**1969. No. 318** **[C]**

# FACTORIES

## The Ionising Radiations (Sealed Sources) Regulations (Northern Ireland) 1969

REGULATIONS, DATED 26TH NOVEMBER 1969, MADE BY THE MINISTRY OF HEALTH AND SOCIAL SERVICES UNDER THE FACTORIES ACT (NORTHERN IRELAND) 1965.

ARRANGEMENTS OF REGULATIONS


| | | Reg. |
|---|---|---|
| PART I | — Interpretation and General | 1—4 |
| PART II | — Administration, Notifications and Records | 5—10 |
| PART III | — Basic Principles of Protection | 11—15 |
| PART IV | — Radiological Supervision | 16—22 |
| PART V | — Medical Supervision | 23—31 |
| PART VI | — Organisation of Work | 32—38 |
| PART VII | — Monitoring | 39 |
| PART VIII | — Radiography and Other Processes | 40—44 |
| PART IX | — X-ray Crystallography and Spectrometry | 45 |
| PART X | — Measuring and Detecting Devices and Static Eliminators | 46 and 47 |
| SCHEDULE | — Maximum permissible radiation doses | |


REGULATIONS

The Ministry of Health and Social Services for Northern Ireland in exercise of powers conferred by sections 75 and 179(3) and Schedule 4 of the Factories Act (Northern Ireland) 1965(a), and of all other powers enabling it in that behalf, hereby makes the following special Regulations:—

## PART I

### INTERPRETATION AND GENERAL

*Citation, commencement and revocation*

**1.**—(1) These Regulations may be cited as the Ionising Radiations (Sealed Sources) Regulations (Northern Ireland) 1969. Regulations 32, 46 and 47 shall come into operation on 21st May 1970 and the remainder of these Regulations on 27th December 1969.

(2) The Ionising Radiations (Sealed Sources) Regulations (Northern Ireland) 1962(b) are hereby revoked.

(a) 1965. c. 20 (N.I.). (b) S.R. & O. (N.I.) 1962, No. 124.

*Interpretation*

**2.** In these Regulations—

"adequate shielding" means shielding or a demarcating barrier outside which the radiation dose rate averaged over any one minute does not exceed 0·75 millirems per hour or where only classified workers are affected 2·5 millirems per hour, and cognate expressions shall be construed accordingly;

"appointed doctor" means—

(*a*) (i) as respects any factory to which Regulation 3(2) applies;

(ii) for the purposes of implementing any arrangements made thereunder with employers of classified workers, as respects any factory to which Regulation 3(3) applies; and

(iii) for the purposes of any medical examination in pursuance of Regulation 25(1)(*a*),

any fully registered medical practitioner appointed to be a factory doctor for any of the purposes of the Act; and

(*b*) as respects any other factory and any other medical examination, a fully registered medical practitioner specially appointed under section 151 of the Act to be appointed factory doctor for the factory for the purposes of these Regulations or of the Ionising Radiations (Sealed Sources) Regulations (Northern Ireland) 1962 or the appointed factory doctor for the district in which the factory is situated;

"approved" means approved for the time being for the purposes of these Regulations or of the Ionising Radiations (Sealed Sources) Regulations (Northern Ireland) 1962 by certificate of the Chief Inspector;

"atomic energy" means the energy released from atomic nuclei as the result of any process, including the fission process, but does not include energy released in any process of natural transmutation or radioactive decay which is not accelerated or influenced by external means;

"authorised person" in any of these Regulations means a person for the time being authorised in writing by the occupier for the purposes of that Regulation;

"calendar quarter" means the period of three calendar months beginning with 1st January, 1st April, 1st July or 1st October;

"classified worker" has the meaning assigned to it by Regulation 16(1);

"competent person" means a person appointed in pursuance of Regulation 7;

"factory" means any factory and any premises, places, processes, operations and works to which the provisions of Part IV of the Act with respect to special regulations for safety and health are applied by any of the following provisions of that Act, namely, section 121 (which relates to electrical stations), section 122 (which relates to institutions), so much of section 123 as relates to warehouses other than warehouses belonging to the owners, trustees or conservators of any dock, wharf or quay, section 124 (which relates to ships) and section 125 (which relates to building operations and works of engineering construction);

"health register" means the register referred to in Regulation 31;

"ionising radiations" means electromagnetic radiation (that is to say, X-rays and gamma rays) or corpuscular radiation (that is to say, alpha particles, beta particles, electrons, positrons, protons, neutrons, or heavy particles) being electromagnetic radiation or corpuscular radiation capable of

producing ions and emitted from a radioactive substance or from a machine or apparatus that is intended to produce ionising radiations or from a machine or apparatus in which charged particles are accelerated by a voltage of not less than five kilovolts;

"monitoring" means measuring in accordance with Regulation 39 and "monitor" shall be construed accordingly;

"nuclear reactor" means any plant (including any machinery, equipment or appliance, whether affixed to land or not) designed or adapted for the production of atomic energy by a fission process in which a controlled chain reaction can be maintained without an additional source of neutrons;

"the Act" means the Factories Act (Northern Ireland) 1965;

"protected employment" means employment as respects which requirements are for the time being imposed under the Act (including the requirements of these Regulations) for recording the radiation doses received by the persons employed;

"radiation area" means a part of a factory in which any person is exposed to a radiation dose rate which when averaged over any one minute exceeds or is liable to exceed 0·75 millirems per hour, otherwise than infrequently and transiently;

"radiation dose record" means the record referred to in Regulation 19(1);

"radioactive substance" means any substance which consists of or contains radionuclides, whether natural or artificial, and of which the activity exceeds 0·002 of a microcurie per gramme of substance; in the case of a chain of radionuclides, consisting of a parent and daughters, the only nuclide to be taken into consideration being that having the highest activity of those present;

"sealed source" means any radioactive substance sealed in a container (otherwise than solely for the purpose of storage, transport or disposal) or bonded wholly within material and includes the immediate container or the bonding, but does not include any nuclear fuel element or any radioactive substance inside a nuclear reactor;

"transfer record" means a record prepared on the termination of any person's employment of radiation doses received by him being a record prepared in accordance with requirements for the time being imposed under the Act (including the requirements of these Regulations);

"useful beam" means, in the case of X-rays, that part of the radiation from an X-ray tube that passes through the aperture, cone or other device for collimating the X-ray beam; and, in other cases, any ionising radiations from a sealed source that can be employed for the purposes for which the sealed source is used.

*Application of Regulations*

**3.**—(1) Except as provided in paragraphs (4) and (5), these Regulations shall apply to all factories in which any sealed source is, or is proposed to be, stored, manipulated, maintained, operated, used or installed, or in which there is operated or used, or proposed to be operated or used, any machine or apparatus that is intended to produce ionising radiations or any machine or apparatus (being a machine or apparatus which emits ionising radiations) in which charged particles are accelerated by a voltage of not less than five kilovolts.

(2) Where in any factory the occupier is neither the owner nor the hirer of a sealed source or of such a machine or apparatus as is referred to in para-

graph (1) being a sealed source, machine or apparatus which is used by or under the direction of some person other than the occupier or a person in the employment of the occupier, that other person or (if he is in the employment of the owner or hirer) the employer of that other person, shall in relation to that sealed source, machine or apparatus be deemed to be the occupier of the factory for the purposes of these Regulations.

(3) Where in any factory (other than a factory to which paragraph (2) applies) any classified worker is employed by some person other than the occupier, the occupier shall be deemed to have complied in respect of any such worker so employed with any requirement imposed on him by Part IV or Part V, if he has made effective arrangements which secure that the employer of the worker complies as respects that worker with that requirement as if the employer were the occupier.

(4) Nothing in these Regulations shall apply with respect to any apparatus exclusively used in a room specially set apart for the purpose, for the prevention, diagnosis or treatment of illness or injury.

(5) Nothing in these Regulations shall apply with respect to—

(*a*) any sealed source at or near the surface of which the dose rate of ionising radiations does not exceed ten millirems per hour not being one of a number of sealed sources placed together and whose collective dose rate at or near the surface exceeds ten millirems per hour; or

(*b*) any ionising radiations that do not arise from a sealed source or from such a machine or apparatus as is referred to in paragraph (1); or

(*c*) any installation of a class or description which is on the date of the making of these Regulations prescribed for the purposes of section 1(1)(*b*) of the Nuclear Installations Act 1965(**c**), and situate on a site in respect of which a nuclear site licence granted under the Act is in force; or

(*d*) any apparatus intended only for the purpose of receiving visual images sent by television—

(i) when operated at a voltage of not more than 20 kilovolts in the course of its manufacture, repair, maintenance or testing; or

(ii) in any other circumstances, when the dose rate at or near the surface of the apparatus does not exceed 0·5 millirems per hour.

In sub-paragraph (*a*) and (*d*) the expression "at or near the surface" means as near the surface as is practicable for the purpose of measuring the dose rate of ionising radiations.

(6) The provisions of these Regulations shall be in addition to and not in substitution for or in diminution of other requirements imposed by or under the Act.

*Exemption certificates*

**4.** The Chief Inspector may (subject to such conditions as may be specified therein) by certificate in writing (which he may in his discretion revoke at any time) exempt from all or any of the requirements of these Regulations—

(*a*) any factory or part of any factory; or

(*b*) any class or description of factories or parts thereof; or

(*c*) any machine, plant, apparatus, process, article or substance or any class or description of machines, plant, apparatus, processes, articles or substances; or

(**c**) 1965. c. 57.

(*d*) the employment of any person or any class or description of persons,

if he is satisfied that the requirements in respect of which the exemption is granted are not necessary for the protection of persons employed. Where such exemption is granted a legible copy of the certificate, showing the conditions (if any) subject to which it has been granted, shall be kept posted in any factory where the exemption applies in a position where it may be conveniently read by the persons employed.

## PART II

### ADMINISTRATION, NOTIFICATIONS AND RECORDS

*Notification of use and disuse of sealed sources, etc.*

**5.**—(1) The occupier shall give previous notice in writing to the Chief Inspector (which, except in cases of emergency, shall be not less than one month's notice or such shorter notice as the Chief Inspector may agree to accept) before undertaking in a factory for the first time after the date of commencement of these Regulations or for the first time after a notice under paragraph (2) given in respect of the factory has expired, work to which this Regulation applies:

Provided that an occupier who is at the date of the commencement of these Regulations undertaking work to which this Regulation applies (or who would at that date but for a merely temporary cessation be undertaking such work) shall not be required under this paragraph to give notice to the Chief Inspector in respect of that work if notice has been given in respect of it under Regulation 6(1) or (2) of the Ionising Radiations (Sealed Sources) Regulations (Northern Ireland) 1962.

(2) The occupier shall either before or within seven days after ceasing to use the factory (otherwise than merely temporarily) for work to which this Regulation applies give notice in writing to that effect to the Chief Inspector.

(3) In this Regulation the expression "work to which this Regulation applies" means work involving the storage, manipulation, maintenance, operation, use or installation of sealed sources or the operation or use of any machine or apparatus of the kind referred to in Regulation 3(1).

*Notification of accidents, etc.*

**6.** The Chief Inspector shall be notified in writing—

(*a*) in the circumstances specified in Regulation 36, if any sealed source is lost or mislaid; and

(*b*) as soon as possible after it is discovered—

(i) of any breakage of the immediate container or the bonding of a sealed source; and

(ii) of any leakage of any radioactive substance beyond the approved extent from the immediate container or the bonding of a sealed source.

*Appointment of a competent person*

**7.**—(1) The occupier shall appoint one or more competent persons to exercise special supervision with regard to the requirements of these Regulations and to assist in enforcing the observance of them.

(2) The name or names of the competent person or competent persons shall be kept posted in the factory where it or they can be conveniently read by the persons employed. Where different persons are appointed for different parts of the factory or for different processes the names shall be posted in such a manner that the persons employed can readily identify the competent person or competent persons appointed for the part of the factory or for the processes in which they are employed.