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STATUTORY INSTRUMENTS

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**2017 No. 1075**

**The Ionising Radiations Regulations 2017**

**PART 1**

**PRELIMINARY**

**Citation and commencement**

- 1.—(1) These Regulations may be cited as the Ionising Radiations Regulations 2017.
- (2) They come into force on 1st January 2018.

**Interpretation**

- 2.—(1) In these Regulations—

“the 1974 Act” means the Health and Safety at Work etc. Act 1974;

“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<sup>(1)</sup>;

“approved” means approved for the time being in writing for the purposes of these Regulations by the Executive or the ONR (as the case may be) and published in such form as that body considers appropriate;

“approved dosimetry service” means a dosimetry service approved in accordance with regulation 36;

“authorised defence site” has the meaning given by regulation 2(1) of the Health and Safety (Enforcing Authority) Regulations 1998<sup>(2)</sup>;

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

“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 Northern Ireland 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;

“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;

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(1) “The Executive” means the Health and Safety Executive, established by section 10 (as amended by articles 3 and 4 of [S.I. 2008/960](#)) of the 1974 Act.

(2) [S.I. 1998/494](#), amended by [S.I. 2014/469](#); there are other amending instruments but none is relevant.

“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 Great Britain, an area which has been so designated in accordance with regulation 17(1); and
- (b) in the case of an area situated in Northern Ireland 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 Directive” means Council Directive 2013/59/Euratom(3) laying down basic safety standards for protection against the dangers arising from exposure to ionising radiation, and repealing Directives 89/618/Euratom(4), 90/641/Euratom(5), 96/29/Euratom(6), 97/43/Euratom(7) and 2003/122/Euratom(8);

“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 section 56 of the 1974 Act;

“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;

“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;

“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);

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(3) OJ No L 13, 17.1.14, p1-73.

(4) OJ No L 357, 7.12.89, p31-34.

(5) OJ No L 349, 13.12.90, p21-25.

(6) OJ No L 159, 29.6.96, p1-114.

(7) OJ No L 180, 9.7.97, p22-27.

(8) OJ No L 346, 31.12.03, p57-64.

“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  $3 \times 10^{15}$  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;

“new nuclear build site” has the meaning given by regulation 2A of the Health and Safety (Enforcing Authority) Regulations 1998;

“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);

“nuclear premises” means premises which are or are on—

- (a) a GB nuclear site (within the meaning given by section 68 of the Energy Act 2013(9));
- (b) an authorised defence site;
- (c) a new nuclear build site; or
- (d) a nuclear warship site;

“nuclear warship site” has the meaning given by regulation 2B of the Health and Safety (Enforcing Authority) Regulations 1998;

“the ONR” means the Office for Nuclear Regulation;

“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 Great Britain—
  - (i) a passbook approved by the Executive for the purpose of these Regulations; or
  - (ii) a passbook to which paragraph 9 of Schedule 8 (transitional provisions) applies; and
- (b) in the case of a classified outside worker employed by an employer in Northern Ireland or in another member State, a passbook authorised by the competent authority for Northern Ireland 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 the 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);

“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, in relation to England and Wales, section 192 of the Road Traffic Act 1988<sup>(10)</sup> and, in relation to Scotland, section 151 of the Roads (Scotland) Act 1984<sup>(11)</sup> 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;

<sup>(10)</sup> 1988 c. 52.

<sup>(11)</sup> 1984 c. 54.

- (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 I of the 1974 Act—
- (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 Parts 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 enactment; 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 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<sup>-3</sup>.

(2) The following regulations do 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 do 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 Great Britain) employed by an employer established in Northern Ireland 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 Northern Ireland, regulations 21 and 24 of the Ionising Radiations Regulations (Northern Ireland) 2000<sup>(12)</sup> or any other provision made for the purpose of implementing the relevant parts of Chapter VI of the Directive in Northern Ireland; 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 are also 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 are imposed on the holder of a nuclear site licence under the Nuclear Installations Act 1965<sup>(13)</sup> 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 2014<sup>(14)</sup>;
- (b) “operator”, in relation to the operator of a quarry, has the meaning given by regulation 2(1) of the Quarries Regulations 1999<sup>(15)</sup>.

<sup>(12)</sup> S.R. (NI) 2000 No 375.

<sup>(13)</sup> 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.

<sup>(14)</sup> S.I. 2014/3248.

<sup>(15)</sup> S.I. 1999/2024, to which there are amendments not relevant to these Regulations.