

# **Geology Department**

## **Ionising Radiation Regulations**

### **LOCAL RULES**

**These rules apply to the following areas:-  
Room 029 Main Area, Meston Building,  
University of Aberdeen**

**Issue date August 2017**

**Review date August 2019**

**Note If you are readings this document after the review date please check with your RPS that  
you have the latest version**

## Room 029 Main Area, Meston Building, University of Aberdeen

Radiation Protection Supervisor: Dr Stephen Bowden, Geology Dept, University of Aberdeen.  
(01224 273467)

Radiation Protection Adviser: Dr Stephen McCallum, Radiation Protection, NHS Grampian.  
(01224 553109)

Keyholders:	<u>Name</u>	<u>Office</u>	<u>Phone</u>
	Stephen Bowden	Meston 136	01224 273467
	Nigel Trewin	St Marys G26	01224 273037
	Walter Ritchie	Meston 131	01224 273493

### **Working Instructions Staff MUST Follow**

1. The main area of Room 029 is designated a Controlled Area. The entrance to the room must be kept locked at all times when unoccupied. Keyholders are named above.
2. All persons entering room 029 must read and follow these local rules and sign the sheet kept by the entrance on the first time of entering the room. If you have any questions about these rules, contact the Radiation Protection Supervisor (RPS) named above.
3. All persons entering Room 029 must record their entry and exit times in the log book by the door, along with the total time spent in the room that calendar year.
4. No person may spend longer than **60 hours per year** in the main area of room 029. If you are likely to spend longer than 60 hours working in the room, contact the Radiation Protection Supervisor.
5. All persons entering Room 029 must check that the extractor fan at the back window is running and record this in the appropriate column of the log book. If the fan is not working, contact the Radiation Protection Supervisor.  
As a minimum, the operation of the extractor fan must be checked on a monthly basis.
6. The inner radioactive store is designated a separate Controlled Area and must only be entered by permitted persons who have received suitable training. The separate Local Rules displayed at the entrance to the inner store must be followed if entering the inner store.
7. Rock samples should be checked for radioactivity using the monitor located at the entrance before being handled:
  - Switch the meter to the "Check Battery" position and ensure the needle is in the green region. If not, replace the batteries or contact the RPS.
  - Switch on the meter to a measurement mode (with or without sound) at the entrance to room 029 and note the background response.
  - Check the sample using the meter. Do not touch the sample with the meter. If the response is greater than the background, close and label the drawer then contact the RPS.
  - If you have any doubts about carrying out this monitoring, contact the RPS.



## Room 029 Inner Radioactive Store, Meston Building, University of Aberdeen

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### **Working Instructions Staff MUST Follow**

1. The inner radioactive sample store of Room 029 is designated a Controlled Area. The entrance to the inner store must be kept locked at all times when unoccupied. Keyholders are named above.
2. All persons entering the inner radioactive store of room 029 must read and follow these local rules and sign the sheet kept by the entrance on the first time of entering the store. If you have any questions about these rules, contact the Radiation Protection Supervisor (RPS) named above.
3. The inner radioactive sample store must only be entered by persons who have undertaken the UoA online radiation safety course and have received appropriate training in radiation safety. Records must be kept of this training.
4. No person should enter the inner radioactive sample store unless essential to their work.
5. All persons entering the inner radioactive store must record their entry and exit times in the log book on the window ledge by the entrance, along with the total time spent in the room that calendar year
6. Access to the inner radioactive store is **restricted to 8 hours per year**. If you may exceed this, contact the RPS for advice.
7. Personal monitoring is required for persons entering the inner radiation store; you must be issued with a dose monitoring badge before entering the store. University of Aberdeen staff and students should obtain suitable personal dosimeters from the RPS; the dose investigation level is 0.3mSv in two months. For pregnant staff, a limit of 1mSv applies over the declared term of the pregnancy.
8. Before entering the inner radiation store, the door should be left open for at least 10 minutes to allow the dissipation of Radon gas.
9. All samples must be kept behind shielding, or within a shielded container. 17mm of lead will reduce the level of radiation by approximately half.
10. Samples should be moved to the outer store to be worked on and then returned to the inner store immediately after the work on them has finished.
11. Personal protective equipment must be used when handling radioactive samples; as a minimum, this should include disposable gloves and tongs. Samples must be kept in plastic bags to prevent dust contamination, but these must be unsealed in order to prevent build-up of radon gas. Face protection and further protective clothing should also be considered.

12. Personal contamination monitoring must be carried out after use of the radioactive store, at the entrance to 029 where the background is low. All results must be recorded on the record sheets. Ensure sheets, contamination monitor and wipes for decontamination are present before entering the store; contact the RPS if anything is missing. The following steps should be taken:
  - Before entering the radioactive store, switch the meter to the “Check Battery” position and ensure the needle is in the green region. If not, replace batteries or contact the RPS.
  - Also before entering the radioactive store, switch on the meter to a measurement mode (with or without sound) and note the background response. Ensure it corresponds to the normal value indicated on the record sheets. If not, contact the RPS.
  - After working in the radioactive store monitor hands, feet etc using the meter. The probe should be scanned slowly and methodically across the surface being checked, at a distance of around 1cm. Do not allow the probe to touch the surface.
  - As indicated on the record sheet, a reading of twice the background level will indicate contamination that should be addressed as described below.
  - Record all results on the record sheet.
13. If contamination is found:
  - Remove contaminated clothing and remonitor.
  - Contaminated skin should be cleaned using wipes to remove traces of dust.
  - Remonitor
  - Record the results and actions on the record sheets and inform the RPS.
14. A task-specific radiation risk assessment should be carried out before work is undertaken within the inner radiation store. Contact the RPS to arrange this.
15. Persons who become pregnant should not enter the radioactive store unless a prior radiation risk assessment specifically considering pregnancy and the intended work has been carried out.
16. When it is suspected any person has received a radiation dose in excess of that expected, such as by spending beyond 8 hours in the radiation store per year, the RPS and RPA must be informed immediately in order that a dose estimation can be made. It would be helpful to make a note of exposure durations, distances etc.
17. If significant new samples are to be placed within the inner store of 029, the RPA should be contacted to review the risk assessment.
18. Movement of samples to other locations must be recorded in the logbook. Transported samples must be accompanied by a description, details of ownership and who to contact if found. Shielded containers must be used where possible.
19. These local rules apply to work within the inner store of room 029. If samples are to be taken outside 029 then a new risk assessment covering both the transportation and the work to be undertaken will be required, along with new local rules. Contact the RPS or RPA for advice if required.

