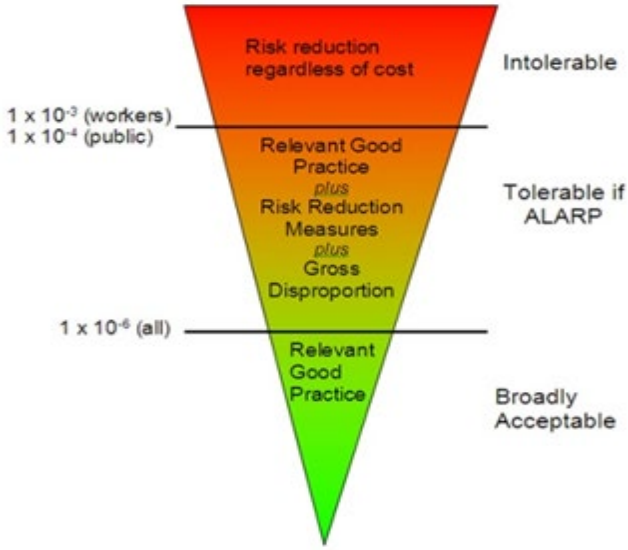
RP COP019 – Radiation Risk Assessments

1. Introduction

As with all other hazardous work, in order to be confident that work with radiation sources, intentionally or otherwise, is being undertaken safely, it is necessary to undertake suitable and sufficient radiation risk assessments. This measure is made mandatory by its inclusion in the UK Ionising Radiations Regulations. Due to the complexity of assessing the risk from radiation exposure, employers are legally obliged to consult on the matter with a Radiation Protection Adviser (RPA) through Regulation 14 of IRR17.



Tolerability of Risk model
("The Tolerability of Risk from Nuclear Power Stations", HSE,1988)

Regulation 8 of IRR17 requires employers to carry out a '*suitable and sufficient*' assessment of the risks, for both routine and reasonably foreseeable accident situations, when working with ionising radiation. In order to be considered 'suitable and sufficient', the HSE expects all IRR17 Approved Code of Practice (ACoP) Paragraph 70 (a) to (m) matters to have been considered, where they are relevant, and for the employer to decide on the appropriate next steps/decisions based on the matters in IRR17 ACoP Paragraph 71 (a) to (p), where they are relevant.

To meet this requirement for a suitable & sufficient risk assessment under IRR17 Reg 8, the University has adopted a two-tier approach comprising:

1. A project/task-based Radiation Risk Assessment (RRA); and,
2. A signed 'Radiation User Registration (RADUSER) form'.

The arrangements for hazardous laser (hazardous lasers are those in Classes 1M, 2M, 3R, 3A, 3B and 4) risk assessments are covered separately in RP Guidance Note RP GN101 "*Risk Assessment Guidance*" (Note, the '100' series of documentation relates to non-ionising radiation).

2. Project/task-based Radiation Risk Assessments

To meet the 'RPA consultative' requirement of IRR17 Regulation 14, the University RPU, in conjunction with its in-house RPA, have prepared Guidance Notes of generic work activities. These will assist schools and equivalent divisions in the preparation of suitable and sufficient project/task-based RRAs for their work. Guidance is available for the following generic work activities:

RRAG_01:	Unsealed Sources
RRAG_02:	Sealed Sources (including HASS)
RRAG_03:	* Radiation Generators (e.g. x-ray, Linac, Faxitron's, etc.)
RRAG_04:	* Transport of Radioactive Substances
	* date of issue TBC

To ensure these project/task-based risk assessments capture and address all the legislative requirements identified in IRR17 ACoP 70 & 71, a single template is provided by the University RPU for recording these risk assessments.

The Guidance Notes, together with the radiation risk assessment template, can be found on the University's Risk Assessment webpage.

It is recommended that project/task-based risk assessments are reviewed every 2-3 years to make sure they are kept up to date.

3. Radiation User Registration (RADUSER) Form

In addition to the project/task-based radiation risk assessments, a RADiation USEr Registration (RADUSER) Form must be completed. This turns the project/task-based risk assessment into a task-specific risk assessment for each individual user of radiation or radioactive substance.

Where a group of students/undergraduates are working with radiation (e.g. demonstration of an x-ray exposure) or working with radioactive substances (e.g. classroom experiments) it is permissible for the group supervisor to fill in a RADUSER form on behalf of the group.

The RADUSER form also ensures each use of radiation or radioactive substance is justified, as required by IRR17 and the Environmental Authorisation (Scotland) Regulations 2018 (EASR), but it is also used to:

- Record details about the individual, or supervisor, working with the radiation or radioactive substance;
- Ensure persons have had the required training to carry out the work;
- Ensure that the Radiation Protection Supervisors (RPSs) for the area are aware of the work;
- Ensure the University RPU is aware of the work and has advised on any personal dosimetry requirements or any other specific control measures;
- Ensure the University has notified, registered or had consent from the HSE about the proposed work being carried out;
- Ensure the work will not exceed any of the limits or conditions in its authorisations issued by the SEPA;
- Record any additional task-specific control measures that have been taken to further reduce the risk; these additional controls, if applicable, **supplement** the project/task-based risk assessment;
- Ensure any especial risks have been accounted for where they are necessary (for example, a pregnancy review section is included on the form);

To ensure the above matters have been captured, a template RADUSER form is available via the RPU Risk Assessment webpage.

Further details relating to authorisation to work with Ionising Radiation are captured in Code of Practice RP CoP007 "Authorisation to work with Ionising Radiation Sources".

4. Changes to and Reviews of Risk Assessments

Where there are changes to a radiation activity that are sufficient to alter the risk, then the relevant radiation worker has to either:

- Review/revise the project/task-based radiation risk assessment; and/or,
- Review the RADUSER form.

It is the radiation worker and their line manager's responsibility to identify when a change is significant, although the local RPS or RPA might be able to identify a significant change.

Where a radiation worker has declared that she is pregnant, then the line manager or the RPS updates the RADUSER form to indicate a pregnancy review is required and informs the RPU. If a change to the radiation work is necessary, then the RPU/RPA advises the worker and her manager, via the RPS, of the advised changes through updating the relevant section of the RADUSER form. Further Information on safety when working with radiation whilst pregnant or breastfeeding can be found in radiation protection code of practice RP CoP013 *"Working with radiation when pregnant or breastfeeding".*

5. Further Information

Further advice on Radiation Risk Assessments can be obtained from the Radiation Protection Unit of the Health and Safety Department.

Document version

Version number	Summary of change	Date and by whom
V1.0	New version	Dec 2013 Mark Green
V1.1	Minor updates	Oct 2021 Mark Green
V1.2	New template	March 2025 Mark Green

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