

Questions for ionising radiation applications

Note from HSE – November 2017

This document represents a near-final draft of the questions that HSE will be asking those who apply via the graded approach online system. While the wording of the questions may be subject to further change, the overarching context of the question set is likely to remain the same.

The questions have been numbered in this document so they can be easily referenced in any correspondence with HSE. Question numbers will not appear in the final online system.

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1. Before any notifications are confirmed, or registrations and consents are issued, the online system will ask the employer a series of questions.

Details about the employer (all applicants)

2. Some questions will be asked of every applicant to ensure HSE has a basic level of information on all employers working with ionising radiation, and that any registration and/or consent certificates are issued to the correct legal organisation. These questions will only be asked once per employer, regardless of the number of notifications, registrations or consents that are being applied for.

E1. Which of the following best describes your employer?

- Partnership
- School
- Sole trader
- Charity
- Limited liability partnership
- Statutory body
- Industrial/Provident registered company
- Government body
- Corporation by Royal Charter
- None of the above

E2. What is your employer's registered name?

E3. What's your employer's address?

3. 'Your employer' means the organisation on whose behalf you're completing this application.
4. These details will be used on all documentation we issue. Future changes to these details may incur charges.

5. If we can't match your employer to our database, we will need to take additional steps to identify you and process your application. You will be able to continue with your application while we do this. We will get in touch once you've completed your application.

E4. How many employees (in Great Britain) are there in your organisation?

- 0–9
- 10–49
- 50–249
- 250+

6. This is the total number of people employed. You don't need to count contractors, suppliers, independent or outside workers (they will need to apply separately).

E5. How many are classified radiation employees?

- 0
- 1–5
- 6–10
- 11–25
- 26+

7. Classified radiation employees are higher-risk radiation workers whose doses are monitored. Your radiation risk assessment should identify any employees likely to be defined as a classified radiation worker.

E6. Do you transport radioactive material either as your main work or in connection with it? (This doesn't apply to X-ray devices.)

- Yes
- No

8. If you physically move radioactive material or packages containing it from A to B, by road, or through a public place, or by rail, inland waterway, sea or air then it is likely you 'transport' radioactive material according to IRR17.

Definition of "transport" in IRR17

"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 and, in relation to Scotland, section 151 of the Roads (Scotland) Act 1984 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;

Examples of transport of radioactive material

- i. You offer various testing and analytical services, and have a mobile gauge containing radioactive sources which you use occasionally. You package the gauge, and prepare the associated paperwork then you move it by road to a remote site for use before returning back to your normal premises. You are transporting radioactive material according to IRR17.
- ii. You prepare a package containing radioactive material and associated paperwork. You use a third party to physically move the material to its final destination at a location 20 miles away. You do not transport radioactive material according to IRR17.
- iii. You are a biomedical research facility and take delivery of supplies of radioactive material only. You are not involved in transport according to IRR17.
- iv. You are a courier company and you transport packages containing radioactive material from a radiopharmacy by road to various hospitals. You are transporting radioactive material according to IRR17.

E7. Does your organisation carry out work with portable ionising radiation sources (this includes X-ray devices) at sites other than your own?

- Yes
- No

E8. How many fixed sites is your employer responsible for where they carry out work with ionising radiation?

- 1
- 2–5
- 6–10
- 11–25
- 26+

9. If more than one aspect of work with ionising radiation is being notified and/or registered and/or consent is being applied for, the answer to this question will be the total number of relevant fixed sites where there is work with ionising radiation.

Details of radon measurements (radon notifications only)

10. If you have selected **working in a radon atmosphere above an annual concentration of 300 Bq m⁻³** as an aspect of your work with ionising radiation, you will be asked a further question.

N1. Please provide details of the most recent radon concentration measurement.

- 300–499 Bq m⁻³ annual average
- 500–699 Bq m⁻³ annual average
- 700–999 Bq m⁻³ annual average
- 1000+ Bq m⁻³ annual average

11. If multiple measurements have been taken for one site, or taken across multiple sites, you should notify the highest to HSE.

12. You don't need to notify HSE if your measurement is below 300 Bq m⁻³ annual average.

Registration questions

13. If the work with ionising radiation requires registration with HSE, then a series of questions will be asked during the application process that relate to the working practices being registered.
14. Applicants need to confirm that they understand their regulatory requirements under IRR17 before a registration will be granted. Applicants can further their understanding of these regulatory requirements by referring to the HSE publication L121 - *Working with ionising radiation – Ionising Radiations Regulations 2017 – Approved Code of Practice and guidance* - <http://www.hse.gov.uk/pubns/books/l121.htm>.

R1. Have you completed a radiation risk assessment to identify the main radiological risks associated with your work and identified any reasonably foreseeable radiation accident (regulation 8 and associated Approved Code of Practice (ACOP) of IRR17)?

R2. Have you taken steps to measure and/or estimate your employees' exposure to ionising radiation and taken appropriate action based on those expected doses (regulation 8 and associated ACOP of IRR17)?

R3. Have you completed the actions identified in your radiation risk assessment that will restrict your employees' and other persons' exposure to ionising radiation so far as is reasonably practicable (regulation 9 of IRR17)?

R4. Have you drawn up contingency plans for all reasonably foreseeable radiation accidents identified in the radiation risk assessment and, where appropriate, are rehearsals carried out at suitable intervals (regulation 13 of IRR17)?

R5. Have you appointed and consulted a suitable radiation protection adviser (RPA) (regulation 14 of IRR17)?

R6. Do you provide appropriate training, information and instruction to any of your employees engaged in work with ionising radiation, and those likely to be affected by that work, and do you repeat this at appropriate intervals (regulation 15 of IRR17)?

R7. Have you, where required, correctly designated and demarcated any controlled and/or supervised areas (regulations 17 and 19 of IRR17)?

R8. Have you drawn up written local rules where required and appointed radiation protection supervisor(s) for all your work in controlled areas and, where appropriate, supervised areas (regulation 18 of IRR17)?

Consent questions

15. If the work with ionising radiation requires a consent from HSE, then a series of questions/statements will be asked during the application process that specifically relate to the working practice requiring consent.
16. Those who undertake several working practices that require consent will need to answer these questions for each specific working practice.
17. Applicants need to confirm that they understand their regulatory requirements under IRR17 before a consent will be granted. Applicants can further their understanding of these regulatory requirements by referring to the HSE publication L121 - *Working with ionising radiation – Ionising Radiations Regulations 2017 – Approved Code of Practice and guidance* - <http://www.hse.gov.uk/pubns/books/l121.htm>.

C1. Have you implemented an appropriate programme of monitoring or auditing of arrangements to check compliance with IRR17 for this practice (regulation 8 and associated Approved Code of Practice (ACOP) of IRR17)?

C2. Has a manager with appropriate authority been identified and named as having overall responsibility for radiological protection for this practice (regulation 8 of IRR17)?

C3. Has a radiation risk assessment been completed (under regulation 8 of IRR17) that has identified, where relevant:

- ways in which reasonably foreseeable radiation accidents could occur and the likelihood and potential severity of them;
- engineering control measures and design features in place, or planned;
- planned systems of work;
- estimated radiation dose rates to which anyone can be exposed and the action needed to keep doses as low as reasonably practicable?

C4. Where appropriate, will the management of any radiation source no longer used ensure that exposures to employees will be restricted so far as is reasonably practicable (regulations 8 and 9 of IRR17)?

C5. Where appropriate, will the management of any radioactive waste ensure that exposures to employees will be restricted so far as is reasonably practicable (regulations 8 and 9 of IRR17)?

C6. Do the engineering controls, design features and safety features of the facility and/or radiation sources restrict exposures to ionising radiation so far as is reasonably practicable (regulation 9 of IRR17)?

C7. Are the engineering controls, design features and safety features of the facility and/or radiation sources properly maintained and, where appropriate, are thorough examinations and tests of these carried out at suitable intervals (regulation 11 of IRR17)?

C8. Have contingency plans for all reasonably foreseeable radiation accidents identified in the radiation risk assessment been drawn up and, where appropriate, are rehearsals carried out at suitable intervals (regulation 13 of IRR17)?

C9. Have you appointed and consulted a suitable radiation protection adviser (RPA) for this practice (regulation 14 of IRR17)?

- C10. For those employees engaged in the practice (under regulation 15 of IRR17):**
- Have they received appropriate training in radiological protection?
 - Have they been informed and instructed regarding the radiological risks to their health from the practice and the precautions that should be taken?
 - Will they receive updates/refresher training in radiological protection at appropriate intervals?

C11. Have those employees not engaged in the practice but who are likely to be affected by it received appropriate training, information and instruction in radiological protection and do you repeat this at appropriate intervals (regulation 15 of IRR17)?

C12. Where appropriate, are suitable and sufficient quality assurance programmes in place for equipment used for medical exposure (regulation 33 of IRR17)?

Expected dose questions

C13. What is the maximum anticipated total annual effective (whole body) dose (in mSv) to an employee engaged in the practice?

- 0–1 mSv
- 1.1–5.9 mSv
- 6–9.9 mSv
- 10–14.9 mSv
- 15–20 mSv

C14. What is the maximum anticipated total annual dose equivalent (in mSv) to an employee engaged in the practice for the lens of the eye?

- 0–1 mSv
- 1.1–5.9 mSv
- 6–9.9 mSv
- 10–14.9 mSv
- 15–20 mSv

C15. What is the maximum anticipated total annual dose equivalent (in mSv) to an employee engaged in the practice for the extremities (a person's hands, forearms, feet and ankles)?

- 0–49.9 mSv
- 50–149.9 mSv
- 150–249.9 mSv
- 250–349.9 mSv
- 350–500 mSv

C16. What is the maximum anticipated total annual dose equivalent (in mSv) to an employee engaged in the practice for the skin?

- 0–49.9 mSv
- 50–149.9 mSv
- 150–249.9 mSv
- 250–349.9 mSv
- 350–500 mSv

C17. What is the maximum anticipated total annual effective (whole body) dose (in mSv) to an employee not directly engaged in the practice?

- 0–0.3 mSv
- 0.31–0.49 mSv
- 0.5–1 mSv

C18. What is the maximum anticipated total annual effective (whole body) dose (in mSv) to a member of the public?

- 0–0.3 mSv
- 0.31–0.49 mSv
- 0.5–1 mSv

18. Employers may already be working with ionising radiation and monitoring the actual doses received. If it is appropriate to use the results of this monitoring to answer these questions, employers can do so.

Radiation emergencies

C19. In relation to potential radiation emergencies, have you considered if the Radiation (Emergency Preparedness and Public Information) Regulations 2001 (REPPIR) apply?

19. Within REPPIR, a 'radiation emergency' is an event that is likely to result in a member of the public receiving an effective dose of 5 mSv during the year immediately following the emergency.
20. REPPIR applies to work with radioactive substances above certain thresholds. It does not apply to work with radiation generators such as accelerators, or to special form sources.
21. To decide if REPPIR applies, operators or transporters will need to identify the quantities of radionuclides or fissile material present or transported and compare them with threshold quantities in REPPIR. If the threshold amounts are exceeded, there may be the potential for a radiation emergency, so regulations 4–6 of REPPIR will apply.
22. Further information can be found on HSE's website - <http://www.hse.gov.uk/radiation/ionising/reppir.htm>

C19a. Under REPPIR, is a hazard identification and risk evaluation (HIRE) required due to your radionuclides or fissile material exceeding the threshold quantities (regulation 4 of REPPIR)?

23. In a lot of circumstances (eg those who only use radiation generators, such as an accelerator, or to those who use special form sources) it will be appropriate to answer NO to this question. If the answer to this question is NO, you do not need to answer further radiation emergencies questions.

C19b. If required, have you completed a HIRE and sent the report to HSE (regulation 6 of REPPIR)?

C19c. Are emergency plans required as a result of the HIRE indicating that a radiation emergency is reasonably foreseeable (regulations 7–9 of REPPIR)?

24. If a radiation emergency is not reasonably foreseeable, it will be appropriate to answer NO to this question. If the answer to this question is NO, you do not need to answer further radiation emergencies questions.

C19d. If required, are appropriate emergency plans in place (regulations 7-9 of REPPIR)?