Inspection Report

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| **Licence holder:** Australian National University (ANU) | **Licence number:** S0027 |
| Location inspected: Research School of Physics and Engineering (RSPE) | **Date/s of inspection:** 6-8 December 2017 |
| **Report No:** R18/00823 |
| An inspection was conducted as part of ARPANSA’s baseline inspection program to assess compliance with the *Australian Radiation Protection and Nuclear Safety Act 1998* (the Act), the Australian Radiation Protection and Nuclear Safety Regulations 1999 (the Regulations), and conditions of the Source Licence S0027. The scope of the inspection included an assessment of ANU’s performance at its RSPE Acton premises against the Source Performance Objectives and Criteria (PO&C). The inspection consisted of a review of records, interviews, and physical inspection of sources. BackgroundThe ANU is a research-intensive university located in Acton, Australian Capital Territory (ACT), and specialises in a range of activities that require the use of radioactive materials and ionising and non-ionising radiation apparatus. The ANU source licence covers several schools at the Acton campus and one at Mt Stromlo, ACT, many of which use controlled apparatus and controlled materials as part of their research and teaching roles. ANU is licensed under section 33 of the Australian Radiation Protection and Nuclear Safety Act 1998 to deal with controlled material and controlled apparatus for research purposes in its various schools.The main codes and standards applicable to these sources are: * Australian Standard Safety in Laboratories - *Ionizing Radiations (1998)* (AS 2243.4-1998) (the IR Standard)
* Radiation Protection Series No. 12 *Radiation Protection Standard for Occupational Exposure to Ultraviolet Radiation (2006)* (RPS12)
* Radiation Health Series 9 *Code of practice for protection against ionizing radiation emitted from X-ray analysis equipment (1984)* (RHS9)
* Australian/New Zealand Standard *Safety in laboratories - Non-ionizing radiations-Electromagnetic, sound and ultrasound (2004)* (AS/NZS 2243.5:2004) (the NIR Standard)
* Australian/New Zealand *Standard Safety of laser products Part 1: Equipment classification* (AS/NZS IEC 60825-1:2014)
* Australian/New Zealand Standard *Safety of laser products Part 14: A user’s guide* (AS/NZS IEC 60825-14:2011)

ObservationsIn general, the management of radiation safety at the ANU Research School of Physics and Engineering in relation to controlled material and controlled apparatus was found to be sound. In some cases, however, there appeared to be room for improvement as follows:* Signage at unsealed source laboratories was incomplete or inadequate insofar as it did not show that eating, drinking, smoking or the application of cosmetics is not permitted as required under clause 6.7.2(b) of the IR Standard. It is acknowledged that ANU has a strictly no smoking policy in all of its buildings.
* Some lasers were found to be incorrectly labelled as Class 3R instead of what they actually were i.e. Class 3B.
* Regular contamination checks of monitoring dosimeters were not being done routinely as required in the *Procedure: Radiation Policy document.*
* Leak testing of sealed radioactive sources was not being performed regularly (minimum 10 years) as required in the *Procedure: Radiation Policy document.* ARPANSA has acknowledged in its regulatory guidance documents (OS-COM-SUP-270A v4) that there are no providers of these services in Australia and where such a test is required, the wipe method must be used.

**Performance reporting verification**Information for quarterly reports is coordinated by the ANU Radiation Safety Officer (RSO) with input from each school followed by consolidation into one final report to ARPANSA. ANU’s quarterly reports have been submitted to ARPANSA in a timely manner in recent years, and contain relevant information, including details of compliance with the Act and Regulations. Other documentation required by ARPANSA such as Regulation 51 submissions and Regulation 53 disposal requests are also coordinated through the ANU RSO as needed.**Training**All personnel using controlled apparatus or controlled material at ANU are required to undertake training related to the particular type of source. Training records are kept in hard form (in folders) and electronically. The ARPANSA inspectors verified these records for each individual authorised to use the controlled apparatus and controlled materials in RSPE as having completed the training.Any worker visiting or working in a radiation area is required to partake in induction training and access to laboratory areas was restricted to those personnel who had undergone appropriate induction training. The ARPANSA inspectors observed induction-training records for such personnel during the inspection. **Radiation protection**ANU demonstrates a commitment to radiation protection by having established a policy to facilitate the safe and effective use of radiation and the safe storage of radioactive sources throughout all schools at the university. This is supported by a comprehensive radiation management plan titled *Procedure: Radiation Safety* (PRS)to achieve and maintain best practice and compliance with radiation legislation and ARPANSA licence conditions. ANU provided the inspectors with version 12 of the PRSfor review beforethe inspection even though version 11 was in place as the extant document at the university. This gave rise to an area for improvement in relation to document control until the discrepancy between the two different versions was clarified during the inspection. Version 12 would be amended based on comments and findings during the inspection and would be published as the official version in due course.FindingsThe licence holder was found to be in compliance with the requirements of the Act, the Regulations, and licence conditions. The inspection revealed the following **areas for improvement:**1. Laboratory signage was not in accordance with the IR Standard
2. Categorisation of lasers were not in accordance with the NIR Standard
3. Some aspects of the procedures were not being followed.

It is expected that improvement actions will be taken in a timely manner. |

*No written response to this report is required*

This report will be published on the ARPANSA website