RP COP015 – Classified Radiation Workers

1. Introduction

This Code of Practice explains what Classified Radiation Workers are, what arrangements are necessary for classification, and how the University of Edinburgh undertakes these arrangements.

2. What is a Classified Worker?

The radiation exposure of, amongst others, radiation workers is limited by law to a set of prescribed radiation exposure levels, called Dose Limits. The dose limits for workers aged eighteen or over are shown in column 2 of the table below. As part of the system of protection, those who are, or are likely to be, exposed to more than three-tenths of these limits, shown in column three of the table below, are subject to additional control measures, and are known as “Classified Workers”.

<table>
<thead>
<tr>
<th>Part of the Body</th>
<th>Annual Dose Limit (mSv/y)</th>
<th>Annual doses above which classification would be necessary (mSv/y)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole Body</td>
<td>20</td>
<td>6</td>
</tr>
<tr>
<td>Lens of the Eye</td>
<td>150</td>
<td>45</td>
</tr>
<tr>
<td>Skin</td>
<td>500</td>
<td>150</td>
</tr>
<tr>
<td>Hands, forearms, feet and ankles</td>
<td>500</td>
<td>150</td>
</tr>
</tbody>
</table>

It is for the employer to decide whether an employee needs to be classified, taking into account the advice of his Radiation Protection Adviser (RPA). Where personnel work at other establishments under conditions warranting classification, it is still their employer that has to arrange the classification of their personnel, even if this is a condition of entry into the other establishment.

In other European Union Member States the expressions “Category A” and “Category B” workers are often used. A Category A worker is equivalent to a classified worker, Category B to a non-classified worker.

In the UK and other European Union Member States areas in which radiation work is undertaken have to be designated as either “Controlled Areas”, “Supervised Areas” or non-designated areas. Controlled Areas are areas in which persons are more likely to receive more than the doses listed in column 3 of the table above (Note: The USA use the expression “Controlled Area” to mean something different and this should not be confused with the European
Nomenclature). Persons who enter a Controlled Area must either be Classified Workers or enter in accordance with what are called in UK law “suitable written arrangements”. Details of these areas and the criteria used at the University can be found in the University’s Health and Safety Code of Practice RP/CoP011. Most of the radiation workers in the University enter Controlled Areas under suitable written arrangements, which normally form part of the Local Rules for that area. This means that the University needs to classify only a very small number of personnel. University research staff visiting the radiation Controlled Areas of other establishments will probably enter those areas as unclassified workers under written arrangements produced by those establishments, but might in some circumstances be required by the establishment they are visiting to be classified (Note: The law in the European Union recognises a particular class of person known as “Outside Workers”. These are radiation workers who carry out “services” in the Controlled Area of another employer, and extra requirements are imposed to ensure that their annual and cumulative exposure is adequately controlled. The term “services” is not clearly defined, but it would not include those who are carrying out research at another site whilst working for the University).

3. What does this mean in practice?

Classified workers are considered to be at a greater risk than non-classified workers, and as a consequence need a greater degree of control. This control is manifested in three ways:

- the mandatory provision of *personal dosimetry*;
- the maintenance of *dose records*; and
- the mandatory provision of suitable *medical surveillance*.

**Personal Dosimetry**

Personal dosimetry must be provided for Classified Workers. This is often by the provision of whole-body and/or extremity passive dosemeters (NOTE: Electronic personal dosemeters (“EPDs”) are now approved for use as personal dosemeters, but are not currently used in this manner by the University). However, external dosimetry might not necessarily be the appropriate technique, and internal dosimetry by the assay of body fluids or the provision of personal air samplers might be necessary. The RPA normally advises on what is appropriate dosimetry. Note that the provision of dosimetry is mandatory; any apparent classified worker not undergoing some form of dosimetry supplied by their employer is either not adequately protected or is not a classified worker.

With the exception of electronic personal dosemeters, dosemeters/ samples must be analysed. The radiation employer must arrange in the case of classified workers for this analysis to be undertaken by a Dosimetry Service approved by the Health and Safety Executive, known as an ADS.
Dose Records

The results of the dosimetry must be kept by the ADS, who have to report to the employer the dose on the last assessment, the current annual dose, and the lifetime cumulative dose for each classified worker. Personnel who are personally monitored have a right to see their dose results and records. The ADS also has to send copies of dose records to the Health and Safety Executive. The HSE have arranged by way of contract with an organisation to maintain all the dose records on their behalf, which is known as the Central Index of Dose Information (CIDI). Dose records for classified workers are kept for 50 years after the date of the last entry.

A classified worker cannot cease to be so except by either leaving the employment of the organisation or at the end of the calendar year. There are specific requirements to ensure that both the individual and the ADS are notified of cessation of classification, and that the individual is provided with a summary of their cumulative dose.

There are also specific requirements in the event of a classified worker's personal dosemeter being lost, damaged or destroyed. As a first step, the employer is required to undertake an investigation to determine whether it is possible to estimate the dose. If not, then the ADS is required to enter a notional dose. This notional dose is equal to the maximum dose permitted for the relevant period of wear. For example, if a person wore a whole-body TLD for a four-week period, there are 13 issues per year. The notional dose if it was not returned would therefore be 20 mSv/13 = 1.54 mSv.

Medical Surveillance

Classified workers must undergo adequate medical surveillance. In practice this means an initial medical examination, followed by periodic reviews of health, which are normally annual. It is up to the doctor providing the health surveillance to decide upon what is considered an adequate periodic review, and this might not necessarily entail a repeat full examination. Appropriate health surveillance might also include special surveillance for those who have exceeded a dose limit, or if they have a medical condition that might increase their risk of harm. The doctor undertaking this surveillance cannot be any registered medical practitioner; they must be specifically appointed by the HSE.

A Health Record must be maintained that contains specified entries relevant to the medical surveillance carried out. This record must be kept for a period of 50 years after the date of the last entry. The individual has the right to see their own Health Record.
4. Do I need to be a Classified Worker?

All those at the University who wish to work unsupervised with radiation or radioactive material must complete a Proposed Scheme of Work form. The need for classification is identified by the University Radiation Protection Adviser when he reviews this form, and in the unlikely event that classification is required, the individual is informed. In the event that classification is required by an establishment that University personnel are visiting, the visiting personnel should contact their Radiation Protection Supervisor for advice as soon as possible before doing anything else. Classification cannot be arranged in a hurry.

5. What are the University’s arrangements for Classification?

Personal Dosimetry

At present the University has no classified workers that require dose monitoring other than for external radiation, and for these whole-body thermoluminescent dosimeters with some extremity thermoluminescent dosimeters (TLDs) are used. The TLDs are issued by the person who issues all the dosemeters for their area, normally the Radiation Protection Supervisor. The current contract for the provision of radiation dosemeters and the maintenance of the dose records (i.e. the “Approved Dosimetry Service”) is with Public Health England (formerly the Health Protection Agency (the “HPA”)), with which the University, through the Radiation Protection Unit, has negotiated a reduced cost.

Dose Records

The HPA who issue the TLDs also produce the dose reports and keep the dose records. The dose reports are sent to the University’s relevant contact – normally the departmental RPS – and each dose report contains the results for the last wearing period, the quarterly and annual dose for that calendar year and the cumulative total. An example of the main content of a dose report is shown on the following page.

Classified workers should contact their RPS for details of the arrangements for receiving dose reports, which includes both the wearing-period and cumulative dose records. The University must keep its copy of the dose records and other associated records for two years after the date of the last entry, and this is normally arranged by the RPS. The relevant Local Rules should state the particular arrangements. The HPA automatically sends a copy of the dose records for classified workers to the HSE’s Central Dose Index Registry. (The HPA actually runs the Central Dose Index Registry by way of a contract on behalf of the HSE).
Medical Surveillance

The University has arranged an approved doctor to undertake the classified worker medical examinations. This is currently Dr. Leckie of Occupational Health & Safety Advisory Services (OHSAS). Initial examinations and annual reviews will be arranged by the University’s Occupational Health Unit, and staff should NOT contact OHSAS directly. The cost of the surveillance is passed back to the relevant school.

Medical examinations are normally carried out at the OH building in Drummond Street; contact details are posted below:
In order to assist, those attending for surveillance are asked to bring along the following:

- dose records for the last year; and
- sickness absence details for the last year.

The dose records should be obtainable from the relevant RPS, and the sickness absence details from the local nominee for the Human Resources Oracle system.

The Health Records are kept by the Occupational Health Unit, and anyone wishing to see their own Health Record should contact the OH Unit’s secretary. If an examination is undertaken away from the OHU, the medical record for that person will have to be taken. It must be updated and returned to the OHU.

**Notification**

Each classified worker is informed, in writing, by their line manager of their classification and start date.

**6. Further Information**

For advice on any of the above topics please contact Mr Colin Farmery, the University Radiation Protection Adviser Colin.Farmery@ed.ac.uk.