
STATUTORY RULES OF NORTHERN IRELAND

2017 No. 229

The Ionising Radiations Regulations (Northern Ireland) 2017

PART 1

PRELIMINARY

Citation and commencement

1. These Regulations may be cited as the Ionising Radiations Regulations (Northern Ireland) 2017 and shall come into operation on 1st January 2018.

Interpretation

2.—(1) In these Regulations—

“the 1978 Order” means The Health and Safety at Work (Northern Ireland) Order 1978;

“accelerator” means an apparatus or installation in which particles are accelerated and which emits ionising radiation with an energy higher than 1MeV;

“appointed doctor” means a registered medical practitioner who meets such recognition criteria as may from time to time be specified in writing by the Executive;

“approved” means approved for the time being in writing for the purposes of these Regulations by the Executive and published in such form as the Executive considers appropriate;

“approved dosimetry service” means a dosimetry service approved—

(a) in accordance with regulation 36; or

(b) by the Great Britain Executive under regulation 36 of the Great Britain Regulations;

“calendar year” means a period of 12 months beginning with the 1st January;

“carers and comforters” means individuals knowingly and willingly incurring an exposure to ionising radiation by helping, other than as part of their occupation, in the support and comfort of individuals undergoing or having undergone medical exposure;

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

“classified person” means—

(a) a person designated as such pursuant to regulation 21(1); and

(b) in the case of a classified outside worker employed by an undertaking in Great Britain or in another member State, a person who has been designated as a category A exposed worker within the meaning of Article 40 of the Directive;

“contamination” means the unintended or undesirable presence of radioactive substances on surfaces or within solids, liquids or gases or on the human body, and “contaminated” is to be construed accordingly;

“controlled area” means—

- (a) in the case of an area situated in Northern Ireland, an area which has been so designated in accordance with regulation 17(1); and
- (b) in the case of an area situated in Great Britain or in another member State, an area subject to special rules for the purposes of protection against ionising radiation and to which access is controlled as specified in Article 37 of the Directive;

“the Department” means the Department for the Economy;

“the Directive” means Council Directive 2013/59/ Euratom(1) laying down basic safety standards for protection against the dangers arising from exposure to ionising radiation, and repealing Directives 89/618/Euratom(2), 90/641/Euratom(3), 96/29/Euratom(4), 97/43/Euratom(5) and 2003/122/Euratom(6);

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

“dose assessment” means the dose assessment made and recorded by an approved dosimetry service in accordance with regulation 22;

“dose constraint” means a constraint set on the prospective doses of individuals which may result from a given radiation source;

“dose limit” means, in relation to persons of a specified class, the limit on effective dose or equivalent dose specified in Schedule 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 that person were at that place being a dose rate at that place averaged over one minute;

“dose record” means, in relation to a person, the record of the doses received by that person as a result of that person’s exposure to ionising radiation, being the record made and maintained on behalf of their employer by the approved dosimetry service in accordance with regulation 22;

“employment medical adviser” means an employment medical adviser appointed under Article 48 of the 1978 Order;

“the Executive” means the Health and Safety Executive for Northern Ireland;

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

“extremities” means a person’s hands, forearms, feet and ankles;

“the Great Britain Executive” means the Health and Safety Executive established under section 10 of the Health and Safety at Work etc. Act 1974(7);

“the Great Britain Regulations” means the Ionising Radiations Regulations 2017(8);

“health record” means, in relation to an employee, the record of medical surveillance of that employee maintained by the employer in accordance with regulation 25(3);

“high-activity sealed source” means a sealed source for which the quantity of the radionuclide is equal to or exceeds the relevant quantity value set out in Part 4 of Schedule 7;

“industrial irradiation” means the use of ionising radiation to sterilise, process or alter the structure of products or materials;

(1) OJ No L 13, 17.1.14, p1-73

(2) OJ No L 357, 7.12.89, p31-34

(3) OJ No L 349, 13.12.90, p21-25

(4) OJ No L 159, 29.6.96, p1-114

(5) OJ No L 180, 9.7.97, p22-27

(6) OJ No L 346, 31.12.03, p57-64

(7) 1974 c.37

(8) S.I. 2017/1075

“industrial radiography” means the use of ionising radiation for non-destructive testing purposes where an image of the item under test is formed (but excluding any such testing which is carried out in a cabinet which a person cannot enter);

“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 a wavelength of 100 nanometres or less or a frequency of 3×10^{15} hertz or more capable of producing ions directly or indirectly;

“local rules” means rules made pursuant to regulation 18(1);

“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 exposure” means the exposure to ionising radiation of—

- (a) patients and asymptomatic individuals as part of their own medical diagnosis or treatment;
- (b) individuals as part of health screening programmes;
- (c) patients or other persons voluntarily participating in medical or biomedical, diagnostic or therapeutic, research programmes;
- (d) individuals undergoing non-medical imaging using medical radiological equipment;

“member State” means a member State of the European Union;

“non-classified outside worker” means a person who is not a classified person who carries out services in the supervised or, pursuant to regulation 19(3)(c), controlled area of any employer (other than the supervised or controlled area of their own employer);

“outside worker” means a classified outside worker and a non-classified outside worker;

“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 or, in relation to regulation 27(2), causes a proportion of a dose limit relevant to any employee to be exceeded;

“practice” means work involving—

- (a) the production, processing, handling, disposal, use, storage, holding or transport 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 5kV,

which can increase the exposure of individuals to ionising radiation;

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

“radiation passbook” means—

- (a) in the case of a classified outside worker employed by an employer in Northern Ireland—
 - (i) a passbook approved by the Executive for the purpose of these Regulations;
 - (ii) a passbook approved by the Great Britain Executive for the purposes of the Great Britain Regulations; or
 - (iii) a passbook to which paragraph 8 of Schedule 8 (Transitional Provisions) applies;
- and

- (b) in the case of a classified outside worker employed by an employer in Great Britain or in another member State, a passbook authorised by the competent authority for Great Britain or that member State, as the case may be;

“radiation protection adviser” means an individual who, or a body which, meets such criteria of competence as may from time to time be specified in writing by—

- (a) the Executive; or
(b) the Great Britain Executive;

“radioactive material” means material incorporating radioactive substances;

“radioactive source” means an entity incorporating a radioactive substance (or substances) for the purpose of utilising the radioactivity of that substance (or substances);

“radioactive substance” means any substance which contains one or more radionuclides whose activity cannot be disregarded for the purposes of radiation protection;

“relevant doctor” means an appointed doctor or an employment medical adviser;

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

“supervised area” means an area which has been so designated by the employer in accordance with regulation 17(3);

“territorial sea” means the territorial sea of the United Kingdom adjacent to Northern Ireland and “within the territorial sea” includes on, over and under it;

“trainee” means a person aged 16 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 within the meaning of Article 2(2) of the Road Traffic (Northern Ireland) Order 1995(9) or through another public place (whether on a conveyance or not), or by rail, inland waterway, sea or air and, in the case of transport on a conveyance, a substance is 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 is not to be considered as being transported if—

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

“work with ionising radiation” means work to which these Regulations apply by virtue of regulation 3(1).

(2) In these Regulations any reference to—

- (a) an employer includes a reference to a self-employed person and any duty imposed by these Regulations on an employer in respect of that employer’s employee extends to a self-employed person in respect of themselves;
- (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 and paragraph (3) would not be classed as an employee;

- (c) exposure to ionising radiation is a reference to exposure to ionising radiation arising from work with ionising radiation;
 - (d) a person entering, remaining in or working in a controlled or supervised area includes a reference to any part of a person entering, remaining in or working in any such area.
- (3) For the purposes of these Regulations and Part II of the 1978 Order—
- (a) the word “work” is extended to include any instruction or training which a person undergoes as a trainee and the meaning of “at work” is extended accordingly; and
 - (b) a trainee, while undergoing instruction or training in respect of work with ionising radiation, is to be treated as the employee of the person whose undertaking (whether for profit or not) is providing that instruction or training and that person is to be treated as the employer of that trainee except that the duties to the trainee imposed upon the person providing instruction or training will only extend to matters under the control of that person.
- (4) In these Regulations, where reference is made to a quantity or concentration specified in Schedule 7, that quantity or concentration is to be treated as being exceeded if—
- (a) where only one radionuclide is involved—
 - (i) the quantity of that radionuclide exceeds the quantity specified in the appropriate entry in Part 1, 2 or 4 of Schedule 7; or
 - (ii) the concentration of that radionuclide exceeds the concentration specified in the appropriate entry in Parts 1 or 2 of Schedule 7; or
 - (b) where more than one radionuclide is involved, the quantity or concentration ratio calculated in accordance with Part 3 of Schedule 7 exceeds one.
- (5) Nothing in these Regulations is to 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 that person by or under any statutory provision; or
 - (b) for the purpose of undergoing a medical exposure.
- (6) In these Regulations—
- (a) any reference to an effective dose means the sum of the effective dose to the whole body from external radiation and the committed effective dose from internal radiation; and
 - (b) any reference to equivalent dose to a human tissue or organ includes the committed equivalent dose to that tissue or organ from internal radiation.

Application

3.—(1) Subject to the provisions of this regulation and to regulation 5(1), these Regulations shall apply to—

- (a) any practice; and
- (b) any work (other than a practice) carried on in an atmosphere containing radon 222 gas at an annual average activity concentration in air exceeding 300 Bq m^{-3} .

(2) The following regulations shall not apply where the only work being undertaken is that referred to in paragraph 1(b), namely regulations 24, 28 to 31, 33 and 34.

(3) The following regulations shall not apply in relation to persons undergoing medical exposures, namely regulations 8, 9, 12, 17 to 19, 24, 26, 32(1) and 35(1).

(4) Regulation 12 does not apply in relation to carers and comforters.

(5) In the case of a classified outside worker (working in a controlled area situated in Northern Ireland) employed by an employer established in Great Britain or in another member State, it is sufficient compliance with regulation 22 (dose assessment and recording) and regulation 25 (medical surveillance) if the employer complies with—

- (a) where the employer is established in Great Britain, regulations 22 and 25 of the Great Britain Regulations or any other provision made for the purpose of implementing the relevant parts of Chapter VI of the Directive in Great Britain; or
- (b) where the employer is established in another member State, the legislation in that State implementing the relevant parts of Chapter VI of the Directive where such legislation exists.

Duties under the Regulations

4.—(1) Any duty imposed by these Regulations on an employer in respect of the exposure to ionising radiation of persons other than that employer’s employees is imposed only in so far as the exposure of those persons to ionising radiation arises from work with ionising radiation undertaken by that employer.

(2) Duties under these Regulations imposed upon the employer shall also be imposed upon any person who is—

- (a) a mine operator; or
- (b) the operator of a quarry,

in so far as those duties relate to the mine or part of the mine of which that person is the mine operator or the quarry of which that person is the operator and to matters within that person’s control.

(3) Subject to regulations 5(1)(c), 6(2)(c) and (d) and 7(1)(h), duties under these Regulations imposed upon the employer shall be imposed on the holder of a nuclear site licence under the Nuclear Installations Act 1965⁽¹⁰⁾ in so far as those duties relate to the licensed site.

(4) In this regulation—

- (a) “mine operator” has the meaning given by regulation 2(1) of the Mines Regulations (Northern Ireland) 2016⁽¹¹⁾;
- (b) “operator”, in relation to the operator of a quarry, has the meaning given by regulation 2(1) of the Quarries Regulations (Northern Ireland) 2006⁽¹²⁾.

PART 2

GENERAL PRINCIPLES AND PROCEDURES

Notification of certain work

5.—(1) This regulation applies to work with ionising radiation except—

- (a) work arising from the carrying out of a registrable practice under regulation 6 or a specified practice requiring consent under regulation 7 ;
- (b) work specified in Schedule 1; and

⁽¹⁰⁾ 1965 c.57; sections 1, 3 and 5 were amended by paragraphs 16 to 18 and 20 of Schedule 12 to the Energy Act 2013 (c. 32). There are other amendments not relevant to these Regulations

⁽¹¹⁾ S.R. 2016 No. 427

⁽¹²⁾ S.R. 2006 No. 205, to which there are amendments not relevant to these Regulations

(c) work carried on at a site licensed under section 1 of the Nuclear Installations Act 1965.

(2) Subject to paragraph 3 of Schedule 8 (which relates to transitional provisions), an employer shall not carry out work with ionising radiation to which this regulation applies unless before the first occasion of commencing such work since the coming into operation of this regulation the employer has notified that work to the Executive in accordance with the notification procedure approved by the Executive from time to time.

(3) Where an employer has notified work in accordance with paragraph (2), the Executive may, by notice in writing require that employer to provide such additional particulars of that work as the Executive may reasonably require in connection with the notification, and in such a case the employer shall provide those particulars by such time as is specified in the notice or by such other time as the Executive may subsequently agree.

(4) A notice under paragraph (3) may require the employer to notify the Executive of any of those additional particulars before each occasion on which the employer commences work with ionising radiation.

(5) Where an employer has notified work in accordance with this regulation and subsequently ceases that work, or makes a material change in the work which would affect the particulars provided to the Executive in connection with the notification, the employer shall immediately notify the Executive of that cessation or material change.

Registration of certain practices

6.—(1) For the purposes of this regulation, all practices are registrable practices except those listed in paragraph (2).

(2) The following practices are not registrable practices—

- (a) a practice solely involving work with ionising radiation to which Schedule 1 applies;
- (b) a specified practice (within the meaning of regulation 7(1));
- (c) the operation or decommissioning of any nuclear installation;
- (d) the operation, decommissioning or closure of any facility for the long term storage or disposal of radioactive waste (including facilities managing radioactive waste for this purpose) where such facility is situated on a site licensed under section 1 of the Nuclear Installations Act 1965;
- (e) any practice involving radioactive material where the amount of the radioactive material does not exceed 1,000kg and the activity concentration value of the radioactive substance in that material does not exceed the value specified in column 4 of Part 1 of Schedule 7 (for artificial radionuclides and naturally occurring radionuclides which are processed for their radioactive, fissile or fertile properties) or column 4 of Part 2 of Schedule 7 (for naturally occurring radionuclides which are not processed for their radioactive, fissile or fertile properties);
- (f) any practice involving radioactive material where the amount of the radioactive material exceeds 1,000kg and the activity concentration value of the radioactive substance in that material does not exceed the value in column 2 of Part 1 of Schedule 7 (for artificial radionuclides and naturally occurring radionuclides which are processed for their radioactive, fissile or fertile properties) or column 2 of Part 2 of Schedule 7 (for naturally occurring radionuclides which are not processed for their radioactive, fissile or fertile properties).

(3) Subject to paragraph 4 of Schedule 8 (which relates to transitional provisions), an employer shall not carry out a registrable practice unless that employer has applied for, and has been issued with, a registration in connection with the practice by the Executive.

(4) An employer applying for a registration under paragraph (3) must provide—

- (a) such information regarding the practice as is required by the registration procedure approved by the Executive from time to time; and
 - (b) upon notice in writing by the Executive, such other information relating to the practice as the Executive may reasonably require in connection with the registration.
- (5) A registration under paragraph (3) may be issued subject to conditions (which may include a limit of time) and may be revoked in writing at any time.
- (6) Where an employer has registered a practice in accordance with this regulation and subsequently ceases to carry out that practice, or makes a material change to the practice which would affect the particulars provided to the Executive in connection with the registration, the employer shall immediately notify the Executive of that cessation or material change.
- (7) An employer who is aggrieved by—
- (a) a decision of the Executive refusing to issue a registration under paragraph (3) or revoking a registration under paragraph (5); or
 - (b) the terms of any conditions attached to a registration under paragraph (5),
- may appeal to the Department.
- (8) Chapter I of the Schedule to the Deregulation (Model Appeal Provisions) Order (Northern Ireland) 1997(13) shall apply to any appeal made under paragraph (7).
- (9) In this regulation “nuclear installation” has the meaning given by regulation 26(1) of the Nuclear Installations Act 1965.

Consent to carry out specified practices

- 7.—(1) In this regulation a “specified practice” means any of the following practices—
- (a) the deliberate administration of radioactive substances to persons and, in so far as the radiation protection of persons is concerned, animals for the purpose of medical or veterinary diagnosis, treatment or research;
 - (b) the exploitation and closure of uranium mines;
 - (c) the deliberate addition of radioactive substances in the production or manufacture of consumer products or other products, including medicinal products;
 - (d) the operation of an accelerator (except when operated as part of a practice within subparagraph (e) or (f) below and except an electron microscope);
 - (e) industrial radiography;
 - (f) industrial irradiation;
 - (g) any practice involving a high-activity sealed source (other than one within subparagraph (e) or (f) above);
 - (h) the operation, decommissioning or closure of any facility for the long term storage or disposal of radioactive waste (including facilities managing radioactive waste for this purpose) but not any such facility situated on a site licensed under section 1 of the Nuclear Installations Act 1965;
 - (i) practices discharging significant amounts of radioactive material with airborne or liquid effluent into the environment.
- (2) Subject to paragraph 5 of Schedule 8 (which relates to transitional provisions), an employer shall not carry out a specified practice unless that employer has applied for, and has been granted, a consent to carry out the practice by the Executive.

- (3) An employer applying for a consent under paragraph (2) shall provide—
- (a) such of the information set out in Schedule 2 as the Executive may specify from time to time as necessary to determine an application for consent; and
 - (b) upon notice in writing by the Executive, such other information relating to the practice as the Executive may reasonably require in connection with the application for consent.
- (4) A consent granted under paragraph (2) may be granted subject to conditions (which may include a limit of time) and may be revoked in writing at any time.
- (5) Where an employer has been granted consent under this regulation to carry out a practice and subsequently ceases to carry out that practice, or makes a material change to the practice which would affect the particulars provided to the Executive in connection with the application for consent, the employer shall immediately notify the Executive of that cessation or material change.
- (6) An employer who is aggrieved by—
- (a) a decision of the Executive refusing to grant a consent under paragraph (2) or revoking a consent under paragraph (4); or
 - (b) the terms of any conditions attached to a consent under paragraph (4),
- may appeal to the Department.
- (7) Chapter I of the Schedule to the Deregulation (Model Appeal Provisions) Order (Northern Ireland) 1997 shall apply to any appeal made under paragraph (6).

Radiation risk assessments

- 8.**—(1) An employer, before commencing a new activity involving work with ionising radiation in respect of which no risk assessment has been made by that employer, shall make a suitable and sufficient assessment of the risk to any employee and other person for the purpose of identifying the measures the employer needs to take to restrict the exposure of that employee or other person to ionising radiation.
- (2) Without prejudice to paragraph (1), an employer shall not carry out work with ionising radiation unless it has made an assessment sufficient to demonstrate 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.
- (3) Where the assessment made for the purposes of this regulation shows that a radiation risk to employees or other persons exists from an identifiable radiation accident, the employer who is subject to the obligation in paragraph (1) to make the risk assessment shall take all reasonably practicable steps to—
- (a) prevent any such accident;
 - (b) limit the consequences of any accident which does occur; and
 - (c) provide employees with the information, instruction, training and equipment necessary to restrict their exposure to ionising radiation.
- (4) The requirements of this regulation are without prejudice to the requirements of regulation 3 (Risk assessment) of the Management of Health and Safety at Work Regulations (Northern Ireland) 2000⁽¹⁴⁾.

(14) S.R. 2000 No. 388; relevant amending rules are S.R. 2001 No.348, S.R. 2003 No. 454 and S.R. 2015 No. 265

Restriction of exposure

9.—(1) Every employer shall, in relation to any work with ionising radiation that it undertakes, take all necessary steps to restrict so far as is reasonably practicable the extent to which its employees and other persons are exposed to ionising radiation.

(2) Without prejudice to the generality of paragraph (1), an employer in relation to any work with ionising radiation that it undertakes shall—

- (a) so far as is reasonably practicable achieve the restriction of exposure to ionising radiation required under paragraph (1) by means of engineering controls, design features and by the provision and use of safety features and warning devices;
- (b) provide such systems of work as will, so far as is reasonably practicable, restrict the exposure to ionising radiation of employees and other persons; and
- (c) where it is reasonably practicable to further restrict exposure to ionising radiation by means of personal protective equipment, provide employees or other persons with adequate and suitable personal protective equipment (including respiratory protective equipment) unless the use of personal protective equipment of a particular kind is not appropriate having regard to the nature of the work or the circumstances of the particular case.

(3) An employer who provides any system of work or personal protective equipment pursuant to this regulation shall take all reasonable steps to ensure that it is properly used or applied as the case may be.

(4) Where it is appropriate to do so at the planning stage of radiation protection, an employer, in relation to any work with ionising radiation that it undertakes, shall use dose constraints in restricting exposure to ionising radiation pursuant to paragraph (1).

(5) An employer shall establish the dose constraints referred to in paragraph (4) in terms of the effective or equivalent dose received by an individual over an appropriate period of time.

(6) Without prejudice to paragraph (1), an employer who undertakes work with ionising radiation shall ensure that—

- (a) in relation to an employee who is pregnant, the conditions of exposure are such that, after the employee's employer has been notified of the pregnancy, the equivalent dose to the foetus is as low as is reasonably practicable and is unlikely to exceed 1 mSv during the remainder of the pregnancy; and
- (b) in relation to an employee who is breastfeeding, that employee shall not be engaged in any work involving a significant risk of intake of radionuclides or of bodily contamination.

(7) Nothing in paragraph (6) requires the employer who undertakes work with ionising radiation to take any action in relation to an employee until that employee's employer has been notified in writing by the employee of the pregnancy or that the employee is breastfeeding and the employer who is undertaking the work with ionising radiation has been made aware, or should reasonably have been expected to be aware, of that notification.

(8) Every employer shall, for the purpose of determining whether the requirements of paragraph (1) are being met, ensure that an investigation is carried out without delay when the effective dose of ionising radiation received by any of its employees for the first time in any calendar year exceeds 15 mSv or such other lower effective dose as the employer may specify, which dose shall be specified in writing in local rules made pursuant to regulation 18(1) or, where local rules are not required, by other suitable means.

Personal protective equipment

10.—(1) Any personal protective equipment provided by an employer pursuant to regulation 9 shall be suitable for its purpose and

- (a) comply with any provision of the Personal Protective Equipment Regulations 2002(15) which is applicable to that item of personal protective equipment; or
- (b) in the case of respiratory protective equipment where no provision referred to in subparagraph (a) applies, be of a type approved or conform to a standard approved, in either case, by-
 - (i) the Executive; or
 - (ii) the Great Britain Executive under regulation 10 (1) (b) of the Great Britain Regulations.

(2) Every employer who provides personal protective equipment pursuant to regulation 9 shall ensure that adequate facilities are provided for the storage of that equipment.

Maintenance and examination of engineering controls etc and personal protective equipment

11.—(1) An employer who provides any engineering control, design feature, safety feature or warning device to meet the requirements of regulation 9(2)(a) shall ensure—

- (a) that any such control, feature or device is properly maintained; and
 - (b) where appropriate, that thorough examinations and tests of such controls, features or devices are carried out at suitable intervals.
- (2) Every employer shall ensure that—
- (a) all personal protective equipment provided pursuant to regulation 9 is, where appropriate, thoroughly examined at suitable intervals and is properly maintained; and
 - (b) in the case of respiratory protective equipment, a suitable record of that examination is made and kept for at least 2 years from the date on which the examination was made and that the record includes a statement of the condition of the equipment at the time of the examination.

Dose limitation

12.—(1) Subject to paragraph (2), every employer shall ensure that its employees and other persons within a class specified in Schedule 3 are not exposed to ionising radiation to an extent that any dose limit specified in Part 1 of that Schedule for such class of person is exceeded in any calendar year.

(2) Where an employer is able to demonstrate to the Executive that, in respect of an employee, the dose limit specified in paragraph 1 of Part I of Schedule 3 is impracticable having regard to the nature of the work undertaken by that employee, the Executive may in respect of that employee authorise the employer to apply the dose limits set out in paragraphs 8 or 9 of Schedule 3 and in such case the provisions of Part 2 of that Schedule will have effect.

(3) The steps taken by a relevant employer to comply with paragraph (1) in respect of members of the public shall include an estimation of doses to members of the public from the relevant practice or practices carried out by the relevant employer in accordance with requirements regarding the estimation of doses as approved by the Executive from time to time.

(4) In this regulation—

“relevant employer” means an employer who is carrying out, or who intends to carry out, a relevant practice;

“relevant practice” means a practice to which regulation 6 or 7 applies.

Contingency plans

13.—(1) Where an assessment made in accordance with regulation 8 shows that a radiation accident is reasonably foreseeable (having regard to the steps taken by the employer under paragraph (3) of that regulation), the employer shall prepare a contingency plan designed to secure, so far as is reasonably practicable, the restriction of exposure to ionising radiation and the health and safety of persons who may be affected by such accident.

(2) An employer shall ensure that—

- (a) where local rules are required for the purposes of regulation 18, a copy of the contingency plan made in pursuance of paragraph (1) is identified in those rules and incorporated into them by way of summary or reference;
- (b) any employee under the employer's control who may be involved with or affected by arrangements in the plan has been given suitable and sufficient instructions and where appropriate issued with suitable dosimeters or other devices;
- (c) where appropriate, rehearsals of the arrangements in the plan are carried out at suitable intervals; and
- (d) if circumstances arise where it is necessary for some or all of the arrangements in the plan to be carried out—
 - (i) the cause of those circumstances is analysed to determine, so far as is reasonably practicable, the measures, if any, required to prevent a recurrence of such circumstances;
 - (ii) a record of such analysis is made and kept for at least 2 years from the date on which it was made; and
 - (iii) any exposure which occurs due to the above circumstances is noted on any relevant dose record.

PART 3

ARRANGEMENTS FOR THE MANAGEMENT OF RADIATION PROTECTION

Radiation protection adviser

14.—(1) Subject to paragraph (3), every employer engaged in work with ionising radiation shall consult such suitable radiation protection advisers as are necessary for the purpose of advising the employer on the observance of these Regulations and shall, in any event, consult one or more suitable radiation protection advisers with regard to the matters set out in Schedule 4.

(2) Where an employer consults a radiation protection adviser pursuant to the requirements of paragraph (1) (other than in respect of the observance of that paragraph), 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.

(3) Nothing in paragraph (1) requires an employer to consult a radiation protection adviser where the only work with ionising radiation undertaken by that employer is work specified in Schedule 1.

(4) The employer shall provide any radiation protection adviser appointed by it with adequate information and facilities for the performance of the radiation protection adviser's functions arising from their consultation or appointment under this regulation.

Information, instruction and training

15.—(1) Every employer shall ensure that—

- (a) those of its employees who are engaged in work with ionising radiation are given appropriate training in the field of radiation protection and receive such information and instruction as is suitable and sufficient for them to know—
 - (i) the risks to health created by exposure to ionising radiation as a result of their work;
 - (ii) the general and specific radiation protection procedures and precautions which should be taken in connection with the work with ionising radiation to which they may be assigned; and
 - (iii) the importance of complying with the medical, technical and administrative requirements of these Regulations;
 - (b) adequate information is given to other persons who are directly concerned with the work with ionising radiation carried on by the employer to ensure their health and safety so far as is reasonably practicable;
 - (c) its 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 their informing their employer in writing as soon as possible—
 - (i) after becoming aware of their pregnancy; or
 - (ii) if they intend to breast feed an infant;
 - (d) any employees engaged in work in a controlled area (as designated under regulation 17) are given specific training in connection with the characteristics of the workplace and the activities within it; and
 - (e) the giving of training and information under this regulation is repeated at appropriate intervals and documented by the employer.
- (2) In addition to the requirements in paragraph (1), every employer who is engaged in work with ionising radiation involving a high-activity sealed source shall ensure that the information and training given to employees involved in such work includes—
- (a) specific requirements for the safe management and control of high-activity sealed sources for the purpose of preparing such employees for any events which may affect their radiation protection;
 - (b) particular emphasis on the necessary safety requirements in connection with high-activity sealed sources; and
 - (c) specific information on the possible consequences of the loss of adequate control of high-activity sealed sources.

Co-operation between employers

16. Where work with ionising radiation undertaken by one employer is likely to give rise to the exposure to ionising radiation of the employee of another employer, the employers concerned shall co-operate by the exchange of information or otherwise to the extent necessary to ensure that each such employer—

- (a) has access to information on the possible exposure of their employees to ionising radiation; and
- (b) is enabled to comply with the requirements of these Regulations in so far as their ability to comply depends upon such co-operation.

PART 4

DESIGNATED AREAS

Designation of controlled or supervised areas

17.—(1) Every employer shall designate as a controlled area any area under its control which has been identified by an assessment made by that employer (whether pursuant to regulation 8 or otherwise) as an area in which—

- (a) it is necessary for any person who enters or works in the area to follow special procedures designed to restrict significant exposure to ionising radiation in that area or prevent or limit the probability and magnitude of radiation accidents or their effects; 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.

(2) An employer shall not intentionally create in any area conditions which would require that area to be designated as a controlled area unless that area is for the time being under the control of that employer.

(3) An employer shall designate as a supervised area any area under its control, not being an area designated as a controlled area—

- (a) where it is necessary to keep the conditions of the area under review to determine whether the 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 5 mSv a year for the lens of the eye or greater than 50 mSv a year for the skin or the extremities.

Local rules and radiation protection supervisors

18.—(1) For the purposes of enabling work with ionising radiation to be carried on in accordance with the requirements of these Regulations, every employer engaged in work with ionising radiation shall, in respect of any controlled area or, where appropriate having regard to the nature of the work carried out there, any supervised area, make and set down in writing such local rules as are appropriate to the radiation risk and the nature of the operations undertaken in that area.

(2) Local rules shall identify the main working instructions intended to restrict any exposure in that controlled or supervised area.

(3) An employer shall take all reasonable steps to ensure that any local rules which are relevant to the work being carried out are observed.

(4) An employer shall ensure that any relevant local rules are brought to the attention of those employees and other persons who may be affected by them.

(5) An employer shall—

- (a) appoint one or more suitable radiation protection supervisors for the purpose of securing compliance with these Regulations in respect of work carried out in any area made subject to local rules;
- (b) set down in the local rules the names of such radiation protection supervisors; and
- (c) provide the means necessary for such radiation protection supervisors to perform their role.

Additional requirements for designated areas

19.—(1) Every employer who designates any area as a controlled or supervised area shall ensure that any such designated area—

- (a) is adequately described in local rules; and
- (b) has suitable and sufficient signs displayed in suitable positions warning that the area has been so designated and indicating the nature of the radiation sources and the risks arising from such sources.

(2) A controlled area shall be physically demarcated or, where this is not reasonably practicable, delineated by some other suitable means.

(3) The employer who has designated an area as a controlled area shall not permit any person to enter or remain in that area unless they—

- (a) are a classified person who is not a classified outside worker;
- (b) are a classified outside worker in respect of whom that employer has taken all reasonable steps to ensure that the person—
 - (i) is subject to individual dose assessment pursuant to regulation 22;
 - (ii) has been provided with and has been trained to use any personal protective equipment that may be necessary pursuant to regulation 9(2)(c);
 - (iii) has received any specific training required pursuant to regulation 15; and
 - (iv) has been certified fit pursuant to regulation 25 for the work with ionising radiation which the person is to carry out; or
- (c) not being a classified person, have entered or remain in the area in accordance with suitable written arrangements.

(4) The written arrangements referred to in paragraph (3)(c) shall ensure that—

- (a) an employee or a non-classified outside worker aged 18 years or over, does not receive in any calendar year a cumulative dose of ionising radiation which would require that person to be designated as a classified person; or
- (b) any other person does not receive in any calendar year a dose of ionising radiation exceeding any relevant dose limit.

(5) A non-classified outside worker is not permitted to enter or remain in a controlled area pursuant to paragraph (3)(c) unless they have been provided with personal protective equipment and training pursuant to paragraph (3)(b)(ii) and (iii).

(6) An employer who has designated an area as a controlled area shall not permit a person to enter or remain in such area in accordance with written arrangements pursuant to paragraph (3)(c) unless the employer can demonstrate, by personal dose monitoring or other suitable measurements, that the doses are restricted in accordance with paragraph (4).

(7) An employer who has designated an area as a controlled area shall, in relation to a classified outside worker, ensure that—

- (a) the classified outside worker is subject to arrangements for estimating the dose of ionising radiation received by that worker whilst in the controlled area;
- (b) as soon as is reasonably practicable after the services carried out by that classified outside worker in that controlled area are completed, an estimate of the dose received by that worker is entered into that worker's radiation passbook; and
- (c) when the radiation passbook of the classified outside worker is in the possession of that employer, the passbook is made available to that worker upon request.

(8) The employer who carries out the monitoring or measurements pursuant to paragraph (6) shall keep the results of the monitoring or measurements referred to in that paragraph for a period of 2 years from the date they were recorded and shall, at the request of the person to whom the monitoring or measurements relate and on reasonable notice being given make the results available to that person.

(9) In any case where there is a significant risk of the spread of radioactive contamination from a controlled area, the employer who has designated that area as a controlled area shall make adequate arrangements to restrict, so far as is reasonably practicable, the spread of such contamination.

(10) Without prejudice to the generality of paragraph (9), the arrangements required by that paragraph shall, where appropriate, include—

- (a) the provision of suitable and sufficient washing and changing facilities for persons who enter or leave any controlled or supervised area;
- (b) the proper maintenance of such washing and changing facilities;
- (c) the prohibition of eating, drinking or smoking or any similar activity to result in the ingestion, inhalation or absorption of a radioactive substance by any employee or outside worker in a controlled area; and
- (d) the means for monitoring contamination—
 - (i) within a controlled area and, where appropriate, in the adjacent area; and
 - (ii) on any person, article or goods leaving a controlled area.

Monitoring of designated areas

20.—(1) Every employer who designates an area as a controlled or supervised area shall take such steps as are necessary (otherwise than by use of assessed doses of individuals), having regard to the nature and extent of the risks resulting from exposure to ionising radiation, to ensure that levels of ionising radiation are adequately monitored for each such area and that working conditions in those areas are kept under review.

(2) Adequate monitoring referred to in paragraph (1) shall include—

- (a) in relation to areas designated on the basis of external radiation, measurement of dose rates (averaged over a suitable period if necessary); and
- (b) in relation to areas designated on the basis of internal radiation, measurements where appropriate of air activity and surface contamination taking into account the physical and chemical states of the radioactive contamination.

(3) The employer upon whom a duty is imposed by paragraph (1) shall provide suitable and sufficient equipment for carrying out the monitoring required by that paragraph, which equipment shall—

- (a) be properly maintained so that it remains fit for the purpose for which it was intended; and
- (b) be adequately tested and examined at appropriate intervals.

(4) Equipment provided pursuant to paragraph (3) shall not be or remain suitable unless—

- (a) the performance of the equipment has been established by adequate tests before it has first been used; and
- (b) the tests and examinations carried out pursuant to paragraph (3) and sub-paragraph (a) have been carried out by or under the supervision of a suitably qualified person.

(5) The employer upon whom a duty is imposed by paragraph (1) shall—

- (a) make suitable records of the results of the monitoring carried out in accordance with paragraph (1) and of the tests carried out in accordance with paragraphs (3) and (4);

- (b) ensure that the records of the tests carried out in accordance with paragraphs (3) and (4) are authorised by a suitably qualified person; and
 - (c) keep the records referred to in sub-paragraph (a), or copies of those records, for at least 2 years from the respective dates on which they were made.
- (6) Suitable records of the results of the monitoring referred to in paragraph 5(a) shall include—
- (a) in relation to areas designated on the basis of external radiation, an indication of the nature and quality of the radiation in question;
 - (b) in relation to areas designated on the basis of internal radiation, an indication, where appropriate, of the nature and physical and chemical states of the radioactive contamination.

PART 5

CLASSIFICATION AND MONITORING OF PERSONS

Designation of classified persons

21.—(1) Subject to paragraph (2), the employer shall designate as classified persons those of its 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 shall immediately inform those employees that they have been so designated.

(2) The employer shall not designate an employee as a classified person unless—

- (a) that employee is aged 18 years or over; and
- (b) a relevant doctor has certified in the health record that that employee is fit for the work with ionising radiation which that employee is to carry out.

(3) The employer may cease to treat an employee as a classified person only at the end of a calendar year except where—

- (a) a relevant doctor so requires; 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.

Dose assessment and recording

22.—(1) Every employer shall ensure that—

- (a) in respect of each of its employees who is designated as a classified person, an assessment is made of all doses of ionising radiation received by such employee which are likely to be significant; and
- (b) such assessments are recorded.

(2) For the purposes of paragraph (1), the employer shall make suitable arrangements with one or more approved dosimetry service for—

- (a) the making of systematic assessments of such doses by the use of suitable individual measurement for appropriate periods or, where individual measurement is inappropriate, by means of other suitable measurements; and
- (b) the making and maintenance of dose records relating to each classified person.

(3) For the purposes of paragraph (2)(b), the arrangements that the employer makes with the approved dosimetry service shall include requirements for that service—

- (a) to keep the records made and maintained pursuant to the arrangements, or a copy of those records, 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 30 years from when the record was made;
 - (b) to provide the employer at appropriate intervals with suitable summaries of the maintained dose records;
 - (c) when and as required by the employer, to provide the employer with copies of the dose record relating to any of the employer's employees;
 - (d) when required by the employer, to make a record of the information concerning the dose assessment relating to a classified person who ceases to be an employee of the employer, and to send that record to the Executive and a copy of the record to the employer as soon as possible, and such a record is referred to in this regulation as a "termination record";
 - (e) within 3 months, or such longer period as the Executive may agree, of the end of each calendar year to send to the Executive summaries of all current dose records relating to that year;
 - (f) when required by the Executive, to provide it with copies of any dose records;
 - (g) where a dose is estimated pursuant to regulation 23, to make an entry in a dose record and retain the summary of the information used to estimate that dose;
 - (h) where the employer employs a classified outside worker, to provide, where appropriate, a current radiation passbook in respect of that classified outside worker; and
 - (i) where the employer employs a classified outside worker who works in Great Britain or another member State, to maintain a continuing record of the assessment of the dose received by that classified outside worker when working in such place.
- (4) The employer shall provide the approved dosimetry service with such information concerning its employees as is necessary for the approved dosimetry service to comply with the arrangements made for the purposes of paragraph (2).
- (5) An employer shall—
- (a) ensure that each classified outside worker employed by it is provided with a current individual radiation passbook which shall not be transferable to any other worker and in which shall be entered the particulars set out in Schedule 5; and
 - (b) make suitable arrangements to ensure that the particulars entered in the radiation passbook are kept up-to-date during the period of employment of the classified outside worker by that employer.
- (6) The employer shall—
- (a) at the request of a classified person employed by the employer (or of a person formerly employed by the employer as a classified person) 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 provided for the purpose of paragraph (3)(b) relating to that person and made within a period of 2 years preceding the request; and
 - (ii) a copy of the dose record of that person; and
 - (b) when a classified person ceases to be employed by the employer, take all reasonable steps to provide that person with a copy of their termination record.
- (7) The employer shall keep a copy of the summary of the dose record received from the approved dosimetry service for at least 2 years from the end of the calendar year to which the summary relates.

Estimated and notional doses and special entries

23.—(1) Where a dosimeter or other device is used to make any individual measurement under regulation 22(2) and that dosimeter or device is lost, damaged or destroyed or it is not practicable to assess the dose received by a classified person over any period, the employer shall—

- (a) make an adequate investigation of the circumstances of the case with a view to estimating the dose received by that person during that period and either—
 - (i) in a case where there is adequate information to estimate the dose received by that person, send to the approved dosimetry service an adequate summary of the information used to estimate that dose and arrange for the approved dosimetry service to enter the estimated dose in the dose record of that person; or
 - (ii) in a case where there is inadequate information to estimate the dose received by the classified person, arrange for the approved dosimetry service to enter a notional dose in the dose record of that person which shall be the proportion of the total annual dose limit for the relevant period; and
- (b) in either case referred to in sub-paragraph (a), take reasonable steps to inform the classified person of the entry in their dose record and arrange for the approved dosimetry service to identify that entry as an estimated dose or a notional dose as the case may be.

(2) The employer shall, at the request of the classified person (or a person formerly employed by that employer as a classified person) to whom the investigation made under paragraph (1) relates and on reasonable notice being given, make available to that person a copy of the summary sent to the approved dosimetry service under paragraph (1)(a).

(3) Subject to paragraphs (5) and (8), where an employer has reasonable cause to believe that the dose received by a classified person is much greater or much less than that shown in the relevant entry of the dose record, the employer shall make an adequate investigation of the circumstances of the exposure of that person to ionising radiation and, if that investigation confirms the employer's belief, the employer shall, where there is adequate information to estimate the dose received by the classified person—

- (a) send to the approved dosimetry service an adequate summary of the information used to estimate that dose;
- (b) arrange for the approved dosimetry service to enter that estimated dose in the dose record of that person and for the approved dosimetry service to identify the estimated dose in the dose record as a special entry; and
- (c) notify the classified person accordingly.

(4) The employer shall make a report of any investigation carried out under paragraph (3) and shall preserve a copy of that report for a period of 2 years from the date it was made.

(5) Paragraph (3) shall not apply—

- (a) in respect of a classified person subject only to an annual dose limit, more than 12 months after the original entry was made in the record; and
- (b) in any other case, more than 5 years after the original entry was made in the record.

(6) Where a classified person is aggrieved by a decision to replace a recorded dose by an estimated dose pursuant to paragraph (3) that person may, by an application in writing to the Executive made within 3 months of the date on which that person was notified of the decision, apply for that decision to be reviewed.

(7) Where the Executive concludes (whether as a result of a review carried out pursuant to paragraph (6) or otherwise) that—

- (a) there is reasonable cause to believe the investigation carried out pursuant to paragraph (3) was inadequate; or

- (b) a reasonable estimated dose has not been established,

the employer shall, if so directed by the Executive, require the approved dosimetry service to re-instate the original entry in the dose record.

(8) The employer shall not, without the consent of the Executive, require the approved dosimetry service to enter an estimated dose in the dose record in any case where—

- (a) the cumulative recorded effective dose is 20 mSv or more in one calendar year; or
- (b) the cumulative recorded equivalent dose for the calendar year exceeds a relevant dose limit.

Dosimetry for accidents etc

24.—(1) Where any accident or other occurrence takes place which is likely to result in a person receiving an effective dose of ionising radiation greater than 6 mSv or an equivalent dose greater than 15 mSv for the lens of an eye or greater than 150 mSv for the skin or the extremities, the employer shall—

- (a) in the case of a classified person, arrange for a dose assessment to be made by the approved dosimetry service as soon as possible;
 - (b) in the case of an employee to whom a dosimeter or other device has been issued in accordance with regulation 13(2), arrange for that dosimeter or device to be examined and for the dose received to be assessed by the approved dosimetry service as soon as possible;
 - (c) in any other case, arrange for the dose to be assessed by an appropriate means as soon as possible, having regard to the advice of the radiation protection adviser.
- (2) In each such case, the employer shall—
- (a) take all reasonably practicable steps to inform each person for whom a dose assessment has been made of the result of that assessment;
 - (b) notify the Executive of the result of the dose assessment as soon as possible; and
 - (c) keep a record or copy of the assessment 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 30 years from the date of the relevant accident.

Medical surveillance

25.—(1) This regulation shall apply in relation to—

- (a) classified persons and persons whom an employer intends to designate as classified persons;
 - (b) employees who have received an overexposure and are not classified persons;
 - (c) employees in respect of whom a relevant doctor has made a certification under paragraph (5).
- (2) An employer shall ensure that—
- (a) each of its employees to whom this regulation relates is under adequate medical surveillance by a relevant doctor for the purpose of determining the fitness of each employee for the work with ionising radiation which that employee is to carry out;
 - (b) a health record containing the particulars referred to in Schedule 6 is made and maintained in respect of such employees; and
 - (c) the record or a copy of the record is 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 30 years from the date of the last entry made in it.

(3) Subject to paragraph (4), an employer shall ensure that there is a valid entry made by a relevant doctor in the health record of each of its employees to whom this regulation relates (other than employees who have received an overexposure and who are not classified persons) and an entry in the health record is valid—

- (a) for 12 months from the date it was made or treated as made by virtue of paragraph (4);
- (b) for such shorter period as is specified in the entry by the relevant doctor; or
- (c) until cancelled by a relevant doctor by a further entry in the record.

(4) For the purposes of paragraph (3)(a), a further entry in the health record of the same employee, where made not less than 11 months nor more than 13 months after the start of the current period of validity, is to be treated as if made at the end of that period.

(5) Where a relevant doctor has certified in the health record of an employee that in their professional opinion that employee should not be engaged in work with ionising radiation or that the employee should only be so engaged under conditions specified by the relevant doctor in the health record, the employer shall not permit that employee to be engaged in the work with ionising radiation, or only permit the employee to be engaged in the work in accordance with the conditions so specified, as the case may be.

(6) Where a relevant doctor requires to inspect any workplace for the purpose of carrying out their functions under these Regulations the employer shall permit them to do so.

(7) An employer shall make available to the relevant doctor the summary of the dose record kept by the employer pursuant to regulation 22(7) and such other records kept for the purposes of these Regulations as the relevant doctor may reasonably require.

(8) Where an employee is aggrieved by a decision recorded in the health record by a relevant doctor the employee may, by an application in writing to the Executive made within 28 days of the date on which the employee was notified of the decision, apply for that decision to be reviewed in accordance with a procedure approved for the purposes of this paragraph by the Executive, and the result of that review shall be notified to the employee and entered in the employee's health record in accordance with the approved procedure.

Investigation and notification of overexposure

26.—(1) Where an employer suspects or has been informed that any person is likely to have received an overexposure as a result of work with ionising radiation carried out by that employer, that employer shall make an immediate investigation to determine whether there are circumstances which show beyond reasonable doubt that no overexposure could have occurred and, unless this is shown, the employer shall—

- (a) as soon as practicable notify the suspected overexposure to—
 - (i) the Executive;
 - (ii) in the case of an employee of some other employer, that other employer; and
 - (iii) in the case of the employer's own employee, the relevant doctor;
- (b) as soon as practicable take reasonable steps to notify the suspected overexposure to the person affected;
- (c) make or arrange for such investigation of the circumstances of the exposure and an assessment of any relevant dose received as is necessary to determine, so far as is reasonably practicable, the measures, if any, required to be taken to prevent a recurrence of such overexposure; and
- (d) immediately notify the results of the investigation and assessment referred to in sub-paragraph (c) to the persons and authorities mentioned in sub-paragraph (a) and shall—

- (i) in the case of the employer's employee, immediately notify that employee of the results of the investigation and assessment; or
 - (ii) in the case of a person who is not the employer's employee, where the investigation has shown that that person has received an overexposure, take all reasonable steps to notify that person of their overexposure.
- (2) An employer who makes any investigation pursuant to paragraph (1) shall make a report of that investigation and shall—
- (a) in respect of an immediate investigation, keep that report or a copy of the report for at least 2 years from the date on which it was made; and
 - (b) in respect of an investigation made pursuant to paragraph (1)(c), keep that report or a copy of the report 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 30 years from the date on which it was made.
- (3) Where the person who received the overexposure is an employee who has a dose record, the employer's employer shall arrange for the assessment of the dose received to be entered into that dose record.

Dose limitation for overexposed employees

27.—(1) Without prejudice to other requirements of these Regulations and in particular regulation 25(5), where an employee has been subjected to an overexposure paragraph (2) applies in relation to the employment of that employee on work with ionising radiation during the remainder of the dose limitation period, where that remaining period commences at the end of the personal dose assessment period in which that employee was subjected to the overexposure.

(2) The employer shall ensure that an employee to whom this regulation relates does not, during the remainder of the dose limitation period, receive a dose of ionising radiation greater than that proportion of any dose limit which is equal to the proportion that the remaining part of the dose limitation period bears to the whole of that period.

(3) The employer shall inform an employee who has been subjected to an overexposure of the dose limit which is applicable to that employee for the remainder of the relevant dose limitation period.

(4) In this regulation, "dose limitation period" means, as appropriate, a calendar year or the period of five consecutive calendar years.

PART 6

ARRANGEMENTS FOR THE CONTROL OF RADIOACTIVE SUBSTANCES, ARTICLES AND EQUIPMENT

Sealed sources and articles containing or embodying radioactive substances

28.—(1) Where a radioactive substance is used as a source of ionising radiation in work with ionising radiation, the employer shall ensure that, whenever reasonably practicable, the substance is in the form of a sealed source.

(2) The employer shall 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 the leakage of any radioactive substance—

- (a) in the case of a sealed source, so far as is practicable; or
- (b) in the case of any other article, so far as is reasonably practicable.

- (3) The employer shall—
- (a) ensure that, where appropriate, suitable tests are carried out at suitable intervals to detect leakage of radioactive substances from any article to which paragraph (2) applies; and
 - (b) make a suitable record of each such test and retain that record for at least 2 years after the article is disposed of or until a further record is made following a subsequent test to that article.

Accounting for radioactive substances

29. Every employer, for the purpose of controlling radioactive substances which are involved in work with ionising radiation undertaken by that employer, shall—

- (a) take such steps as are appropriate to account for and keep records of the quantity and location of those substances; and
- (b) keep those records or a copy of the records for at least 2 years from the date on which they were made and, in addition, for at least 2 years from the date of disposal of that radioactive substance.

Keeping and moving of radioactive substances

30.—(1) An employer shall ensure, so far as is reasonably practicable, that any radioactive substance under its control which is not for the time being in use or being moved, transported or disposed of—

- (a) is kept in a suitable receptacle; and
- (b) is kept in a suitable store.

(2) An employer who causes or permits a radioactive substance to be moved (otherwise than by transporting it) shall ensure that, so far as is reasonably practicable, the substance is kept in a suitable receptacle, suitably labelled, while it is being moved.

(3) Nothing in paragraphs (1) or (2) applies in relation to a radioactive substance while it is in or on the live body or corpse of a human being.

Notification of certain occurrences

31.—(1) An employer shall immediately notify the Executive in any case where a quantity of a radioactive substance which was under its control and which exceeds the quantity specified for that substance in column 5 of Part I of Schedule 7—

- (a) has been released or is likely to have been released into the atmosphere as a gas, aerosol or dust; or
- (b) has been spilled or otherwise released in such a manner as to give rise to significant contamination.

(2) Paragraph (1) shall not apply where such release—

- (a) was in accordance with a registration under section 10 of the Radioactive Substances Act 1993(16) or which was exempt from such registration by virtue of section 11 of that Act; or
- (b) was in a manner specified in an authorisation to dispose of radioactive waste under section 13 of that Act or which was exempt from such authorisation by virtue of section 15 of that Act.

(16) 1993 c.12; section 10 was amended by paragraphs 200 and 2004 of Schedule 22 to the Environment Act 1995 (c. 25). Relevant amendments were also made by S.I. 2005/2686 and S.S.I. 2011/207

(3) Where an employer has reasonable cause to believe that a quantity of radioactive substance which exceeds the quantity for that substance specified in column 6 of Part I of Schedule 7 and which was under its control is lost or has been stolen, the employer shall immediately notify the Executive of that loss or theft, as the case may be.

(4) Where an employer suspects or has been informed that an occurrence notifiable under this regulation may have occurred, it shall make an immediate investigation and, unless that investigation shows that no such occurrence has occurred, it shall immediately make a notification under the relevant paragraph of this regulation.

(5) An employer who makes any investigation in accordance with paragraph (4) shall make a report of that investigation and shall, unless the investigation showed that no such occurrence occurred, keep that report or a copy of the report for at least 30 years from the date on which it was made or, in any other case, for at least 2 years from the date on which it was made.

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

32.—(1) In the case of articles for use at work, where that work is work with ionising radiation, Article 7(1) of the 1978 Order⁽¹⁷⁾ (which imposes general duties on manufacturers etc. as regards articles and substances for use at work) is modified so that any duty imposed on any person by that Article includes 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 or are likely to be exposed to ionising radiation.

(2) Where a person erects or installs an article for use at work, being work with ionising radiation, that person shall—

- (a) undertake a critical examination of the way in which the article was erected or installed for the purpose of ensuring, in particular, that—
 - (i) any safety features and warning devices operate correctly; and
 - (ii) there is sufficient protection for persons from exposure to ionising radiation;
- (b) consult with the radiation protection adviser that they appointed, or that the employer engaged in work with ionising radiation appointed, with regard to the nature and extent of any critical examination and the results of that examination; and
- (c) provide the employer engaged in work with ionising radiation with adequate information about proper use, testing and maintenance of the article.

Equipment used for medical exposure

33.—(1) Every employer who has to any extent control of any equipment or apparatus which is used in connection with a medical exposure shall, having regard to the extent of his control over the equipment, ensure that such equipment is of such design or construction and is so installed and maintained as to be capable of restricting so far as is reasonably practicable the exposure to ionising radiation of any person who is undergoing a medical exposure to the extent that this is compatible with the intended clinical purpose or research objective.

(2) An employer who has to any extent control of any radiation equipment which is used for the purpose of diagnosis and which is installed on or after the date of the coming into operation of these Regulations shall, having regard to the extent of the employer's control over the equipment, ensure that such equipment is provided, where practicable, with suitable means for informing the user of that equipment of the quantity of radiation produced by that equipment during a radiological procedure.

(17) S.I. 1978/1039 (N.I. 9); Article 7 was amended by the Consumer Protection (Northern Ireland) Order 1987 (S.I. 1987/2049 (N.I. 20)), Article 28 and Schedule 2

(3) Every employer in respect of whom a duty is imposed by paragraph (1) shall, to the extent that it is reasonable for the employer to do so having regard to the extent of the employer's control over the equipment, make arrangements for a suitable quality assurance programme to be provided in respect of the equipment or apparatus for the purpose of ensuring that it remains capable of restricting so far as is reasonably practicable exposure to the extent that this is compatible with the intended clinical purpose or research objective.

(4) Without prejudice to the generality of paragraph (3), the quality assurance programme required by that paragraph shall require the carrying out of—

- (a) in respect of equipment or apparatus first used on or after the date of the coming into operation of this regulation, adequate testing of that equipment or apparatus before it is first used for clinical purposes;
- (b) adequate testing of the performance of the equipment or apparatus at appropriate intervals and after any major maintenance procedure to that equipment or apparatus;
- (c) where appropriate, such measurements at suitable intervals as are necessary to enable the assessment of representative doses from any radiation equipment to persons undergoing medical exposures.

(5) Every employer who has to any extent control of any radiation equipment shall take all such steps as are reasonably practicable to prevent the failure of any such equipment where such failure could result in an exposure to ionising radiation greater than that intended and to limit the consequences of any such failure.

(6) Where an employer suspects or has been informed that an incident may have occurred in which a person while undergoing a medical exposure was, as the result of a malfunction of, or defect in, radiation equipment under the control of that employer, exposed to ionising radiation to an extent much greater than that intended, the employer shall make an immediate investigation of the suspected incident.

(7) Unless the immediate investigation referred to in paragraph (6) shows beyond reasonable doubt that no such incident has occurred, the employer shall immediately notify the Executive of the incident and make or arrange for a detailed investigation of the circumstances of the exposure and an assessment of the dose received.

(8) An employer who makes an investigation in accordance with paragraph (6) or (7) shall make a report of that investigation and shall—

- (a) in relation to an investigation made under paragraph (6), keep the report or a copy of the report for a period of at least 2 years from the date on which it was made; and
- (b) in relation to an investigation made under paragraph (7), keep the report or a copy of the report for a period of at least 30 years from the date on which it was made.

(9) In this regulation—

“radiation equipment” means equipment which delivers ionising radiation to the person undergoing a medical exposure and equipment which directly controls the extent of the exposure.

Misuse of or interference with sources of ionising radiation

34. No person may intentionally or recklessly misuse or without reasonable excuse interfere with any radioactive substance or any electrical equipment in respect of which these Regulations apply.

PART 7

DUTIES OF EMPLOYEES AND MISCELLANEOUS

Duties of employees

35.—(1) An employee who is engaged in work with ionising radiation shall not knowingly expose themselves or any other person to ionising radiation to an extent greater than is reasonably necessary for the purposes of their work, and shall exercise reasonable care while carrying out such work.

(2) Every employee or outside worker for whom personal protective equipment is provided pursuant to regulation 9(2)(c) shall—

- (a) make full and proper use of any such personal protective equipment;
- (b) immediately report to the employer who provided any such personal protective equipment any defect they discover in that equipment; and
- (c) take all reasonable steps to ensure that any such personal protective equipment is returned after use to the accommodation provided for it.

(3) It is the duty of every classified outside worker not to misuse the radiation passbook issued to that worker or falsify or attempt to falsify any of the information contained in it.

(4) Any employee to whom regulation 22(1) or regulation 13(2)(b) relates shall comply with any reasonable requirement imposed on that person by that person's employer for the purposes of making the measurements and assessments required under regulation 22(1) and regulation 24(1).

(5) An employee who is subject to medical surveillance under regulation 25 shall, when required by their employer and at the cost of the employer, present themselves during their working hours for such medical examination and tests as may be required for the purposes of regulation 25(2) and shall provide the relevant doctor with such information concerning their health as the relevant doctor may reasonably require.

(6) Where an employee has reasonable cause to believe that—

- (a) they or some other person has received an overexposure;
- (b) an occurrence mentioned in paragraph (1) or (3) of regulation 31 has occurred; or
- (c) an incident mentioned in regulation 33(6) has occurred,

they shall immediately notify their employer of that belief.

Approval of dosimetry services

36.—(1) The Executive (or such other person as may from time to time be specified in writing by the Executive) may, by a certificate in writing, approve (in accordance with such criteria as may from time to time be specified by the Executive) a suitable dosimetry service for such of the purposes of these Regulations or of the Radiation (Emergency Preparedness and Public Information) Regulations (Northern Ireland) 2001(18) as are specified in the certificate.

(2) A certificate made pursuant to paragraph (1) may be subject to conditions and may be revoked in writing at any time.

(3) The Executive (or such other person as may from time to time be specified in writing by the Executive) may at such periods as it considers appropriate carry out a re-assessment of any approval granted pursuant to paragraph (1).

Defence on contravention

37.—(1) In any proceedings against an employer for an offence under regulation 5(2) (notification), 6(3) (registration) or 7(2) (consent), it is a defence for that employer to prove that—

- (a) it neither knew nor had reasonable cause to believe that it had carried out or might be required to carry out work that required notification under regulation 5(2), registration under regulation 6(3) or consent under regulation 7(2) (as the case may be); and
- (b) in a case where it discovered that it had carried out or was carrying out such work, it had immediately notified, registered or applied for consent for such work (as the case may be) in accordance with those regulations.

(2) The defence in paragraph (1)—

- (a) in connection with an offence under regulation 6(3), does not apply in relation to the operation of a radiation generator; and
- (b) in connection with an offence under regulation 7(2), only applies in relation to a practice referred to in regulation 7(1)(g).

(3) In any proceedings against an employer for an offence under regulation 8, it is a defence for that employer to prove that—

- (a) it neither knew nor had reasonable cause to believe that it had commenced a new activity involving work with ionising radiation; and
- (b) in a case where it had discovered that it had commenced a new activity involving work with ionising radiation, it had as soon as practicable made an assessment as required by regulation 8.

(4) In any proceedings against an employer for an offence under regulation 28(2) it is a defence for that employer to prove that—

- (a) it had received and reasonably relied on a written undertaking from the supplier of the article concerned that the article complied with the requirements of that paragraph; and
- (b) it had complied with the requirements of paragraph (3) of that regulation.

(5) In any proceedings against an employer of an outside worker for a breach of a duty under these Regulations it is a defence for that employer to show that—

- (a) it had entered into a contract in writing with the employer who had designated an area as a controlled or supervised area and in which the outside worker was working or was to work for that employer to perform that duty on its behalf; and
- (b) the breach of duty was a result of the failure of the employer referred to in subparagraph (a) to fulfil that contract.

(6) In any proceedings against any employer who has designated a controlled or supervised area in which any outside worker is working or is to work for a breach of a duty under these Regulations it is a defence for that employer to show that—

- (a) it had entered into a contract in writing with the employer of an outside worker for that employer to perform that duty on its behalf; and
- (b) the breach of duty was a result of the failure of the employer referred to in subparagraph (a) to fulfil that contract.

(7) A person charged is not, without the permission of the court, entitled to rely on the defence referred to in paragraph (5) or (6) unless, within a period ending 7 clear days before the hearing, that person has served on the prosecutor a notice in writing of that person's intention to rely on the defence and the notice shall be accompanied by a copy of the contract on which that person intends to rely and, if that contract is not in English, an accurate translation of that contract into English.

(8) Where a contravention of these Regulations by any person is due to the act or default of some other person, that other person will be guilty of the offence which would, but for any defence under this regulation available to the first-mentioned person, be constituted by the act or default.

Exemption certificates

38.—(1) Subject to paragraph (2), the Executive may, by a certificate in writing, exempt—

- (a) any person or class of persons;
- (b) any premises or class of premises; or
- (c) any equipment, apparatus or substance or class of equipment, apparatus or substance,

from any requirement or prohibition imposed by these Regulations and any such exemption may be granted subject to conditions and to a limit of time and may be revoked by a certificate in writing at any time.

(2) The Executive shall not grant an exemption unless, having regard to the circumstances of the case and in particular to—

- (a) the conditions, if any, which it proposes to attach to the exemption; and
- (b) any other requirements imposed by or under any enactments which apply to the case,

it is satisfied that—

- (c) the health and safety of persons who are likely to be affected by the exemption will not be prejudiced in consequence of it; and
- (d) compliance with the fundamental radiation protection provisions underlying regulations 9(1) and (2)(a), 12, 13(1), 17(1) and (3), 20(1), 21(1), 22(1), 25(2) and 33(1) will be achieved.

Application within the territorial sea

39.—(1) Subject to paragraph (2), within the territorial sea these Regulations shall apply only to or in relation to the premises and activities to which any of paragraphs 2 to 9 of Schedule 10 applies.

(2) For the purposes of paragraph (1), in any case where it is not reasonably practicable for an employer to comply with the requirements of these Regulations in so far as they relate to functions being performed by a relevant doctor or by an approved dosimetry service, it is sufficient compliance with any such requirements if the employer makes arrangements affording an equivalent standard of protection for its employees and those arrangements are set out in local rules.

Modifications relating to the Ministry of Defence etc

40.—(1) In this regulation, any reference to—

- (a) “visiting forces” is a reference to visiting forces within the meaning of any provision of Part 1 of the Visiting Forces Act 1952⁽¹⁹⁾; and
- (b) “headquarters or organisation” is a reference to a headquarters or organisation designated for the purposes of the International Headquarters and Defence Organisations Act 1964⁽²⁰⁾.

(2) The Secretary of State for Defence may, in the interests of national security, by a certificate in writing exempt—

- (a) Her Majesty’s Forces;

⁽¹⁹⁾ 1952 c. 67. The definition of “visiting forces” was amended by paragraph 14 of Schedule 15 to the Criminal Justice Act 1988 (c. 33)

⁽²⁰⁾ 1964 c. 5

- (b) visiting forces;
- (c) any member of a visiting force working in or attached to any headquarters or organisation;
or
- (d) any person engaged in work with ionising radiation for, or on behalf of, the Secretary of State for Defence,

from all or any of the requirements or prohibitions imposed by these Regulations and any such exemption may be granted subject to conditions and to a limit of time and may be revoked at any time by a certificate in writing, except that, where any such exemption is granted, suitable arrangements shall be made for the assessment and recording of doses of ionising radiation received by persons to whom the exemption relates.

(3) Regulations 5, 6 and 7 do not apply in relation to work carried out by visiting forces or any headquarters or organisation on premises under the control of such visiting force, headquarters or organisation, as the case may be, or on premises under the control of the Secretary of State for Defence.

(4) With respect to any work with ionising radiation undertaken for, or on behalf of, the Secretary of State for Defence—

- (a) the requirements of regulations 5(2) and (3), 6(4)(a) and (b), and 7(3)(a) and (b) to notify particulars specified by the Executive only apply in relation to the particulars that may be so specified from the list set out in paragraph (9); and
- (b) any requirement to provide any of the particulars described in paragraphs (9)(d), (e), (f), (g), (h) (i) and (k) does not apply where—
 - (i) the Secretary of State for Defence decides that the provision of such particulars will be contrary to the interests of national security; or
 - (ii) suitable alternative arrangements have been agreed with the Executive.

(5) Regulation 5(4) does not apply to an employer in relation to work with ionising radiation undertaken for or on behalf of the Secretary of State for Defence, visiting forces or any headquarters or organisation.

(6) Sub-paragraph (i) of regulation 22(3) does not apply in relation to a practice carried out—

- (a) by or on behalf of the Secretary of State for Defence;
- (b) by a visiting force; or
- (c) by any member of a visiting force in or attached to any headquarters or organisation.

(7) Regulations 23(6), (7) and (8) and regulation 25(8) do not apply in relation to visiting forces or any member of a visiting force working in or attached to any headquarters or organisation.

(8) In regulation 26(1) the requirement to notify the Executive of a suspected overexposure and the results of the consequent investigation and assessment does not apply in relation to the exposure of—

- (a) a member of a visiting force; or
- (b) a member of a visiting force working in or attached to a headquarters or organisation.

(9) The particulars referred to in paragraph (4) are—

- (a) the name, address, telephone number and e-mail address of the employer;
- (b) the address of the premises where or from where the work activity is to be carried out and a telephone number or e-mail address for such premises;
- (c) the nature of the business of the employer;
- (d) a description of the work with ionising radiation;

- (e) particulars of the source or sources of ionising radiation including the type of electrical equipment used or operated and the nature of any radioactive substance;
- (f) the quantities of any radioactive substance used in the work;
- (g) the identity of any person engaged in the work;
- (h) whether or not any source is to be used at premises other than the address given in subparagraph (b);
- (i) the location and description of any premises at which the work is carried out on each occasion that it is so carried out;
- (j) the date of notification, registration or application for consent to carry out the work activity and the date of commencement of the work activity;
- (k) the duration of any period over which the work is carried out and the date of termination of the work activity.

Transitional provisions and savings

41. Schedule 8, which makes transitional provisions and savings, has effect.

Modifications and revocation

42.—(1) Schedule 9, which contains modifications to primary and secondary legislation, has effect.

(2) The Ionising Radiations Regulations (Northern Ireland) 2000(21) are revoked.

Sealed with the Official Seal of the Department for the Economy on 5th December 2017.



Colin Jack
A senior officer of the Department for the
Economy

(21) S.R. 2000 No. 375, as amended by S.R. 2001 No. 436 and S.R. 2006 No. 205; revoked in part by S.R. 2001 No. 436, S.R. 2003 No. 510 and S.R. 2003 No. 533; and modified by S.R. 2016 No. 427