will the lone working take place

and what core services will be available so as to provide support in the event of an emergency?

- Does the work involve lifting objects too large for one person to handle? This will apply to general manual handling issues anywhere.
- Is more than one person needed to operate essential controls for the safe running of equipment or workplace?
- If a buddy system is required, how far away can the buddy be from the lone worker?
- Will the lone work be carried out in a secure or isolated area where it is difficult to be able to assist a lone worker in the event of an emergency?
- Is there a risk of violence? Not a major consideration in most College circumstances but may be an issue when working off site or returning home having left work during hours of darkness.
- Are young, pregnant or disabled workers particularly at risk if they work alone? Occupational Health are able to advise on pregnancy issues and anyone with a disability or medical condition will need special consideration before being permitted to work alone.
- Are there any other reasons why the individual (for example a trainee) may be more vulnerable than others?

12. There are three possible outcomes from the

risk assessment:

- A. Lone working is forbidden. It cannot be justified as the likelihood of mishap is unacceptably high and/or the consequences of mishap so significant, that the activity cannot be satisfactorily managed. The list of those activities for which lone working is prohibited by College policy or the law can be found in Table 1 (see next page). Those undertaking risk assessments for College activities must identify any other particular incidences for which lone working must not be allowed.
- B. Lone working is acceptable without any enhanced controls. This may be the case in benign environments where a simple set of generic precautions apply and specific consent to lone work is not considered mandatory.
- C. Lone working is acceptable with amended procedures and suitable controls. The controls must be documented in detailed protocols. Formal consent may be required and where this is the case, a record of this consent must be kept. Control measures and consent procedures are described in the following section.

Table 1 - activities for which lone working is prohibited at Imperial College

Activity	Lone working policy	References
All working with liquid nitrogen in Type 1 liquid nitrogen facilities (i.e. those supplied with liquid nitrogen from external static vessel via super insulated vacuum line)	Prohibited - at least two people must be present in the room when liquid nitrogen is being handled or automatic fills are underway.	CoP: Storage, Use & Transportation of Liquid Nitrogen on College Premises
Lone work in type 2 liquid nitrogen facilities (i.e. those with pressurised liquid nitrogen vessels)	Prohibited unless it can be shown by risk assessment that it is safe to do so	
Filling of equipment, e.g. magnets in Type 4 liquid nitrogen facilities	Prohibited - at least two people must be present in the room when the magnets are being filled.	
Using ladders as a means of access	Prohibited if a ladder exceeds 1.5m and cannot be secured without a second person 'footing'	Work at Height Regulations & College guidance on safe use of ladders
Use of dangerous machinery where there is a risk of entanglement, entrapment, crushing, impact, or injury from cutting or shearing, stabbing or puncture	Prohibited as assistance must be available at all times.	
Electrical work involving manipulation of live, uninsulated power conductors at ~240 volts using insulated tools	Prohibited - at least two persons must be present	Electricity at Work Regulations
Other work on, or near, bare live conductors where a person working on their own would not be capable of undertaking the work safely without assistance in, for example, keeping other persons from the work area	Prohibited - at least two persons must be present	
Confined spaces defined by the Confined Spaces Regulations	Prohibited - precautions as required with the Confined Spaces Regulations and College requirements must be implemented	Confined Spaces Regulations

Control measures for lone work

MODIFICATION OF THE TASK

13. With a bit of thought and planning, it may be possible to modify the task so as to reduce the risk to a lone worker e.g. by omitting a hazardous step in the procedure or carrying it out in advance earlier in the day when others are around to assist.

BUDDY SYSTEMS

14. As described in the definitions section. Buddy systems are commonly applied in many areas including in the College's high containment microbiological facilities. It is essential that the lone working buddy must:
 - check on the lone worker - the frequency of these checks will depend on the type of work being undertaken
 - be able to assist the lone worker in a timely manner
 - have access to the location of the lone worker
 - be trained and capable of providing assistance.
15. Reliance on buddy systems (where the buddy is not in the immediate vicinity of the lone worker) is not appropriate when the activity being undertaken requires two persons to conduct safely, or, if any emergency associated with the activity would necessitate an immediate response.

LONE WORKING ALARMS

16. There are a multitude of products that are commercially available. The simplest type only alarm locally and respond to changes in physical position. Other more sophisticated versions send a signal to a manned base station. Where used, it is essential that the response to an alarm sounding is developed and that this is communicated with all those that could be involved. A comparison of lone worker alarms is available on the Safety Department website.

CCTV AND WEBCAMS

17. These represent relatively simple and commonly used engineered controls for lone working. Options include the siting of screens immediately outside the area to enable the occupants to be seen without entering or an arrangement where a buddy sits in an office with an image of the room displayed in the corner of their computer. If cameras are used as control measures, how actively the screens are monitored must be identified within the risk assessment.

MOBILE PHONES

18. Most staff and students possess a mobile phone, either personal or provided by the College. A signal should be obtainable in most parts of College premises, though there are areas where this is not the case. Nevertheless, they form the simplest means of communication (other than shouting for

help) and it is prudent to carry them at all times, where permitted. Note that there are certain areas within the College in which the carrying of a mobile phone is not permitted. Such restrictions must always be complied with and alternatives used.

ADMINISTRATIVE CONTROLS

19. Working to a documented protocol, obtaining consent and defining the time period in which you expect to be present on site is essential when lone working. Common precautions will include:
 - Ensuring that the Line Manager or Supervisor knows that lone working takes place and that the lone worker understands the precautions described here.
 - Ensuring that the lone worker knows that they must inform their line manager or supervisor, or Occupational Health if they suffer any medical condition or vulnerability that puts them especially at risk. If they do disclose any such condition, then specific consent will be required.
 - Ensuring that the lone worker knows the emergency contact numbers for their building / campus, the escape routes from the building, assembly points etc. These represent the things that all staff should know for normal working

Control measures for lone work

arrangements.

- Carrying a mobile phone at all times, except where their use is prohibited. Also be aware that mobile phone reception across all areas of the College Estate is not guaranteed, especially in basements and tunnels. If a mobile phone cannot be used, then the lone worker must ensure that they have access to landline phone, radio or have another means of 2 way communication.
- Ensuring that family and friends know your contact numbers and whereabouts in the College where you work. This may well save them having to trace you via some central contact point such as College Security, or at the medical school campuses, through the Trust Security, should they need to do so.
- Considering personal safety with regard to the journey to and from home. This may involve arriving or leaving work alone during hours of darkness or travelling by public transport late at night.
- Not working at height, attempting to lift anything that is clearly beyond the ability of one person or carrying out any other activity prohibited for lone workers.

PERMISSIONS AND CONSENT

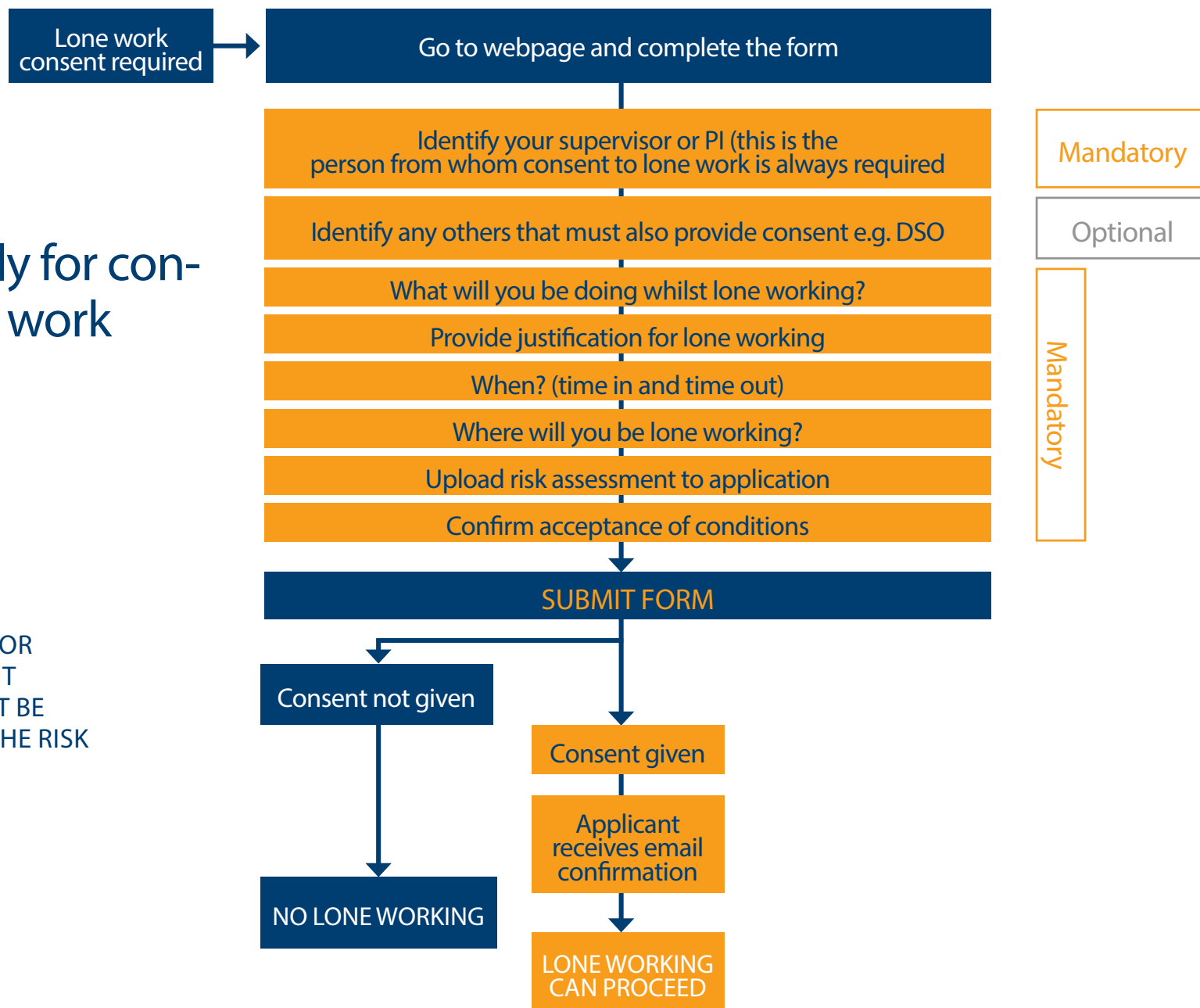
20. Consent for lone working even during normal working hours should be recorded. Thresholds for requiring and recording consent can be decided at Faculty level but must also always be identified within the risk assessment. In all cases, competency and training records must take account of the ability of the worker to lone work.
21. A College-wide form is available and the process for submitting a request is as follows (see also Figure 2):
 - The person wishing to undertake lone working completes the online form. The form identifies the risk assessment / protocol for the activity that the person wishes to undertake, the location, the time period and the person responsible for granting consent.
 - The form is submitted to the person identified as being responsible for granting consent (usually the supervisor or line manager).
 - The responsible person receives an email request. They then have the option of accepting or refusing the request.
 - If accepted then the lone working activity can proceed as long as all the agreed controls are implemented.
22. How to apply for consent is summarised in

Figure 2 (see page 12).

BENIGN ENVIRONMENTS

23. Those working in benign environments such as offices must always still comply with the permitted building access hours for the building that they work in. Those requiring access out of normal building hours, whether for lone working or not, will need to apply specifically for consent for this. Such consent should only be given in exceptional circumstances and by the person or group in charge of the area.
24. Low risk environments such as offices can be subject to a generic (rather than specific) risk assessment and set of precautions. The tasks undertaken in such areas usually present low or easily manageable risks. For this reason, consent requirements for lone working in benign environments is determined at Faculty or local level.
25. An example of a lone working risk assessment for a benign environment is shown on Page 13.

FIGURE 2
How to apply for consent to lone work



THE REQUIREMENT FOR RECORDING CONSENT TO LONE WORK MUST BE IDENTIFIED WITHIN THE RISK ASSESSMENT

Example of risk assessment for lone work in an office

HAZARD SUMMARY Who might be harmed and how?	SEVERITY AND PROBABILITY	RISK LEVEL	CONTROLS How do you currently reduce the risk? If further action are required describe what these are and how they will be actioned.
Staff & students could suffer injury or ill health while working alone in the building	Major injuries or ill-health, e.g. loss of consciousness, loss of sight. Probability is unlikely.	Medium risk	<p>It is foreseeable that staff and students may lone work during office activities. In these cases staff and students should follow the basic guidance in the College code of practice:</p> <ul style="list-style-type: none"> • Ensure you know the nearest fire exit and where to assemble • Ensure the emergency number for security is known (Ext 4444 or 020 7589 1000) • Ensure you have a mobile or access to a landline phone • If you are working late ensure someone knows your expected time of finishing and return home • Consider personal safety if travelling home late at night from the College and Dept. • Do not carry out prohibited activities while lone working in a benign environment <p>Core work hours: 8am – 6pm Normal building access hours: 07.00 – 00.00 Building closed: 00.00 – 07.00</p> <ul style="list-style-type: none"> • If staff/students disclose any medical conditions and vulnerability that might put them especially at risk they are required to apply for lone working consent from their manager. • Anyone who plans to work ‘out of hours’ 00.00 – 07.00 must follow Departmental procedure requiring extended hours access permission from their Supervisor/Line Manager and the HoD and must inform Security. • Security staff are First Aiders.

Control measures for lone work

EMERGENCIES

26. Emergency procedures are a standard element of all risk assessments and should therefore already be in place for the activity. The obvious consideration where lone working is concerned is the possible absence of assistance in the event of something going wrong – including the provision of core services such as medical support. The lone working aspect of the assessment therefore needs to consider the likelihood of such support being required and how it is going to be provided. Expectations must be realistic. It is a reasonable expectation that Security or a hospital 'Crash Team' on the medical campuses will be able to provide medical support. However, they must be:
- Available for service.
 - Able to be summoned.
 - Able to access the area where the casualty is without putting themselves in danger.
27. It is not a reasonable expectation to assume that Security will deal with a chemical or biological spillage. They will not – it is not within their remit. This remains the responsibility of the persons working with the substances and who have the knowledge of what they are dealing with. Depending upon the extent of the spill, if necessary, Security will assist with isolating the area, warning others and liaising with the emergency services. This

is the limit of their responsibilities.

28. Under the College Access Control Scheme, it is a requirement that areas that have been designated as 'amber' or 'red' have a written emergency response procedure (ERP) documented in a standard format and that this information is readily available to Security. Further information can be found on the Safety Department Access Control web pages.

TRAINING AND COMPETENCE

29. Training and competence of staff and students must be a consideration for working under normal circumstances and this subject will not be expanded upon here. It simply increases in importance when the worker is expected to work alone. Therefore, in making the decision to grant consent for lone working to take place, the experience, maturity and level of training that a person has received must be factored into the process in addition to the task and location for the work.

LONE WORKING IN SHARED SPACES

30. Where the College shares premises with site partners, lone working shall be considered as part of the arrangements between the Institutions, and this information must be consulted with respect to whichever site it concerns. As with other safety issues, much will depend upon which site partner is deemed to be in control of the space where the lone working is being carried out.

OFF-SITE LONE WORKING

31. Lone working off-site is a specialised subject and depending upon the situation, can present very serious risks for the lone worker particularly where fieldwork is concerned. Where College staff undertake lone working on the premises of another institution, then the policies of the host institution will normally apply, however the College will require reassurance that risks are being managed. Off-site working is addressed elsewhere and further information can be found on the Safety Department off-site working pages.

HOME WORKING

32. Home working may result in a lone working situation except that it is an environment familiar to the worker, and should only involve office work.
33. If staff are permitted to work from home, the supervisor should ensure that there are no health issues and that they are trained to recognise and correct any matters relating to ergonomics and display screen equipment. The workstation self-assessment approach that is adopted on College premises works equally well when applied to home workstations. It is not necessary for the supervisor to visit the home of the worker - only that the worker is instructed to raise any issues that might concern them.
34. Home working is a relatively modern phenomenon and is a concept that has

Control measures for lone work

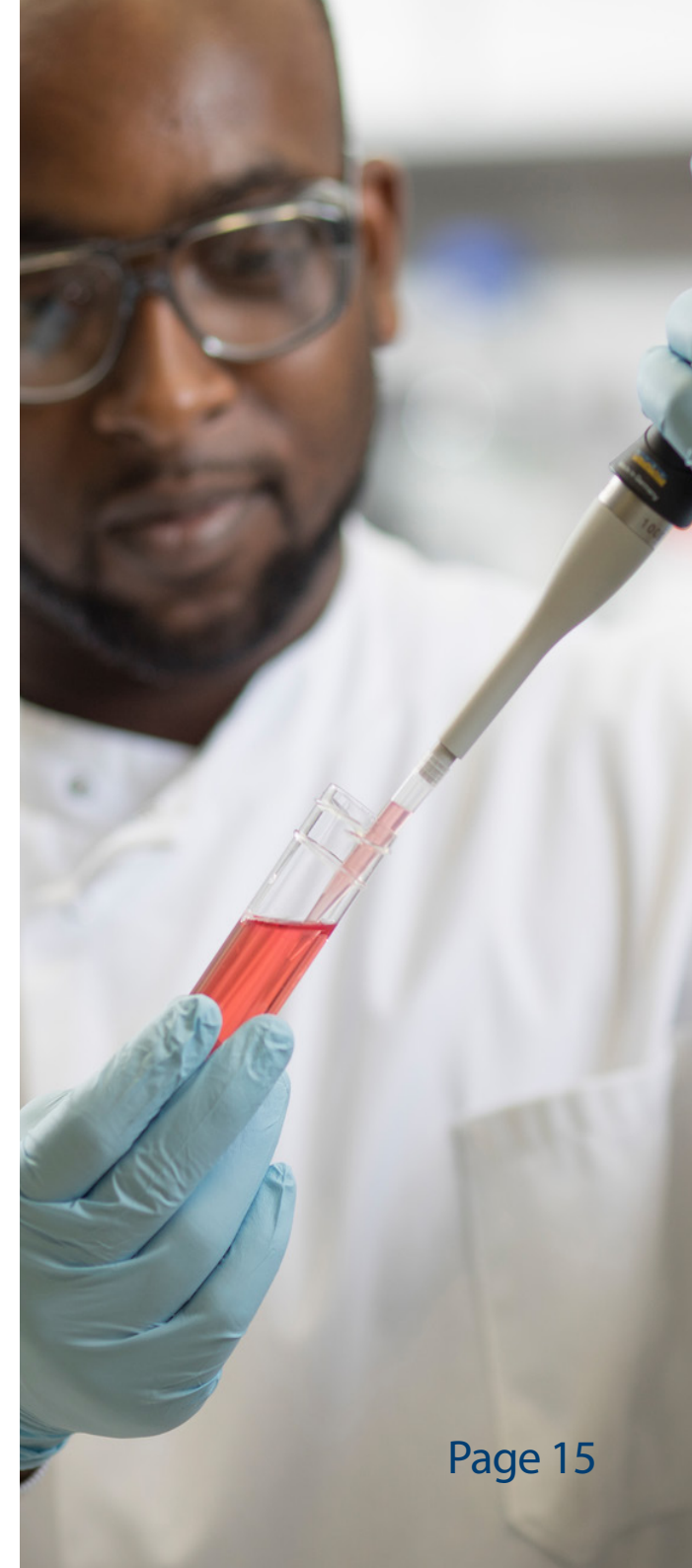
become accepted by many employers and can be seen as beneficial to both parties. It is probably reasonable to assume that most College home workers elect to work from home with the agreement of their manager i.e. it is their own preference and choice rather than being an obligation under their contract of employment. If any employees are contracted to undertake work at home, then the obligation on the employer with regard to ensuring their employees health and safety becomes greater. It will be necessary to have firmer arrangements in place for establishing work targets, establishing contact arrangements and dealing with any feelings of isolation that may manifest. It may also be necessary to agree the source of funding should physical improvements need to be made to the workstation and this burden may well fall upon the employer.

INSURANCE

35. Under the Employers' Liability (Compulsory Insurance) Act 1969 (ELCI), the College are required by law to insure their employees against workplace injury or disease. Thus College employees are insured to undertake the tasks associated with their job. Any specific questions concerning insurance should be addressed to the College Insurance Manager.

INSPECTION AND MONITORING

36. Monitoring of lone working arrangements and the application of control measures must be included in all inspection programmes. Items to monitor include (but are not limited to);
- Whether or not the lone working has been adequately risk assessed
 - Whether adequate steps had been taken to avoid the need to lone work
 - Whether consent has been provided and whether or not the approver had read the risk assessment
 - Whether the control measures identified in the risk assessment had been implemented
 - Whether these control measures were adequate
37. Heads of Department must ensure that they understand the extent and type of lone working undertaken in their area. They must also ensure that all possible management steps are taken to minimise lone working, and that when it is unavoidable, that precautions are in place. The following table lists examples of activities for which restrictions and additional controls can, dependent on circumstances, be required.



Guidance on activities for which lone working presents additional risk

38. Note that the following provides guidance for the healthy worker only and does not take account of any medical vulnerabilities or conditions that would render them at greater risk when lone working. For example, those with a pre-existing acute allergy to a substance they will be working with may be assessed as not being able to lone work at any time. It is essential therefore that the individual risk assessments for all hazardous activities does take account not only of the risks to the healthy lone worker but also to any particular additional risks that may be presented to those with certain medical conditions, such as acute allergy.
39. The following is not a list of every activity for which lone working precautions may be required. Other activities must also be identified by risk assessment as requiring the application of additional restrictions and controls measures.

MICROBIOLOGICAL AND CBS LABORATORIES

CONTAINMENT LEVEL 3

40. The need for lone working is always considered within the Code of Practice for each individual CL3. Where lone working is prohibited, this is clearly stated; where lone working is permitted then the precautions and procedures to be followed must be clearly described. The buddy

system implemented will always require that the buddy is on site (usually within the same building), is authorised and trained for access into the CL3 lab and is capable of responding in the event of an emergency. Means (e.g. cameras, lone working alarms) by which the buddy can actively check on the lone worker should be provided and the frequency at which the buddy actively checks on their lone worker agreed. Where security are involved in the response (e.g. where lone working alarms repeat back to Security then it is essential that the protocols are agreed with Security and that adequate training is provided. Under no circumstances shall Security staff enter a CL3 alone in order to effect a rescue. It will be for the buddy to meet Security at an agreed location outside of the lab or suite.

CONTAINMENT LEVEL 2

41. Lone working at CL2 must be considered within the activity covering the work in hand. The precautions required should be proportional to the risks associated with that activity and must take account of all aspects, e.g. working with asphyxiant gases in a CL2 lab presents different to the lone worker than tissue culture

CBS FACILITIES

42. Lone working in CBS presents particular risks, not in that the worker is more likely to come to harm within CBS, but that should there be

an emergency then CBS facilities are generally remote and secluded, and always secure with restricted access. It is possible therefore that an incapacitated lone worker could remain undiscovered within a CBS facility for an extremely long time. Mobile phones are prohibited from CBS thereby immediately limiting how help could be summoned should the need arise. In addition, should the alarm be successfully raised, then those that can respond is limited to those who have access to these facilities. Lone working risk assessments for these areas must consider these factors and implement an adequate buddy system depending on what the lone worker is doing within CBS and when that is happening. Consent to lone work must be recorded.

WORKING WITH CRYOGENICS

TYPE 1 AND TYPE 2 LIQUID NITROGEN FACILITIES (BUT NOT UNDERTAKING FILLING ACTIVITIES)

43. Simply being present in a room where liquid nitrogen vessels are located should not present an unacceptable risk to the lone worker as long as the room is well ventilated and the worker is not actually undertaking any work with liquid nitrogen. Workers must be aware of the signs of an imminent automatic fill, an uncontrolled release from a pressure relief valve or bursting disk and the meaning of any oxygen alarms that may begin sounding - and be able to take

Guidance on activities for which lone working presents additional risk

appropriate measures.

TYPE 3 LIQUID NITROGEN FACILITIES

44. Non-pressurised Dewars are normally limited in capacity (typically around 25L in an 'onion' Dewar). However, the likelihood of dropping one is significantly increased if one person is trying to lift it to fill a storage vessel. It would therefore normally be considered to be a two person activity. If an 'onion' Dewar was dropped, the shape would probably dictate that only a proportion of the contents would come out (unless it ruptured).

TYPE 4 FACILITIES

45. In the absence of any filling process being carried out, the risks presented are minimal and the lone worker would not normally be at increased risk. Occupants of the room must be able to recognise the signs of a quench and also the sounding of oxygen alarms and be able to act accordingly in line with local SoPs. If the facility is physically remote and isolated, this should be factored in with regard to any precautions that need to be in place.

WORKING WITH COMPRESSED GASES

MOVING GAS CYLINDERS

46. Working alone is permitted as long as due consideration has been given to manual handling.

CHANGING PRESSURE REGULATORS

47. The person needs to have been trained in the changing of pressure regulators. The person needs to understand the consequences of changing a regulator that is already connected to an item of equipment and whether or not there is more than one item of equipment running off the same regulator. Risk assessment will usually identify that changing regulators on pyrophoric, flammable and toxic gases is not a lone working activity.

WORKING WITH HAZARDOUS CHEMICALS

TOXIC SUBSTANCES

48. The risks associated to lone working whilst handling toxic substances will depend on the nature and quantity of the toxic substance in use. Those that can act quickly would normally demand the presence of more than one worker whilst those that give rise to long term or cumulative effects can be considered in the same way as carcinogens.

CARCINOGENS AND SUBSTANCES WITH REPRODUCTIVE TOXICITY

49. Providing the chemicals have no other hazard phrases (some can be carcinogenic but also acutely toxic) these substances usually give rise to long term effects and therefore present no acute risk to the lone worker.

CORROSIVE SUBSTANCES

50. The key factor to consider when risk assessing lone work with corrosive substances is the

quantity and method of use. If sufficient quantities of corrosives are to be used in a manner in which it is possible to have an incapacitating exposure then lone work must be avoided.

FLAMMABLE SUBSTANCES (OTHER THAN FLAMMABLE GASES)

51. Lone work with flammable substances must be rigorously assessed so as to take account of the nature of the substance, quantity and method of use and whether or not the lone worker is more likely to accidentally start a fire or be at greater risk should one start.

SKIN OR EYE IRRITANTS / SENSITISERS

52. These are not usually considered serious hazards that are likely to overtly compromise the lone worker. If the worker is however known to have a pre-existing acute sensitivity to a chemical in use then lone working may need to be restricted.

RESPIRATORY SENSITISERS

53. Certain respiratory sensitisers are known to have the potential to rapidly incapacitate those exposed and therefore lone working with any respiratory sensitiser must be carefully assessed. If the worker is known to have a pre-existing acute sensitivity to a substance in use then lone working may need to be restricted.

Revision log

DATE	REVISION	PAGE
	First issued June 2014	
Jan 2017	Updated links to webpages	ALL
Jan 2017	Added brief definition of 'Benign Environment' to Figure 1	4
Jan 2017	Added an additional consideration for risk assessment on how close a buddy must be to the lone worker (para 23)	8
Jan 2017	Added reference to and link to comparison webpage on lone worker alarm systems to para 29	9
Jan 2017	Figure 2 amended: record retained in Safety Dept sharepoint database (not departmental database)	10
Jan 2017	Defined types 1 and 2 liquid nitrogen facilities in Appendix A	13
Jan 2017	Added caveat allowing lone working with pyrophoric, flammable or toxic gases in Appendix B	15
Jan 2017	Added 'and quantity' to 'the nature [and quantity] of the toxic substance in Appendix B	15
Jan 2017	Added 'Providing the chemicals have no other hazard phrases (some can be carcinogenic but also acutely toxic)' to Carcinogens & Substances with reproductive toxicity in Appendix B	15
Jan 2017	A new section on Inspection and Monitoring added	12
Oct 2017	Document reformatted	ALL
Oct 2017	Sections on control measures for benign and hazardous environments merged	ALL
Oct 2017	Consent process chart updated	4
Oct 2017	Appendices incorporated into main text	16-17

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