

WORK WITH  
**IONISING RADIATION**  
APPROVED CODE OF PRACTICE

Health and Safety at Work (Jersey) Law, 1989

ACoP 2 updated 2020

# Approved Code of Practice

## Work with Ionising Radiation



# Notice of Approval

This Code of Practice entitled 'Work with Ionising Radiation' has been approved by the Employment and Social Security Committee under Article 10 of the Health and Safety at Work (Jersey) Law, 1989, ('the Law'). The Code replaces the Approved Code of Practice 'The protection of persons against ionising radiation' (ACoP 2) and provides practical guidance for all persons who have duties under Part II of the Law, and who are involved with ionising radiation in relation to activities at work.

This Code of Practice, ACoP 2 revised, shall come into force on 1st October, 2002.



**Senator T.A. Le Sueur**  
**President**  
**Employment and Social Security Committee**

**Date: 29th August, 2002**

**Updated 2020**



## PREFACE

Radiation protection is concerned with the protection of people at work, both individually and collectively, against the detrimental effects of exposure to ionising radiation. The primary aim of this Code of Practice is to introduce conditions whereby doses of ionising radiation arising from certain practices can be maintained at a level where the risk to the individual, and to the population at large, is acceptably low. It should be remembered that by far the largest contribution to population dose is from natural radiation sources, for example cosmic radiation, external radiation of terrestrial origin and internal radiation from naturally occurring radionuclides in the body.

Radiation protection is based upon three general principles recommended by the International Commission for Radiation Protection (ICRP) (1):

- a) every practice resulting in an exposure to ionising radiation shall be justified by the advantages it produces;
- b) all exposures shall be kept as low as reasonably achievable;
- c) the sum of doses and committed doses received shall not exceed the specified limits.

The principles of protection contained in this Code reflect the principles recommended by ICRP, and the Euratom basic safety standards (2) (3). It is not sufficient merely to observe dose limits; persons working with ionising radiation must:

- (a) ensure that a suitable and sufficient written risk assessment has been made before any new activity involving exposure to ionising radiation is first introduced;
- (b) ensure that doses are maintained as low as is reasonably practicable (ALARP); and
- (c) ensure that none of the relevant dose limits are exceeded.

This means that it will be necessary to weigh the costs of the possible health detriment from exposure against the costs of reducing or eliminating that exposure (taking into account possible risks to health and safety arising from alternative methods of carrying out the work) to the extent of questioning whether a particular use of ionising radiation can be justified at all.



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## INTRODUCTION

1. In the preparation of this Code, due attention has been paid to the UK IRR 2017 SI 2017/1075 and the 'Work with Ionising Radiation Approved Code of Practice and Guidance' L121 (second edition) published by the UK HSE in 2018.
2. This Code has been drawn up following consultation with the persons and organisations who make use of Ionising Radiation in Jersey.
3. Although failure to comply with any provision of the Code is not in itself an offence, where a person is involved with the use of Ionising Radiation or with the storage or transport of radioactive substances, such a failure may be used in criminal proceedings as evidence that the Law has been contravened.
4. Words and expressions which are defined in the Health and Safety at Work (Jersey) Law, 1989 have the same meaning in this Code unless the context requires otherwise. Any reference in this Code to any publication does not imply approval by the Minister for Social Security of that publication or any part of it as an Approved Code of Practice except to the extent necessary to give effect to this Code.



## INTERPRETATION

5. In this Code, unless the context otherwise requires:

**“approved”** - means approved by the Minister for Social Security;

**“approved dosimetry service”** - means a dosimetry service approved for use in personal dosimetry of employees carrying out work with ionising radiation;

**“comforter and carer”** - means an individual who (other than part of his occupation) knowingly and willingly incurs an exposure to ionising radiation resulting from support and comfort of another person who is undergoing or who has undergone any medical exposure;

**“controlled area”** - means an area designated for radiation work where special precautions are necessary to restrict exposures to ionising radiation;

**“dose”** - means, in relation to ionising radiation, any dose quantity or sum of dose quantities mentioned in Appendix 3;

**“dose constraint”** - means a restriction on the prospective doses to individuals which may result from a defined source;

**“dose limit”** - means, in relation to persons of a specified class, the limit on effective dose or equivalent dose specified in Appendix 3, in relation to a person of that class;

**“dose rate”** - means, in relation to a place, the rate at which a person, or part of a person, would receive a dose of ionising radiation from external radiation if he, or she, were at that place - being a dose rate at that place averaged over one minute;

**“dose record”** - means the record of the doses received by a person as a result of exposure to ionising radiation, the record being maintained on behalf of the employer by the approved dosimetry service;

**“external radiation”** - means, in relation to a person, ionising radiation originating from outside the body of that person;

**“Health and Safety Inspectorate”** - means the States of Jersey Health and Safety Inspectorate;

**“health record”** - means, in relation to an employee, the record of medical surveillance of that employee maintained by the employer for the purpose of this Code;

**“internal radiation”** - means, in relation to a person, ionising radiation coming from inside the body of that person;

**“ionising radiation”** - means the transfer of energy in the form of particles or electromagnetic waves of 100 nanometres or less or a frequency of  $3 \times 10^{15}$  hertz or more, capable of producing ions directly or indirectly;

**“local rules”** - means rules written to cover all activities relating to radiation protection in controlled and, where necessary, supervised areas, which are specific to the nature of the hazard and systems of control;

**“maintained”** - where the reference is to maintaining plant, apparatus, equipment or facilities, means maintained in an efficient state, in efficient working order and good repair;

**“medical adviser”** - means a medical practitioner who is suitably qualified and experienced to be responsible for the medical supervision of those persons involved in work with ionising radiation;

**“medical exposure”** - means exposure of a person to ionising radiation for the purpose of his, or her, medical or dental examination or treatment which is conducted under the direction of a suitably qualified person and includes any such examination for legal purposes and any such examination or treatment conducted for the purposes of research;

**“outside worker”** - means a classified person who carries out services in the controlled area of any employer (other than the controlled area of his own employer);



**“overexposure”** - means any exposure of a person to ionising radiation to the extent that the dose received by that person causes a dose limit relevant to that person to be exceeded;

**“practice”** - means work involving:

- (a) the production, processing, handling, use, holding, storage, transport or disposal of radioactive substances; or
- (b) the operation of any electrical equipment emitting ionising radiation and containing components operating at a potential difference of more than 5 kV, which can increase the exposure of individuals to radiation from an artificial source, or from a radioactive substance containing naturally occurring radionuclides which are processed for their radioactive, fissile or fertile properties;

**“radiation accident”** - means an accident where immediate action would be required to prevent or reduce the exposure to ionising radiation of employees or any other persons;

**“radiation employer”** - means an employer who in the course of a trade, business or other undertaking, carries out work with ionising radiation and includes an employer who intends to carry out such work;

**“radiation generator”** - means a device capable of generating ionising radiation such as x-rays, neutrons, electrons or other charged particles;

**“radiation passbook”** - means in the case of an outside worker employed by an employer in Jersey, a passbook approved by the Minister for Social Security; or in the case of an employee of an employer in the UK, Northern Ireland or a member state of the European Union, a passbook authorised by the relevant competent authority, as the case may be;

**“Radiation Protection Adviser” (RPA)** - means an individual who, or a body which, meets such criteria of competence as may from time to time be specified in writing by the Minister for Social Security;

**“Radiation Protection Supervisor” (RPS)** - means a person appointed by the employer whose function is to supervise work so that it is carried out in accordance with the local rules;

**“radioactive substance”** - means any substance having an activity concentration of more than 70 kBqkg<sup>-1</sup> and any other substance which contains one or more radionuclides whose activity cannot be disregarded for the purposes of radiation protection;

**“sealed source”** - means a source containing any radioactive substance whose structure is such as to prevent, under normal conditions of use, any dispersion of radioactive substance into the environment, but it does not include any radioactive substance inside a nuclear reactor or any nuclear fuel element;

**“short lived daughters of radon 222”** - means polonium 218, lead 214, bismuth 214 and polonium 214;

**“supervised area”** - means an area which has been so designated by the employer in accordance with paragraph 52;

**“trainee”** - means a person aged sixteen years or over (including a student) who is undergoing instruction or training which involves operations which would, in the case of an employee, be work with ionising radiation;

**“transport”** - means, in relation to a radioactive substance, carriage of that substance on a road, or through any public place (on a conveyance or not), by sea or air, and in the case of transport on a conveyance, a substance shall be deemed as being transported from the time that it is loaded onto the conveyance for the purpose of transporting it until it is unloaded from that conveyance, but a substance shall not be considered as being transported if:

- (a) it is transported by a pipeline or similar means; or
- (b) it forms in integral part of a conveyance and is used in connection with the operation of that conveyance;



6. In this Code, unless the context otherwise requires, any reference to:
- (a) an employer, includes a reference to a self-employed person and any duty imposed by this Code on an employer in respect of his employee shall extend to a self-employed person in respect of himself;
  - (b) an employee, includes a reference to:
    - (i) a self-employed person, and
    - (ii) a trainee, who but for the operation of this sub-paragraph would not be classed an employee;
  - (c) exposure to ionising radiation is a reference to exposure to ionising radiation arising from work with ionising radiation;
  - (d) any person, entering, remaining in or working in a controlled or supervised area, includes reference to any part of a person entering, remaining in or working in any such area.
7. Nothing in this Code shall be construed as preventing a person from entering or remaining in a controlled area or a supervised area where that person enters or remains in any such area:
- (a) in the due exercise of a power of entry conferred on him by or under any enactment; or
  - (b) for the purpose of undergoing a medical exposure.



## APPLICATION

8. This Code shall apply to:
  - (a) any practice;
  - (b) any work (other than a practice) carried out in an atmosphere containing radon 222 gas at an annual average activity concentration in air exceeding  $300 \text{ Bq m}^{-3}$ ;
  - (c) any work (other than work referred to in paragraphs (a) and (b) above) with any radioactive substance containing naturally occurring radionuclides.
9. The Code covers safety requirements in the use of radioactive substances, sealed sources and radiation generators, including all the applications of X-rays, in any work activity in Jersey.
10. These, at present, include the following:
  - (a) hospitals and clinics;
  - (b) dental practices;
  - (c) chiropractic clinics;
  - (d) veterinary practices;
  - (e) non-destructive testing;
  - (f) density gauges;
  - (g) depth gauges;
  - (h) security X-ray scanning equipment;
  - (i) States Departments;
  - (j) educational establishments<sup>1</sup>.
11. The Code does not apply to medical exposures, being exposures received by patients as part of their own medical diagnosis, treatment, health screening, or for medical research and medico-legal purposes.

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<sup>1</sup>Where radioactive sources or X-rays are used in educational establishments, this Code covers requirements of the employer, teachers and other staff. Procedures for the protection of pupils and students and further requirements for staff and employers will be found in CLEAPSS publication L93: 'Managing Ionising Radiations and Radioactive Substances in Schools and Colleges'



## GENERAL PRINCIPLES AND PROCEDURES

### Responsibility

12. The ultimate responsibility for the provision of protective measures as required in this Code lies with the employer who may be a company, a hospital, a visiting contractor or a self-employed person. Details of this responsibility are indicated in the appropriate sections of the Code.

### Co-operation between employers

13. Where work with ionising radiation undertaken by an employer is likely to give rise to the exposure of the employees of another employer, the employers involved must co-operate with a full exchange of information in order that each employer may comply with the requirements of this Code. The precise allocation of responsibility should be agreed between employers co-operating to ensure that what is required to be done is carried out and that the best radiation protection practice is achieved. For example, such agreements are required when premises are visited by contractors, maintenance engineers and X-ray installation personnel, when agency staff are used or when medical consultants work for more than one hospital management group.

### Notification of specified work

14. Every employer whose work involves the use of ionising radiation must have re-notified the Health and Safety Inspectorate of such use within 6 months of this Code coming into force, giving details as set out in Appendix 1 of this Code. Any employer who uses ionising radiation for the first time, or when significant changes to the use are planned, must inform the Health and Safety Inspectorate at least twenty-eight days before commencing such use. The employer should also appoint an RPA.

### Prior risk assessment

15. Before an employer commences any new activity involving work with ionising radiation, he/she shall prepare a suitable and sufficient written assessment of the risk for the purpose of identifying the measures needed to restrict the exposure of employees and other persons to ionising radiation. In addition, the assessment should demonstrate in writing that:
  - (a) all hazards with the potential to cause a radiation accident have been identified; and
  - (b) the nature and magnitude of the risks to employees and other persons arising from those hazards have been evaluated.

### Restriction of exposure

16. Employers must take all necessary steps to restrict, as far as is reasonably practicable, the extent to which employees and other persons are exposed to ionising radiation. This will be a matter of judgement in any particular set of circumstances by the employer, his/her RPA and staff. In any case, doses received must not exceed any dose limit appropriate to the class of person to which the person belongs, as set out in Appendix 3. It is important, and of obvious advantage, to consider whether a procedure could be carried out as effectively, and more safely, by some other method not involving exposure to ionising radiation.
17. "Dose sharing" amongst those who carry out the work might reduce individual doses, but this must not be used as a primary means of complying with dose limits. In such cases, priority should be given to changing the methods of work, improving engineering controls and adopting any other means of restricting exposure so as not to increase the collective dose. However, if a choice has to be made between restricting doses to



individuals and restricting collective dose to a group, priority must be given to keeping individual doses as far below the limits as is reasonably practicable.

18. If any of the dose limits (Appendix 3) are exceeded the Health and Safety Inspectorate must be informed and an investigation carried out immediately. Continuance of work will depend on the implementation of agreed remedial action within a defined time scale.
19. So far as is reasonably practicable, employers shall achieve the restriction of exposure to ionising radiation by means of design features and engineering controls, and in addition by the provision and use of safety features and warning devices. Systems of work which will restrict exposures, as far as is reasonably practicable, should also be employed. In addition, where it is reasonably practicable to further restrict exposures by means of personal protective equipment, adequate and suitable personal protective equipment, including where appropriate respiratory protective equipment, shall be provided by the employer.
20. Warning notices must be used at entrances to radiation areas and should be of the designs shown in Appendix 7, or of any alternative design which meets the requirements and is agreed by the RPA and the Health and Safety Inspectorate. The notices must indicate the source of radiation hazard, and information on why it is hazardous, with any necessary additional references.

### Dose constraints

21. Where it is appropriate to do so at the planning stage, dose constraints shall be used in restricting exposure to ionising radiation. A dose constraint is an upper level of individual dose specified by an employer. In general, the value assigned to a dose constraint is intended to represent the level of dose that is achievable in a well-managed practice. Dose constraints are not intended to be used as investigation levels once a decision has been taken about the most appropriate design or plan.

### Dose constraint for comforters and carers

22. It should always be appropriate to use dose constraints in restricting exposure to comforters and carers. The exemption from dose limits for this category of person can only apply where the individuals concerned knowingly and willingly accept the risk involved in providing comfort and support. The exposure of comforters and carers should normally be controlled, so far as is reasonably practicable, by using time, distance and shielding. The use of a dose constraint is an important aid in planning the arrangements for restricting any unnecessary exposure of such persons. As a practical guide, the UK National Radiological Protection Board has suggested that the dose to a comforter and carer resulting from one series or course of treatment to the patient, should not exceed 5 mSv. Normally, it should be possible to design procedures which will keep the dose well below this level.

### Pregnant and breast feeding employees

23. Every employer should ensure that those female employees who are engaged in work with ionising radiation are informed of the possible risk arising from ionising radiation to the foetus and to a nursing infant, and of the importance of informing the employer as soon as possible:
  - (i) after becoming aware of their pregnancy; or
  - (ii) if they are breast feeding.



24. In relation to pregnant and breast feeding employees, the employer shall ensure that:
- (a) in the case of a pregnant employee, the conditions of exposure are such that after the employer has been notified of the pregnancy, the equivalent dose to the foetus is unlikely to exceed 1 mSv during the remainder of the pregnancy; and
  - (b) in the case of an employee who is breast feeding, the conditions of exposure are restricted so as to prevent significant bodily contamination of that employee.

#### Formal investigation levels

25. For the purpose of determining whether the requirements of paragraph 16 are being met, employers shall ensure that an investigation is carried out forthwith whenever the effective dose received by any of his/her employees exceeds 15 mSv in a calendar year, or such other lower effective dose as the employer may specify in local rules.

#### Reporting of occurrences

26. Where a radiation employer suspects that an employee may have received an overexposure he/she shall make an immediate investigation of the circumstances. The employer shall as soon as practicable notify the suspected overexposure to:
- (a) the Health and Safety Inspectorate;
  - (b) the person, or persons, affected and, where appropriate, their employer(s);
  - (c) the medical adviser.
27. The employer shall notify the Health and Safety Inspectorate of any of the following incidents or occurrences involving radioactive material which is subject to this Code and under his control:
- (a) radioactive material has been released into the atmosphere as a gas, aerosol or dust;
  - (b) radioactive material has been spilled or released in a manner likely to give rise to significant contamination;
  - (c) radioactive material has been lost or stolen.



# ARRANGEMENTS FOR THE MANAGEMENT OF RADIATION PROTECTION

## Appointment of radiation protection advisers

28. Every radiation employer shall consult such suitable radiation protection advisers as are necessary for the purpose of advising the radiation employer as to the observance of this Code and shall, in any event, consult one or more suitable radiation protection advisers with regard to those matters which are set out in Appendix 4.
29. Where a radiation protection adviser is consulted pursuant to the requirements of paragraph 28, the employer shall appoint that radiation protection adviser in writing and shall include in that appointment the scope of the advice which the radiation protection adviser is required to give.
30. Nothing in paragraph 28 shall require an employer to consult a radiation protection adviser when the only work with ionising radiation undertaken by that employer is work specified in Appendix 2.
31. The radiation employer must provide any RPA appointed by him/her with adequate information and facilities for the performance of his/her functions.
32. The appointed RPA shall have the specific knowledge, experience and competence required for giving advice on the particular working conditions or circumstances for which the employer is making the appointment.
33. The appointed RPA shall meet accepted criteria, such as that presently contained within the HSE Statement, setting out criteria of competence for individuals and bodies intending to give advice as RPAs, or such other amended statement published following the date of this Code.

## Appointment of radiation protection supervisors

34. For the purpose of supervising any work in a controlled area or supervised area, and ensuring that this work is undertaken in accordance with the local rules, the radiation employer shall appoint one or more radiation protection supervisors.
35. The names of the appointed radiation protection supervisors shall be set down in the local rules.
36. The employer and the RPA should be consulted about the suitability of the person to be appointed and the supervision necessary to secure compliance with the Code and the local rules.
37. The RPS plays a supervisory role in assisting the employer to comply with the requirements of this Code of Practice, and the local rules. The RPS should be directly involved with the work with ionising radiation, preferably in a line management position that will allow the RPS to exercise close supervision. The RPS need not be present all the time, although would normally be the most senior person in day-to-day contact with the work.
38. Any person appointed as a radiation protection supervisor should:
  - (a) know and understand the requirements of this Code of Practice and the local rules as they affect the work with ionising radiation he/she supervises;
  - (b) command sufficient authority from the people doing the work to allow him/her to supervise the radiation protection aspects of that work;
  - (c) understand the necessary precautions to be taken in the work which is being done and the extent to which these precautions will restrict exposures; and
  - (d) know what to do in an emergency.



39. The appointed radiation protection supervisors should receive appropriate training which will also include sufficient information about their role. The training will need to reflect the complexity of the work undertaken.

### Training and instruction

40. Every employer must give those of his employees who are engaged in work involving ionising radiation, adequate information and training to enable them to understand:
- (a) the risks created by exposure to ionising radiation as a result of their work;
  - (b) the precautions which must be observed;
  - (c) the importance of complying with the medical, technical and administrative requirements of this Code.
41. Employers must also ensure that sufficient information is given to other persons who may be affected by such work and that the risks to their health and safety are adequately controlled. These may include other persons within the organisation, outside contractors, visitors or members of the public.
42. Training will also be required where employees undertake particular duties associated with this Code; for example, employees appointed as radiation protection supervisors, employees who monitor radiation levels in controlled or supervised areas, or who are authorised to make entries in radiation passbooks. Other categories of employee who require information and training include: classified persons; outside workers; people who enter controlled areas under written arrangements; other employees and visitors who need to recognise the significance of warning signs. The standard of training given to classified persons, trainees and RPSs should be appropriate to the nature of the work they are expected to undertake.
43. Female employees engaged in work with ionising radiation must be informed of the possible hazard arising from ionising radiation to the foetus in early pregnancy, and of the importance of informing the employer as soon as they discover that they have become pregnant. Special dose limits apply during pregnancy, which are designed to limit the dose to the foetus (see paragraph 24 and Appendix 3).
44. Comforters and carers are a special class for whom no dose limit is specified. However, the radiation employer will need to specify a dose constraint for this group. Such persons will need to be given an adequate explanation of the risks involved and the precautions to be observed in order to control exposure as far as reasonably practicable.



# DESIGNATED AREAS

## Controlled area

45. Employers must designate as a controlled area any area under his control in which:
  - (a) it is necessary for persons who enter the area to follow special procedures designed to restrict significant exposure to ionising radiation, or to reduce the probability or consequences of radiation accidents; or
  - (b) any person working in the area is likely to receive an effective dose greater than 6 mSv a year or an equivalent dose greater than 15 mSv a year for the lens of the eye or greater than 150 mSv a year for the skin or the extremities.
46. Employers should designate controlled areas in cases where:
  - (a) the external dose rate exceeds 7.5 micro sieverts per hour when averaged over a working day;
  - (b) the hands of an employee can enter an area where the 8-hour time averaged dose rate exceeds 75 micro sieverts per hour;
  - (c) there is significant risk of spreading radioactive contamination outside the area;
  - (d) it is necessary to prevent, or closely supervise, access to the area by employees who are unconnected with the work with ionising radiation.
  - (e) employees are liable to work in the area for a period sufficient to receive an effective dose in excess of 6 mSv a year.
47. The employer must ensure that each controlled area under his control is described in the local rules, is physically demarcated and has suitable notices at all access points. Cautionary notices should be used to inform those persons who need to be warned of the existence of a controlled area. It is often most convenient to extend the area to boundary walls, even though dose rates may not require this extension, in order that extra internal barriers are not required. Where the source of radiation is mobile, the areas must be described by reference to distances from the source. The physical demarcation of all boundaries of controlled areas may not be reasonably practicable in the following examples:
  - (i) mobile X-ray equipment used for medical exposure when not routinely used in the same place;
  - (ii) dental radiography;
  - (iii) veterinary radiography.
48. Access to the area must be restricted by suitable means such as door interlocks and/or warning notices. The employer must not permit any employee or other person to enter or remain in a controlled area unless the individual is a classified person or is so doing under written arrangements.
49. An employer must not intentionally create in any area conditions which would require that area to be designated as a controlled area unless that area is under his control.
50. Places which cannot physically be entered do not need to be designated. It is not necessary to designate an area as a controlled area if it is not reasonably foreseeable that a person, or part of a person, will enter or be present in that area.



## Temporary de-designation of controlled areas

51. If the periods of work with ionising radiation are clearly defined, or are intermittent, the employer may wish to de-designate on a regular basis; for example, to allow access by cleaners. This may be done, provided sufficient steps are taken to remove the need for designation; for example, any X-ray generator is isolated from the power source, or any radioactive substances are removed or otherwise made safe. These steps will need to be summarised in the local rules.

## Supervised area

52. Employers must designate as a supervised area any area under his control which is not a controlled area, and in which the instantaneous dose rate may exceed 2.5 micro sieverts per hour where an employee is likely to be exposed to ionising radiation to an extent which exceeds one tenth of the dose limit:
- (a) where it is necessary to keep the conditions of the area under review to determine whether area should be designated as a controlled area; or
  - (b) in which any person is likely to receive an effective dose greater than 1 mSv a year, or an equivalent dose greater than one tenth of any relevant dose limit referred to in Appendix 3 in respect of an employee aged 18 years or above.
53. The employer must ensure that each supervised area under his control is described in the local rules. In addition, warning signs will be appropriate for some supervised areas. However, where the extent of the supervised area is clearly set out in the local rules and the extent of the area is well understood by those who work there, it might not be appropriate to provide warning signs.
54. All warning signs should comply with the minimum requirements set out in Parts I - VII of Schedule 1 of the UK Health and Safety (Safety Signs and Signals) Regulations 1996 (9), as amended or revised.
55. Those areas requiring neither of these designations are, therefore, unrestricted and would permit access by the general public.

## Local rules

56. For the purpose of enabling the work with ionising radiation to be carried on in accordance with the requirements of this Code of Practice, employers shall in respect of any controlled area or, where appropriate, having regard to the nature of the work, any supervised area, make and set down in writing such local rules as are appropriate for controlling the risk from ionising radiations in that area. Employers must ensure that relevant parts of the local rules are brought to the attention of those employees and other persons who may be affected by them.
57. Written local rules should identify the key working instructions intended to restrict any exposure in that controlled or supervised area. The responsibility for ensuring that local rules are prepared rests with the employer. Although local rules are only required for controlled (and where appropriate, supervised) areas, employers may choose to have local rules that relate to work with ionising radiation anywhere on the site.
58. The local rules should always contain:
- (a) the dose investigation level specified for the purpose of Paragraph 25;
  - (b) identification or summary of any contingency arrangements;
  - (c) the names of the appointed radiation protection supervisors;
  - (d) a description of each controlled or supervised area or, where more relevant, the detailed procedure for determining the presence and extent of these areas;
  - (e) an appropriate summary of the working instructions, including the written arrangements for non-classified persons entering or working in controlled areas.



59. The employer may also find it useful to include in the local rules the general arrangements for:
- (a) the management and supervision of work;
  - (b) testing and maintenance of engineering controls safety features and warning devices;
  - (c) radiation and contamination monitoring;
  - (d) examination and testing of radiation monitoring equipment;
  - (e) personal dosimetry;
  - (f) pregnant or breast feeding employees.
60. All persons working with ionising radiation have a duty to protect themselves and others from any hazard arising from their work. For this reason it is essential that the individual becomes familiar with the responsibilities and precautions imposed by this Code of Practice through local rules and systems of work. Each member of staff is required to read them and act in accordance with them. This will include the use of personal protective equipment and other devices provided by the employer for the purpose of controlling radiation exposures to themselves and others. Where appropriate, individual members of staff may seek the advice of an appointed radiation protection supervisor.
61. When persons, other than classified persons, enter a controlled area then the entry should only be in accordance with written arrangements designed to ensure that:
- (a) in the case of an employee aged 18 or over, he/she does not receive in any calendar year a cumulative dose which would require the employee to be designated as a classified person; or
  - (b) in the case of any other person, he/she does not receive in any calendar year a dose of ionising radiation exceeding any dose limit.
62. Persons entering for the purpose of undergoing a medical exposure are not subject to the provision of the written system of work.

### Monitoring of designated areas

63. Every employer who designates an area as a controlled or supervised area shall take such steps as are necessary to ensure that levels of ionising radiation are adequately monitored in each such area and that working conditions are kept under review.
64. For areas designated on the basis of external radiation, adequate monitoring should include measurement of dose rates. For areas designated on the basis of possible exposure to internal sources of radiation, adequate monitoring should include measurement of air concentration and surface contamination, taking into account the physical and chemical states of the radioactive contamination.
65. The RPA should be consulted when deciding what type of monitoring instruments should be used, the frequency and extent of the monitoring programme, the regular calibration and checking of the monitoring equipment to ensure it is serviceable, and the training of staff who undertake the monitoring.
66. Employees who undertake the monitoring should be familiar with the proper use of the instruments and know how to interpret and record the results correctly.
67. The employer shall provide suitable and sufficient equipment for carrying out the monitoring. The equipment shall be properly maintained so that it remains fit for its intended purpose and be adequately tested and thoroughly examined at appropriate intervals, normally at least once a year.
68. Monitoring equipment shall not be or remain suitable unless:
- (a) its performance has been established by adequate tests before it has first been used; and
  - (b) the tests and examinations made pursuant to paragraph 67 have been made by, or under supervision of, a qualified person.



69. Qualified persons need to be conversant with, and have knowledge and understanding of, accepted testing standards and relevant technical guidance on testing the type of monitoring equipment under test, e.g. the UK National Physical Laboratory measurement good practice guide (11).
70. The employer shall keep suitable records of the monitoring results required by paragraph 63, and also of the tests carried out in accordance with paragraph 67. Copies of these records shall be kept for a period of at least 2 years from the dates on which they were made.



# CLASSIFICATION AND MONITORING OF PERSONS

## Designation of classified persons

71. The employer shall designate as classified persons those of his/her employees who are likely to receive an effective dose greater than 6 mSv per year or an equivalent dose greater than 15 mSv per year for the lens of the eye or greater than 150 mSv per year for the skin or the extremities and must immediately inform those employees that they have been so designated.
72. The employer may designate an employee as a classified person provided:
  - (a) the employee is 18 years of age or over; and
  - (b) a Medical Adviser has certified in the health record that, in his/her professional opinion, the employee is fit for the work with ionising radiation which he/she is to carry out.
73. The employer can only cease to treat an employee as a classified person at the end of a calendar year except where:
  - (a) he/she is required to do so by a Medical Adviser; or
  - (b) the employee is no longer employed by the same employer in a capacity which is likely to result in significant exposure to ionising radiation during the remainder of the relevant calendar year.

## Personnel monitoring

74. Employers must ensure that assessments are made of all significant doses (10) of ionising radiation received by each of his/her classified staff and those unclassified staff who operate under suitable written arrangements. These assessments must be recorded. To do this they must make suitable arrangements with an approved dosimetry service for the systematic measurement of doses by the regular use of one or more personnel dosimeters or, where individual measurements are not appropriate, by means of other suitable measurements. Such a service must be one of those approved for this purpose by the Health and Safety Executive of the United Kingdom. The Health and Safety Inspectorate must be informed of the identity of the Approved Dosimetry Service selected.
75. The Approved Dosimetry Service (ADS) must make and maintain dose records relating to each employee until the person to whom the record relates has, or would have, attained the age of 75 years, but in any event for at least thirty years from when they were made. The employer must be supplied with suitable summaries of dose received at regular intervals and when specifically requested, for example, where an excessive exposure is suspected to have occurred.
76. When a person leaves, termination records should be made available and supplied to the employer who should make copies available to the person concerned. Summaries of doses should be kept by the employer for at least two years from the end of the calendar year for which the summary relates.
77. Where the employer employs an outside worker, the Approved Dosimetry Service shall provide, where appropriate, a current radiation passbook in respect of that outside worker.
78. If a dosimeter is lost or destroyed the employer shall make an investigation of the circumstances with a view to estimating the dose received by the employee during that period and, if sufficient information exists to do this adequately, the estimated dose will be entered in the employee's record by the Approved Dosimetry Service. Where an estimated dose is entered in the record, the Approved Dosimetry Service will retain the summary of the information used to estimate that dose. If there is inadequate information, a notional dose shall be entered into the record. The notional dose will be the proportion of the total annual dose limit for the relevant period. Amendments to the dose record may be made where the Health and Safety Inspectorate deems that an entry requires revision.



79. The length of each monitoring period will depend on the doses likely to be received during the period. Dosimeters should be returned promptly after use and replaced by new ones. Each personal dosimeter is normally worn for one month but periods ranging from two weeks to three months can be appropriate according to circumstances
80. Persons who are issued with a personal dosimeter must wear it, as instructed, all the time they are at work. Care should be taken to prevent the dosimeter, while not being worn, from being exposed inadvertently to ionising radiation or subject to other conditions, e.g. heat, which could affect the assessment of dose. A dosimeter should normally be worn on the trunk at chest or waist height; it may then be interpreted as monitoring the dose to the whole body. However, more than one dosimeter may be needed if there is any reason to suspect that doses to other parts of the body may exceed one-tenth of the appropriate dose limit.
81. A trial programme of monitoring should be undertaken to determine whether routine monitoring of extremity doses is necessary. Similar considerations apply also to eye exposures.
82. The employer shall provide the approved dosimetry service with such information concerning his employees as is necessary.

#### Outside workers radiation passbooks

83. The employer shall ensure that each outside worker employed by him is provided with a current individual radiation passbook which is not transferable.
84. The employer shall make suitable arrangements to ensure that the particulars entered in the radiation passbook are kept up-to-date.

#### Providing dose information to classified persons

85. The employer shall at the request of the person employed by him, and on reasonable notice being given, obtain (where necessary) from the Approved Dosimetry Service and make available to that person:
  - (i) a copy of the dose summary relating to that person made within a period of 2 years preceding the request; and
  - (ii) a copy of the dose record of that person.
86. When a classified person ceases to be employed by the employer, the employer shall take all reasonable steps to provide to that person a copy of his termination record.

#### Medical surveillance

87. Classified persons, or those the employer intends to classify, and unclassified persons who receive an overexposure, shall be subject to medical surveillance by the Medical Adviser (MA). It is important that the employer ensures that all employees under his direction who require medical surveillance, do receive it.



## Health records

88. The employer shall ensure that a health record, containing the particulars referred to in Appendix 6, is made and maintained in respect of each of his/her employees to which paragraph 87 applies. Health records of these persons will be kept until the person to whom the record relates has, or would have, attained the age of 75 years, but in any event for at least thirty years from the date of the last entry made in them.
89. The primary purpose of medical surveillance is to ensure that persons are fit to commence such work and that periodically reviews are made to see that they remain fit. A person may not become a classified person unless he has been certified fit by the MA in the health record. It should be noted that such a certification of fitness is specific to the work with ionising radiation and should not, therefore, be interpreted as concerning itself with other requirements of the employment. The employer should arrange for the employee to attend the MA at a mutually agreed place during working time, as required. The employer should bear the full cost, including time off for attendance. Medical surveillance will include:
  - (a) pre-employment medical examinations;
  - (b) special medical examinations;
  - (c) periodic reviews of health;
  - (d) determining whether further dose limit conditions are appropriate.
90. The frequency of periodic reviews of health will be decided by the MA. The maximum period between two consecutive reviews should not exceed twelve months for classified persons.
91. When a classified person has changed employment and is to be classified by a new employer, a preemployment medical examination need not take place if the person has been certified fit within the preceding twelve months and a copy of that certification has been obtained. Any conditions already imposed, however, would continue to have effect until the next periodic review.
92. On change of employment, the MA may, with the co-operation of the previous MA, also use previously obtained clinical information, for example chest X-ray, to avoid unnecessary duplication.



# ARRANGEMENTS FOR THE CONTROL OF RADIOACTIVE SUBSTANCES, ARTICLES AND EQUIPMENT

## Sealed sources and articles embodying or containing radioactive substances

93. Where a radioactive substance is used as a source of ionising radiation, the radiation employer shall ensure that, whenever reasonably practicable, the substance is in the form of a sealed source.
94. All such radioactive sources and articles held by employers, must be notified to the Health and Safety Inspectorate.
95. The employer must ensure that the design, construction and maintenance of any article containing or embodying a radioactive substance, including its bonding, immediate container or other mechanical protection, is such as to prevent leakage of any radioactive substance. Particular attention must be paid to the exposure of the operatives involved in the manipulation, storage, transport and use. Also that the manufacturing specification is appropriate to meet the conditions of use that are likely to be encountered.
96. The employer will have further responsibilities at the time of disposal, see paragraph 115.
97. Exemptions apply to ionisation smoke detectors containing americium-241 installed in a workplace, certain self luminous fire safety signs containing gaseous tritium light sources installed in premises or a workplace, and ionisation chamber smoke detectors containing not more than 40 kBq americium-241, where the number of such detectors present in any building or premises is less than 500. (See Certificates of Approval Nos. TA1, TA2 and TA3 issued in the UK by the HSE under the Ionising Radiations Regulations 1999.)

## Leak tests

98. Tests for leakage should be carried out at suitable intervals. The interval between tests should not normally exceed two years.
99. Test methods should be decided by the employer from the data given by the supplier and in consultation with the RPA. Direct testing is preferable, but this will depend on the accessibility of the source, the dose received by the person carrying out the test and the particular circumstances dictated by design, use etc. Tests should be carried out in a way which ensures that the radiation dose to the person carrying out the leak test is as low as reasonably practicable.
100. A suitable record of leak tests must be maintained. This should include unique identification of the source, the date of test, method of test indicating the pass/fail criteria, the numerical result of the test together with pass/fail conclusion, any remedial action if failure occurred and the name and signature of the person carrying out the test.

## Accounting for radioactive materials

101. The radiation employer shall take such steps as are appropriate to account for and keep records of the quantity and location of the radioactive substances used in work that he/she undertakes. The record of accounting for each item should contain a means of unique identification, the date of receipt, the activity at a specified date, the whereabouts of the source updated at appropriate intervals, and the date and manner of disposal when carried out.
102. The intervals referred to above will depend on the likely movement of the source, its potential for being displaced and its susceptibility to damage. Examples of intervals are:
  - (a) for portable radiography sources, portable gauges etc., the check should be on each working day;
  - (b) for static sources securely attached to machines the frequency may be up to a month, provided that additional checks are carried out immediately following any maintenance or repair which could have affected the source.
103. For each source, a copy of the accounting record shall be kept for a period of at least two years from the date it was made, and for at least two years from the date of disposal of that radioactive substance.



## Storage arrangements

104. Every radiation employer shall ensure, so far as is reasonably practicable, that any radioactive substance under his control which is not for the time being in use or being moved, transported or disposed of, is kept in a suitable receptacle and is kept in a suitable store. The storage arrangements should provide adequate shielding to external radiation and effectively control dispersal. Only authorised staff should be permitted access to the store and appropriate security arrangements should be made for control of the keys. Different criteria apply when sources are moved or transported (see below).
105. The employer should, where necessary, discuss the chemical and physical aspects of the source stability (over extended periods of time) with the RPA with a view to assessing storage requirements.
106. A sign should be prominently displayed outside the store (preferably on the door) to warn persons in the vicinity that the store contains radioactive substances. The signs should conform to the Health and Safety (Safety Signs and Signals) Regulations 1996 (9), see Appendix 7.
107. It is recommended that the employer appoint a competent person to oversee the management of radioactive sources. Such a person should be responsible for ensuring that adequate arrangements are in place for leak testing, source accounting and all aspects of the security of the sources.

## Transport of radioactive sources

108. No person shall transport, or cause to be transported, any radioactive material except in accordance with the current safety standards.
109. A Radiation Protection Adviser shall be consulted for advice in respect of the transport of any radioactive source. In particular, advice shall be sought concerning correct packaging and labelling of the consignment, the provision of appropriate transport documents and arrangements for temporary storage during transport.
110. No person shall transport radioactive material:
  - (a) in a public service vehicle; or
  - (b) in a vehicle which is carrying an explosive substance; or
  - (c) in any package which he knows or has reason to believe may have been damaged.
111. No person shall wilfully damage, or open without reasonable cause, any package which is in the course of transport.

## Movement of radioactive sources

112. An employer who causes or permits a radioactive substance to be moved (otherwise than transporting it) shall ensure that the substance is kept in a suitable receptacle, appropriately labelled, while it is being moved.
113. The movement of sources, for example, during site movements of radioactive sources, may require different containers from those used in their storage. Transport packaging will more than likely suffice. Sources should only be moved by staff who have had adequate training. Contents should be clearly marked on the container and labels should carry warning notices as in Appendix 7.
114. Records must be kept of all movement of sources in a permanent log, together with details of acquisitions and disposals.

## Disposal of radioactive sources

115. The advice of the RPA should be sought prior to any disposal of radioactive sources. Records of disposal of a radioactive substance should be kept for at least two years from the date of disposal.



## Duties of manufacturers etc. of articles for use in work with ionising radiation

116. Duties are imposed upon designers, manufacturers, importers and suppliers of articles for use at work to which this Code applies under Article 7 of the Health and Safety at Work (Jersey) Law, 1989. They are required to provide comprehensive information about the safety requirements relating to that particular equipment. In the case of work with ionising radiations, the duties shall include a duty to ensure that any such article is so designed and constructed as to restrict, so far as is reasonably practicable, the extent to which employees and other persons are likely to be exposed to ionising radiations.
117. The manufacturer, supplier or importer of any article embodying or containing a radioactive substance, including a sealed source, should ensure that suitable leak tests are carried out as soon as practicable after manufacture or importation.

## Critical examination by installer/erector

118. Where a person installs an article for use at work, being an article involving work with ionising radiation, he/she shall :
  - (a) carry out a critical examination of the way in which an article is being or has been erected or installed for the purpose of ensuring that:
    - (i) the safety features and warning devices operate correctly; and
    - (ii) there is sufficient protection for persons from exposure to ionising radiation;
  - (b) consult with the RPA appointed by either himself/herself, or the radiation employer, with regard to the nature and extent of any critical examination and the results of that examination; and
  - (c) provide the radiation employer with adequate information about the proper use, testing and maintenance of the article.
119. Comprehensive programmes must be set up which include regular quality assurance testing of radiation generating equipment, together with any ancillary equipment affecting the performance or function related to radiation protection.

## Equipment used for medical exposure

120. The equipment referred to under this sub-heading covers all equipment used in connection with medical exposures where the design, construction, installation, maintenance and any fault that might develop in it, can affect the magnitude of the dose received by the patient. It should, therefore, be designed, constructed, installed and maintained with a view to restricting exposure to the extent that this is compatible with the intended clinical purpose or research objective. In this context ancillary equipment such as image receptors, intensifying screens, beam filters and film-processing units are included, since their design and maintenance may affect the dose given to the patient.
121. An employer who has control of any radiation equipment used for the purpose of diagnosis shall ensure that equipment is provided, where practicable, with suitable means of informing the user of that equipment of the quantity of radiation produced by that equipment during a radiological exposure.
122. In any establishment an inventory of radiation generating equipment must be maintained. It must include the following details for each item of equipment which delivers ionising radiation to a person undergoing a medical exposure and equipment which directly controls the extent of such exposure:
  - (a) Name of manufacturer;
  - (b) Model number;
  - (c) Serial number;
  - (d) Year of manufacture;
  - (e) Year of installation.



123. Every employer who has control of equipment referred to in paragraph 120 shall make arrangements for such equipment to be subject to a suitable quality assurance programme for the purpose of ensuring that it remains capable of restricting patient exposures, so far as is reasonably practicable, to the extent that is compatible with the intended clinical purpose or research objective.
124. The quality assurance programme shall require:
- (a) adequate testing of the equipment before it is first used for clinical purposes;
  - (b) adequate testing of the performance of the equipment at appropriate intervals and following any major maintenance procedure;
  - (c) where appropriate, such measurements at suitable intervals as are necessary to enable the assessment of representative doses to persons undergoing medical exposures.
125. The employer should consult the appointed RPA regarding the quality assurance programme in respect of medical equipment or apparatus, particularly regarding suitable intervals for testing of such equipment.
126. In drawing up the quality assurance programme, the employer should make it clear who has responsibility for organising the various elements, carrying out testing or dose assessment and for acting upon any adverse findings.
127. Special attention should be given to equipment used for medical exposure:
- (a) of children;
  - (b) as part of a health screening programme;
  - (c) involving high doses to the patient such as interventional radiology, computed tomography or radiotherapy.

#### Misuse of or interference with sources of ionising radiation

128. No person shall intentionally or recklessly misuse or without reasonable excuse interfere with any radioactive substance or any electrical equipment to which this Code applies.



## ASSESSMENT OF HAZARDS, CONTINGENCY PLANNING AND EMERGENCY PROCEDURES

129. All employers who carry out work with ionising radiation must prepare a written risk assessment. The making of the assessment is essentially threefold; it should enable the employer to take what steps are required to prevent the foreseeable accidents occurring, to reduce their consequences and to prepare contingency plans to limit any hazards should they occur.
130. Where the risk assessment has shown that a radiation accident is reasonably foreseeable, the employer shall prepare a contingency plan designed to ensure that the exposure of persons to ionising radiation is restricted as far as is reasonably practicable. The contingency plan should deal with the hazards created in the most efficient and effective manner and be designed to ensure that all radiation exposures are as low as reasonably practicable.
131. Where there are local rules, the contingency arrangements shall be incorporated into them by way of summary or reference.
132. The employer shall ensure that any employee, who may be involved with or may be affected by the contingency plan, is given suitable and sufficient instruction and training and, where appropriate, is issued with suitable dosimeters.
133. Rehearsals of the contingency arrangements shall be carried out at suitable intervals.
134. Where any accident or occurrence takes place which is likely to result in a person receiving an effective dose of ionising radiation exceeding 6 mSv, or an equivalent dose greater than three tenths of any relevant dose limit, the employer shall, in consultation with the RPA, arrange for that dose to be assessed, by appropriate means, as soon as possible. The event should be investigated by a competent person in order to ascertain the cause and to bring into effect measures that will prevent any recurrence.



## APPENDIX 1

### NOTIFICATION OF WORK WITH IONISING RADIATION OR OF SIGNIFICANT CHANGES IN ITS USE

Every employer whose work involves the use of ionising radiation must have re-notified the Health and Safety Inspectorate of such use within 6 months of this Code coming into force.

Any employer intending to work with ionising radiation for the first time, or when significant changes to the use are planned, must notify the Health and Safety Inspectorate at least twenty-eight days before such work is initiated or before planned changes are implemented.

The following particulars shall be given in a notification:

- (a) the name and address of the employer and a contact telephone or email address;
- (b) the address of the premises where, or from where, the work is to be carried out and a telephone number or email address of such premises;
- (c) the nature of the business of the employer;
- (d) into which of the following categories the source or sources of ionising radiation fall:
  - (i) sealed source;
  - (ii) unsealed radioactive substance;
  - (iii) electrical equipment;
  - (iv) an atmosphere containing the short-lived daughters of radon 222;  
whether or not any source is to be used at premises other than the address given in paragraph (b) above;
- (e) a description of the work with ionising radiation;
- (f) the date when the work activity is due to commence;
- (g) the date of the notification; and
- (h) whether it is a new notification or a change in use (state which).

The notification must clearly state the name of a responsible person and be signed and dated by him/her.

The completed notification should be returned to:

Health and Safety Inspectorate, Maritime House, La Route du Port Elizabeth, St. Helier, Jersey, JE2 3NW.



## APPENDIX 2

### WORK NOT REQUIRED TO BE NOTIFIED TO THE HEALTH AND SAFETY INSPECTORATE

Work with ionising radiation shall not be required to be notified to the Health and Safety Inspectorate when the only such work being carried out is in one or more of the following categories:

1. No radioactive substance having an activity concentration of more than  $100 \text{ Bqg}^{-1}$  is involved;
2. Where the quantity of radioactive substance involved does not exceed the quantity specified in column 3 of Part 1 or Part 2 of Schedule 7 of the UK Approved Code of Practice and Guidance to the Ionising Radiations Regulations 2017 L121 (second edition) published 2018;
3. The operation of:
  - (a) any cathode ray tube intended for the display of visual images; or
  - (b) any other electrical apparatus operating at a potential difference not exceeding 30kV,  
provided that the operation of the tube or apparatus does not under normal operating conditions cause a dose rate of more than 1 micro Sv per hour at a distance of 0.1 metres from any accessible surface;
4. Where the work involves material contaminated with radioactive substances resulting from authorised releases which the Health and Safety Inspectorate has declared not to be subject to further control.



## APPENDIX 3

### DOSE LIMITS

#### Employees of 18 years of age and above

1. The limit on effective dose for any employee of 18 years or above shall be 20 mSv in any calendar year;  
or,  
exceptionally, where the employer can demonstrate that doses are controlled to be as low as reasonably practicable, and where the employees concerned have been consulted, 100 mSv in any period of five consecutive calendar years subject to a maximum effective dose of 50 mSv in any single calendar year.
2. Without prejudice to paragraph 1:
  - (a) the limit on equivalent dose for the lens of the eye shall be 20 mSv in a calendar year;
  - (b) the limit on equivalent dose for the skin shall be 500 mSv in a calendar year as applied to the dose averaged over any area of 1cm<sup>2</sup> regardless of the area exposed;
  - (c) the limit on equivalent dose for the hands, forearms, feet and ankles shall be 500 mSv in a calendar year.

#### Trainees aged under 18 years

3. The limit on effective dose for any trainee under 18 years of age shall be 6 mSv in any calendar year.
4. Without prejudice to paragraph 3:
  - (a) the limit on equivalent dose for the lens of the eye shall be 15 mSv in a calendar year;
  - (b) the limit on equivalent dose to the skin shall be 150 mSv in a calendar year as applied to the dose averaged over any area of 1cm<sup>2</sup> regardless of the area exposed;
  - (c) the limit on equivalent dose for the hands, forearms, feet and ankles shall be 150 mSv in a calendar year.

#### Other persons

5. Subject to paragraph 7, the limit on effective dose for any person other than an employee or a trainee, including any person below the age of 16, shall be 1 mSv in any calendar year.
6. Paragraph 6 shall not apply to any person (not being a comforter or carer) who may be exposed to ionising radiation resulting from the medical exposure of another. The limit on effective dose for any such person shall be 5 mSv in any period of five consecutive calendar years.
7. Without prejudice to paragraphs 6 and 7:
  - (a) the limit on equivalent dose for the lens of the eye shall be 15 mSv in any calendar year;
  - (b) the limit on equivalent dose for the skin shall be 50 mSv in any calendar year averaged over any 1cm<sup>2</sup> area regardless of the area exposed;
  - (c) the limit on equivalent dose for the hands, feet, forearms and ankles shall be 50 mSv in a calendar year.

#### Pregnant employees

8. After her employer has been notified of the pregnancy, the equivalent dose to the foetus shall be restricted such that it is unlikely to exceed 1 mSv during the remainder of the pregnancy.



## APPENDIX 4

### MATTERS ON WHICH THE RADIATION PROTECTION ADVISER MUST BE CONSULTED

1. The implementation of requirements as to controlled and supervised areas.
2. The prior examination of plans for installations and the acceptance into service of new or modified sources of ionising radiation in relation to any engineering controls, design features, and warning devices provided to restrict exposure to ionising radiation.
3. The regular calibration of equipment provided for monitoring levels of ionising radiation and the regular checking that such equipment is serviceable and correctly used.
4. The periodic examination and testing of engineering controls, design features, safety features and warning devices, and regular checking of systems of work provided to restrict exposure to ionising radiation.



## APPENDIX 5

### RECORD KEEPING

The maintenance of adequate records is an essential requirement and, where appropriate, will provide evidence to demonstrate that an employer has complied with the relevant parts of this Code. Where record keeping is necessary this has been identified in the Code. The record keeping requirement is summarised below, together with the appropriate periods for which records should be retained. Record keeping, except for those records which relate specifically to medical examinations, will be subject to periodic inspection by the Health and Safety Inspectorate.

<b>Record</b>	<b>Number of years to be kept</b>
Radiation dose record	30 from the date the record is made or until the person has, or would have, reached 75
Dose record summary	2 after end of year to which it relates
Accident dose assessment	30 from the date the record is made or until the person has, or would have, reached 75
Health record	30 from the date the record is made or until the person has, or would have, reached 75
Leak tests	2 + 2 after disposal
Accounting (radiation equipment and sources)	2 + 2 after disposal
Monitoring of workplace (controlled and supervised areas)	2
Testing instruments	2
Investigation where an employee receives a dose greater than 6 mSv in one year	30 from the date the record is made or until the person has, or would have, reached 75
Over exposure investigation (employee or member of public)	30 from the date the record is made or until the person has, or would have, reached 75
Over exposure investigation (patient)	30 from the date the record is made or until the person has, or would have, reached 75

The following records should also be kept:

- (a) records of diagnostic examinations and factors which would enable future estimates of patient dose to be made;
- (b) records of defects and maintenance;
- (c) alteration of output or quality of radiation as a result of modification or maintenance of apparatus;
- (d) records of radiation safety audits;
- (e) daily records of movements of sealed and solid sources.



## APPENDIX 6

### PARTICULARS TO BE CONTAINED IN A HEALTH RECORD

The health record shall contain the following particulars:

1. The employee's:
  - (i) full name;
  - (ii) sex;
  - (iii) date of birth;
  - (iv) permanent address; and
  - (v) social security number;
2. the date the employee started work as a classified person in his/her present employment;
3. the nature of the work done by the employee;
4. the date of the last medical examination or health review;
5. the type of the last medical examination or health review;
6. a statement signed by the medical adviser, made as a result of the medical examination or health review, classifying the employee as fit, fit subject to conditions (which should be specified) or unfit;
7. the name and signature of the medical adviser;
8. the name and address of the approved dosimetry service appointed to maintain the dose records.



APPENDIX 7

FIGURE 1  
Basic ionising radiation symbol

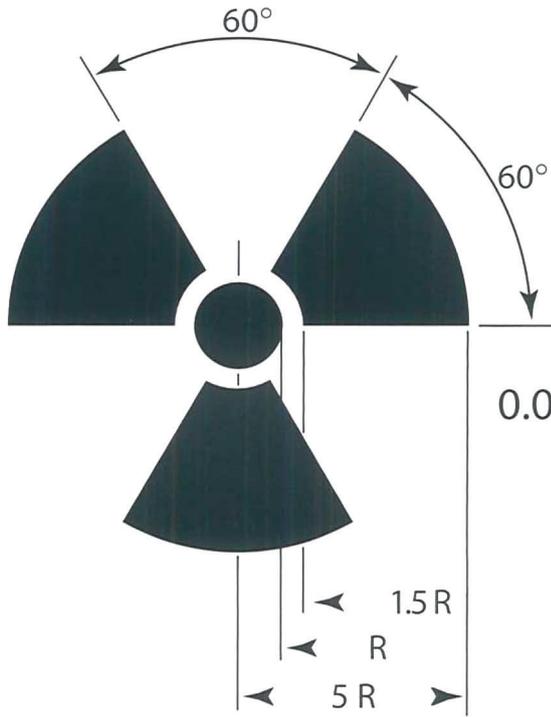


FIGURE 2  
Warning sign - ionising radiation

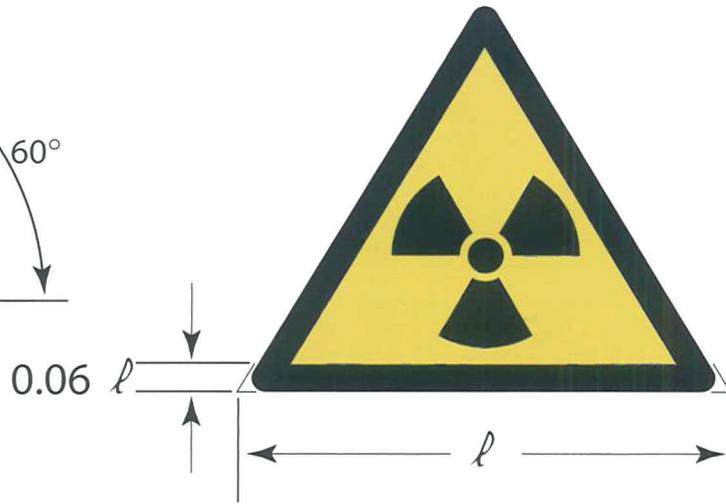


FIGURE 4  
Sign on a storage cabinet for radioactive materials

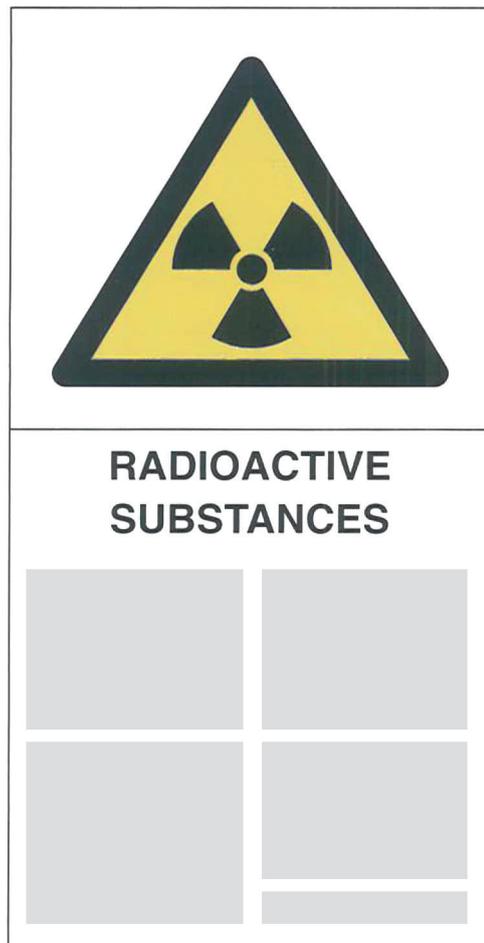


FIGURE 3  
Sign at the entry to a controlled area



FIGURE 5  
Sign on the door of an X-ray room



FIGURE 6  
Label on a bottle containing  
radioactive solution



# NOTES





## **Health and Safety Inspectorate**

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