Government Notice No. 78 of 2025

THE RADIATION SAFETY AND NUCLEAR SECURITY ACT

Regulations made by the Minister under section 43 of the Radiation Safety and Nuclear Security Act

1. These regulations may be cited as the Radiation Safety and Nuclear Security (Occupational Radiation Protection) Regulations 2025.

2. In these regulations –

"Act" means the Radiation Safety and Nuclear Security Act;

"administrative control" means the mechanism used to protect health and minimise damage to life and property by means of written policies, procedures, instructions and trainings;

"anticipated operational occurrence" means a deviation of an operational process from normal operation that is expected to occur at least once during the operating lifetime of a facility but which, due to appropriate design provisions, does not cause any significant damage to items important to safety or lead to accident conditions;

"approved dosimetry service provider" means a service provider registered with the Authority under the Radiation Safety and Nuclear Security (Registration of Service Providers) Regulations 2020 to provide individual monitoring service;

"authorised practice" means a practice for which an authorisation has been granted by the Authority;

"collective dose" means the total radiation dose incurred by a population;

"committed effective dose" means the lifetime effective dose expected to result from an intake;

"controlled area" means a defined area in which specific protection measures and safety provisions are or could be required for the purpose of –

(a) controlling exposures; or

(b) preventing the spread of contamination in normal working conditions; and

(c) preventing or limiting the extent of potential exposures;

"decontamination" means the complete or partial removal of contamination by a deliberate physical, chemical or biological process;

"dose assessment" means the assessment of the dose(s) to an individual or group of people;

"dose constraint" means a prospective and source-related value of individual dose that –

(a) is used in planned exposure situations as a parameter for the optimisation of protection and safety for the source; and

(b) serves as a boundary in defining the range of options in optimisation;

"deterministic effect" means a radiation induced health effect for which generally a threshold level of dose exists above which the severity of the effect is greater for a higher dose;

"engineered control" means the mechanism used to protect health and minimise damage to life and property by means of physical systems such as shielding, door interlocks, sensors and warning alarms;

"emergency worker" means a person who –

(a) has specified duties in response to a radiological emergency; and

(b) may potentially be exposed to radiation during the response;

"employer" means a person or organisation with recognised responsibilities, commitments and duties towards a worker in the employment of the person or organisation in accordance with a mutually agreed relationship;

"emergency exposure situation" means a situation of exposure that –

(a) arises as a result of an accident, a malicious act or any other unexpected event; and

(b) requires prompt action to avoid or to reduce adverse consequences;

"existing exposure situation" means a situation of exposure that already exists when a decision on the need for control is required to be taken;

"graded approach" means the process or method in which the stringency of the control measures and conditions to be applied is commensurate, to the extent practicable, with the likelihood and possible consequences of, and the level of risk associated with, a loss of control;

"health surveillance" means the medical supervision intended to ensure the fitness of a radiation worker for his intended tasks;

"individual monitoring" means the monitoring using measurements by equipment worn by individuals, or measurements of quantities of radioactive substances in or on, or taken into, the bodies of individuals, or measurements of

quantities of radioactive materials excreted from the body by individuals;

"intake" means the act or process of taking radionuclides into the body by inhalation or ingestion or through the skin;

"itinerant worker" means a person who –

(a) is employed on a full-time, part-time or temporary basis;

(b) is not an employee of the licensee; and

(c) by his occupation, is exposed to radiation;

"planned exposure situation" means a situation of exposure that arises from –

(a) the planned operation of a source; or

(b) a planned activity that results in an exposure due to a source;

"protection and safety" means the protection of people against exposure to radiation or exposure due to radioactive material and the safety of sources, including the means for achieving such protection, and the means for preventing accidents and for mitigating the consequences of accidents if they do occur;

"qualified expert" means an individual who, by virtue of certification by appropriate boards, councils or societies, professional licence or academic qualifications and experience, is duly recognised as having expertise in a relevant field of specialisation;

"records of health surveillance" means the health records of a radiation worker which contain the following –

(a) surname;

(b) forename;

(c) sex;

(d) date of birth;

(e) residential address;

(f) date of commencement of present employment;

(g) a historical record of jobs involving occupational exposure; and

(h) conclusions of all health surveillance procedures, including the dates and names of the persons who have carried out the health surveillance, which shall be expressed in terms of the worker's fitness to work but shall not contain information of a medical nature;

"supervised area" means a defined area, not designated as a controlled area, for which specific protection measures and safety provisions are or could be required for controlling exposures or preventing the spread of contamination in normal working conditions, and preventing or limiting the extent of potential exposures.

3. The licensee shall be responsible for the protection of every radiation worker, including itinerant worker, against occupational exposure from an authorised practice.

4. The licensee shall ensure, in respect of every radiation worker engaged in any practice in which he is or could be subject to occupational exposure, that –

(a) occupational exposure is controlled so that the relevant dose limits for occupational exposure specified in the First Schedule to the Act are not exceeded;

(b) protection and safety are optimised;

(c) decisions with regard to measures for protection and safety are recorded, and made available to relevant parties, through their representatives where appropriate as may be required by the Authority;

(d) policies, procedures and organisational arrangements for protection and safety are established and implemented, with priority given to design measures and technical measures for controlling occupational exposure;

(e) appropriate and adequate facilities, equipment and services for protection and safety are provided, the type and extent of which are commensurate with the expected likelihood and magnitude of the occupational exposure;

(f) necessary health surveillance and health services for radiation workers are provided in such manner as the Authority may require;

(g) appropriate radiation monitoring equipment and personal protective equipment are provided and arrangements are made for their proper use, storage, calibration, testing and maintenance;

(h) appropriate and adequate human resources and appropriate training in respect of protection and safety, and such periodic retraining as may be required by the Authority to ensure the necessary level of competence are provided;

(i) adequate records are maintained in accordance with the Act and these regulations;

(j) arrangements are made to facilitate consultation and cooperation with radiation workers, through their representative where appropriate, with regard to protection and safety, on such measures as may be necessary to

achieve the effective application of the Act and these regulations; and

(k) necessary conditions for promoting radiation safety and nuclear security culture are provided.

5. The licensee shall –

(a) involve radiation workers, through their representatives as and when appropriate, in optimisation of protection and safety; and

(b) establish and use, as appropriate, dose constraints as part of optimisation of protection and safety.

6. The licensee shall ensure that every person exposed to radiation from a practice that is not required by or directly related to his work is protected in the same manner as a member of the public against any such exposure.

7. The licensee shall ensure that every radiation worker is informed of his specific obligations and responsibilities for his protection and the protection of any other person against radiation exposure and for the safety of radiation sources.

8. (1) Every radiation worker shall forthwith report to the licensee any issue that, in his opinion, is not in accordance with the provision of the Act and these regulations.

(2) The licensee shall keep record of any issue that is reported to him under paragraph (1) and shall take such appropriate actions as may be necessary.

9. The licensee shall develop and maintain a radiation protection programme that includes provision for occupational protection in all radiation practices that are carried out at the facility, including organisational, procedural and technical arrangements for the

designation of controlled areas and supervised areas, for rules and for monitoring of the workplace.

10. The licensee shall arrange for such supervision, as may be necessary, to ensure that every radiation worker complies with the provisions of the Act and these regulations.

11. The employer of a radiation worker who is also a licensee shall have the responsibilities as both an employer and a licensee for the purpose of protection of the radiation worker.

12. Every radiation worker shall –

(a) follow any applicable rule and procedure for protection and safety as specified by the licensee;

(b) properly use the radiation monitoring equipment and personal protective equipment provided;

(c) cooperate with the licensee with regard to protection and safety, programmes for the health surveillance of the workers and programmes for dose assessment for the implementation of the radiation protection programme;

(d) provide his employer, as may be necessary, such information on his past and present work that is relevant to ensure effective and comprehensive protection and safety;

(e) abstain from any willful action that could put himself or others in situations that would contravene the Act and these regulations;

(f) accept such information, instruction and training regarding protection and safety that will enable him to conduct his work in accordance with the Act and these regulations;

(g) forthwith report to the licensee, any identified circumstance that could adversely affect protection and safety; and

(h) not commit any act that would be in contravention with the Act and these regulations.

13. (1) Where a licensee is not the employer of a radiation worker, the licensee and the employer of the radiation worker shall agree to comply with the provision of the Act and these regulations.

(2) The agreement under paragraph (1) shall be in writing and shall include clear allocation of the responsibilities of the employer and the licensee in relation to protection and safety.

14. The licensee shall –

(a) obtain from the employer, including a self-employed person, the previous occupational history of a radiation worker and such other safety related information as may be necessary for the purpose of ensuring protection and safety;

(b) for the purpose of complying with the provisions of the Act and these regulations, provide, to the employer, such information as may be necessary; and

(c) provide the radiation worker and the employer with the exposure records referred to in regulation 35.

15. The licensee shall designate as a controlled area any area in which specific measures for protection and safety are or may be required to –

(a) control the exposure to radiation or prevent the spread of contamination in normal operations; and

(b) prevent or limit the likelihood and magnitude of exposure in anticipated operational occurrences and accident conditions.

16. For the purpose of defining the boundaries of any controlled area, the licensee shall take into consideration –

(a) the magnitude of exposure expected in normal operation;

(b) the likelihood and magnitude of exposure in anticipated operational occurrences and in accident conditions; and

(c) the type and extent of procedures required for protection and safety.

17. The licensee shall –

(a) delineate a controlled area by physical means or by such other means as may be reasonably practicable;

(b) delineate a controlled area by such means as may be appropriate under the prevailing circumstances, where a source is only intermittently brought into operation or energised, or is moved from place to place, and shall specify the exposure times;

(c) display a suitable radiation warning symbol and instructions at every access point to, and appropriate locations, within controlled areas;

(d) ensure that the radiation warning symbol referred to in paragraph (c) is in accordance with the relevant international standards;

(e) establish measures for protection and safety, including, as appropriate, physical measures to control the spread of contamination and rules and procedures for controlled areas;

(f) provide appropriate information, instruction and training to radiation workers working in controlled areas;

(g) ensure that radiation workers who work in controlled areas comply with the appropriate rules and procedures that are set out for the purpose of restricting significant exposure to radiation in that area or prevent or limit the extent of potential exposure;

(h) restrict access to controlled areas, as appropriate, by means of administrative procedures and by physical barriers, the degree of restriction being commensurate with the likelihood and magnitude of exposure;

(i) provide, as appropriate, at every entrance to a controlled area –

(i) personal protective equipment;

(ii) equipment for individual monitoring and workplace monitoring; and

(iii) suitable storage for personal clothing;

(j) provide, as appropriate, at every exit from a controlled area where radioactive materials are being used –

(i) equipment for monitoring of contamination of skin and clothing;

(ii) equipment for monitoring of contamination of any object or material being removed from the area;

(iii) washing or showering facilities and other personal decontamination facilities; and

(iv) suitable storage for contaminated personal protective equipment; and

(k) review, at such intervals as may be required by the Authority, the conditions that are necessary to assess

whether there is any need to modify the measures for protection and safety or the boundaries of controlled areas.

18. The licensee shall designate as a supervised area any area not already designated as a controlled area but for which occupational exposure conditions need to be kept under review.

19. The licensee, taking into consideration the nature, likelihood and magnitude of exposure or contamination in a supervised area, shall –

(a) delineate any supervised area by appropriate means;

(b) display approved signs, as appropriate, at access points to the supervised area; and

(c) review, on such regular intervals as may be required by the Authority, the conditions that are necessary to assess whether there is any need to modify the measures for protection and safety or the boundaries of supervised areas.

20. The licensee shall minimise the need to rely on administrative controls and personal protective equipment for protection and safety by providing well engineered controls and satisfactory working conditions, in accordance with the following hierarchy of preventive measures –

(a) engineered controls;

(b) administrative controls; and

(c) personal protective equipment.

21. The licensee shall, in consultation with the radiation workers or their representatives –

(a) establish, in writing, rules and procedures that are necessary for protection and safety, including the protection of radiation workers and other persons;

(b) make the established rules and procedures and the measures for protection and safety known to radiation workers to whom they apply and to other persons who may be affected by them; and

(c) ensure that –

(i) any work in which radiation workers are or may be subject to occupational exposure is adequately supervised; and

(ii) take all reasonable steps to ensure that the rules, procedures, and measures for protection and safety are complied with.

22. The licensee shall ensure that the rules and procedures –

(a) are in a language appropriate to the workers;

(b) are displayed in a conspicuous place at, and or readily available in, the workplace;

(c) include procedures that should be complied in controlled areas and supervised areas; and

(d) include any relevant investigation level or authorised level, and the procedures to be followed where any such level is exceeded.

23. The licensee shall provide, as may be necessary, every radiation worker with suitable and adequate personal protective equipment that meets relevant international standards or specifications, including as appropriate –

(a) protective clothing;

(b) respiratory protective equipment, the characteristics of which are made known to the user;

(c) protective aprons, protective gloves and organ shields; and

(d) protective glasses for adequate protection to the lens of the eye.

24. The licensee shall ensure that every personal protective equipment provided to a radiation worker is selected with due consideration to –

(a) the radiation hazards associated with the work being carried out by the radiation worker;

(b) the possibility of an increase in exposure caused by the additional constraints of the personal protective equipment; and

(c) any non-radiological risk that may be associated with the use of the personal protective equipment.

25. The licensee shall ensure that –

(a) every radiation worker who has been provided with a personal protective equipment is properly trained in its use, operation, maintenance and limitations;

(b) every radiation worker who has been provided with respiratory protective equipment has received adequate instruction on its proper use, including testing for good fit;

(c) such task that requires the use of certain personal protective equipment is assigned only to a radiation worker who is capable of safely sustaining any extra effort necessary for the wearing of the personal protective equipment;

(d) any personal protective equipment provided to a radiation worker, including equipment for use in an emergency, is

maintained in proper condition, and is tested at regular intervals; and

(e) any defects found in the personal protective equipment is promptly remedied.

26. The licensee shall, in cooperation with the employer where appropriate, and by applying the graded approach, establish, maintain and keep under review a programme for workplace monitoring under the supervision of a radiation protection officer or a qualified expert.

27. The licensee shall ensure that the type and frequency of workplace monitoring –

(a) is sufficient to enable –

(i) an evaluation of the radiological conditions in all workplaces;

(ii) an assessment of the exposure of radiation workers in controlled areas and supervised areas; and

(iii) a review of the classification of controlled areas and supervised areas;

(b) is based on dose rate, activity concentration in air and surface contamination, and their expected fluctuations, and on the likelihood and magnitude of exposure in anticipated operational occurrences and accident conditions.

28. The licensee shall –

(a) maintain records of the findings of the workplace monitoring programme; and

(b) make available the findings of the workplace monitoring programme to the radiation workers or where appropriate to their representatives.

29. The programme for workplace monitoring shall specify –

(a) the quantities to be measured;

(b) the equipment to be used for the measurements;

(c) where and when the measurements are to be made, and at what frequency;

(d) the most appropriate measurement methods and procedures; and

(e) the investigation levels and the actions to be taken if these levels are exceeded.

30. (1) The licensee shall make an assessment of the occupational exposure of every radiation worker.

(2) The assessment referred to in paragraph (1) shall, where appropriate, be based on individual monitoring of a radiation worker and in cases, where individual monitoring of the worker is inappropriate or not feasible, the occupational exposure shall be assessed on the basis of the results of workplace monitoring and information on the locations and durations of exposure of the worker.

31. For the individual monitoring of radiation workers, the licensee shall ensure that arrangements are made with approved dosimetry service providers.

32. The licensee shall ensure that, where individual monitoring is to be done –

(a) the radiation worker is provided with appropriate personal radiation dosimeters; and

(b) the dosimeters are worn for such period of time as may be appropriate.

33. The licensee and the employer shall maintain records of occupational exposure for each radiation worker and ensure that these records are maintained during and after the worker's working life, at least until the former worker attains or would have attained the age of 75 years, and for not less than 30 years after cessation of the work in which the worker was subject to occupational exposure.

34. The licensee shall ensure that –

(a) every radiation worker who may be subject to exposure due to contamination is identified; and

(b) arrangements are in place for such radiation worker to –

(i) monitor the effectiveness of the measures for protection and safety; and

(ii) assess any intake of radionuclides and the committed effective doses.

35. The licensee and the employer shall ensure that the records of occupational exposure for every radiation worker include the following information –

(a) the period and the general nature of the work in which the radiation worker was subject to occupational exposure;

(b) the dose assessments, exposures and intakes and the data upon which the dose assessments were based;

(c) the radiation worker's past and present employment including the dates of employment and the doses, exposures and intakes in such employment; and

(d) an assessment of doses, exposures and intakes due to any action taken in an emergency or due to accidents or other

incidents, which shall include references to reports of any relevant investigation.

36. The licensee shall, prior to ceasing the conduct of activities in which a radiation worker has been subject to occupational exposure, make arrangement for the retention of the radiation worker's records of occupational exposure by the Authority or another licensee as appropriate.

37. The licensee or employer where appropriate, shall –

(a) provide every radiation worker access to the records of his occupational exposure;

(b) provide the radiation protection officer, the Authority and relevant employer with access to the records of occupational exposure and records of health surveillance of every radiation worker;

(c) provide records of occupational exposure to new licensee or employer when radiation workers change employment;

(d) retain records of occupational exposure of the former radiation workers;

(e) ensure that no unauthorised person has access to any record referred to in subparagraphs (a) to (d); and

(f) ensure that the confidentiality of any record referred to in subparagraphs (a) to (d) is maintained.

38. The licensee shall establish a health surveillance programme for every radiation worker in accordance with the general principles of occupational health and designed to assess the initial fitness and continuing fitness of the radiation worker for his intended tasks.

39. The licensee shall, where the licensee is not the employer of a radiation worker, as a precondition for the engagement of such

radiation worker, make such arrangements, as the Authority may require, with the employer for the radiation worker's health surveillance.

40. The licensee shall provide every radiation worker with adequate –

(a) information on health risks due to his occupational exposure in normal operation, anticipated operational occurrences and accident conditions;

(b) instruction and training and periodic retraining in protection and safety; and

(c) information on the significance of his actions for protection and safety.

41. The licensee shall provide every radiation worker who is involved in or affected by the response to an emergency with appropriate information, and adequate instruction and training and periodic retraining, for protection and safety.

42. The licensee shall maintain records of the training provided to individual radiation worker.

43. The licensee shall, as may be necessary, provide to every non-radiation worker information on the hazards and preventive actions whose job assignment are incidental to the use of radiation.

44. The licensee shall provide every female radiation worker who is required to enter a controlled area or a supervised area or who may undertake emergency duties, with appropriate information on –

(a) the risk to the embryo or foetus due to the exposure of a pregnant woman;

(b) the importance for a female radiation worker to notify her licensee as soon as possible that –

(i) she is pregnant or reasonably suspects to be pregnant; or

(ii) she is breastfeeding; and

(c) the risk of health effects for a breastfed infant due to intakes of radionuclides.

45. The employer shall ensure that any female radiation worker who notifies that –

(a) she is pregnant or reasonably suspects to be pregnant; or

(b) she is breastfeeding,

is not excluded from work.

46. Where any female radiation worker –

(a) is pregnant; or

(b) is breast feeding,

the licensee or employer shall make such arrangements as may be necessary to protect the embryo or foetus or breastfed infant.

47. The licensee shall ensure that –

(a) the conditions of service of any radiation worker are independent of whether he is or could be subject to occupational exposure; and

(b) special compensatory arrangements or preferential consideration with respect to salary, special insurance coverage, working hours, length of vacation, additional holidays or retirement benefits are not to be granted to radiation workers nor used as substitutes for measures for

protection and safety in accordance with the provisions of the Act and these regulations.

48. Where it has been determined by the Authority or in the framework of the programme for workers' health surveillance that a radiation worker can no longer be subject to occupational exposure due to health reasons, the employer shall ensure that reasonable efforts are made to provide the radiation worker with suitable alternative employment.

49. Subject to regulation 50, the relevant requirements for occupational exposure in planned exposure situations shall apply to emergency workers in an emergency exposure situation.

50. The employer shall ensure that, in an emergency exposure situation, no emergency worker is subject to an exposure exceeding 50 millisieverts, except –

(a) for purpose of saving life or preventing serious injury;

(b) when undertaking actions to prevent severe deterministic effects and actions to prevent the development of catastrophic conditions that could significantly affect the people and the environment; or

(c) when undertaking actions to avert a large collective dose.

51. The employer shall, in the exceptional circumstances specified in regulation 50, make all reasonable efforts to keep doses to emergency workers below the values set out in the Schedule.

52. The employer shall ensure that emergency workers undertaking actions in which the doses may approach or exceed the values set out in the Schedule do so only when the expected benefits to others shall clearly outweigh the risks to the emergency workers.

53. The employer shall ensure that –

(a) any emergency worker who undertakes actions in which the doses received may exceed 50 millisieverts does so voluntarily;

(b) every emergency worker is clearly and comprehensively informed in advance of the associated risks and available measures for protection and safety; and

(c) every emergency worker is, to the extent possible, trained in the actions that he may be required to take.

54. The employer shall take all reasonable steps to ensure that –

(a) the doses received by emergency workers, in an emergency exposure situation, are assessed and recorded; and

(b) the information –

(i) on the doses received; and

(ii) concerning the associated health risks,

are communicated to the emergency workers.

55. (1) The licensee and the employer shall ensure that a radiation worker who has received doses in an emergency exposure situation is not precluded from incurring further occupational exposure.

(2) Where a radiation worker has received doses in an emergency exposure situation, the licensee or employer shall, ensure that medical advice is obtained from a registered specialised medical practitioner before the radiation worker incurs any further occupational exposure if –

(a) the radiation worker has received a dose exceeding 200 millisieverts; or

(b) the radiation worker has requested so.

56. The employer of any person who is occupationally exposed to radiation in an existing exposure situation shall comply with the provision of the Act and these regulations for the protection of the person as the Authority may determine.

57. These regulations shall come into operation on 20 September 2025.

Made by the Minister on 5 September 2025.

SCHEDULE

[Regulations 51 and 52]

GUIDANCE VALUES FOR RESTRICTING EXPOSURE OF EMERGENCY WORKERS

Task	Guidance value[1]
Life saving actions	*H*p(10)[2]<500 millisieverts This value may be exceeded under circumstances in which the expected benefits to others clearly outweigh the emergency worker's own health risks, and the emergency worker volunteer to take action and understands and accepts these health risks.
Actions to prevent severe deterministic effects and actions to prevent the development of catastrophic conditions that may significantly affect people and environment	*H*p(10)<500 millisieverts
Actions to avert a large collective dose	*H*p(10)<100 millisieverts

1. These values apply only for the dose from several exposures to strongly penetrating radiation. Doses from external exposure to weakly penetrating radiation and from intake or skin contamination need to be prevented by all possible means. If this is not feasible, the effective dose and the equivalent dose to tissue or organ that are received have to be limited to minimise the health risk to the individual in line with the risk associated with the guideline values given here.

2. *H*p (10) is a dose equivalent at 10 mm depth in tissue, also known as whole body dose.