



## Australian Government

### Australian Radiation Protection and Nuclear Safety Agency

## INSPECTION REPORT

<b>Licence Holder:</b> CSIRO Agriculture and Food (A&F)	<b>Licence Number:</b> S0021
<b>Location inspected:</b> Armidale, NSW	<b>Dates of inspection:</b> 14 November 2016
	<b>Report No:</b> R16/14445

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 Source Licence S0021.

The scope of the inspection included an assessment of A&F's performance against the Source Performance Objectives and Criteria (PO&Cs) and consisted of a review of records, interviews, and physical inspection of sources at the Armidale site.

#### Background

A&F is authorised under section 33 of the Act to deal with controlled apparatus and controlled material.

A&F uses controlled material and controlled apparatus to assist Australian farmers and industry to improve productivity and sustainability across the agriculture sector.

#### Observations

##### **Performance Reporting Verification**

A&F's quarterly reports have been submitted to ARPANSA in a timely manner and contained relevant information, including details of compliance with the Act and Regulations. Information for quarterly reports is coordinated by the Business Unit Radiation Safety Officer (BURSO) with input from each A&F site followed by consolidation into one final report to ARPANSA. Other documentation required by ARPANSA such as Regulation 51 submissions and Regulation 53 disposal requests are also coordinated through the BURSO as needed.

##### **Training**

All personnel on the site using controlled material or controlled apparatus are required to undertake training related to the particular source. Training records are kept electronically and these were verified by the ARPANSA inspector for each individual who had completed the training. The current system of identifying refresher training to be undertaken by personnel was explained to the inspector as well as a new system in development, which will determine the need for refresher training based on the experience of the operator and frequency of use of any particular source.

The site Radiation Safety Officer (RSO) received appropriate training to fulfil the duties of an RSO. Personnel required to use radioactive material are required to undergo training in safety in laboratories provided by a contracted radiation safety training provider.

Safety training in the use of UV apparatus is provided by the BURSO via video link, and training records are kept in a shared drive.

**Radiation Protection**

A&F management has demonstrated a commitment to radiation protection by establishing a policy to facilitate the safe and effective use of radiation at the Armidale site. This is supported by a comprehensive Radiation Protection Plan (RPP) to achieve and maintain best practice and compliance with radiation legislation and ARPANSA licence conditions. Version 1.1 of the RPP was published in November 2016 and a table detailing changes was included inside the front cover showing the version number, details of the changes, endorsing person, approving person and issue date. Version 1.1 contains only minor updates to Version 1.0 (July 2016).

Section 3.2.1 of the RPP deals with hazard identification and risk assessment, including the development and use of safe work instructions (SWIs). The inspector was informed that a roll out of a new SWI format across A&F was nearing completion. Generally, the SWIs at A&F were located with the controlled apparatus or source. However, two incubators (ID1621 & ID387) located in building 18 did not have SWIs. It was explained to the inspector that each incubator had been assessed as not being controlled apparatus, which led to the withdrawal of the SWIs. The status of each incubator has since been reinstated to that of a controlled apparatus, however the SWIs had not been reissued.

A&F appeared to be in compliance with all aspects of the Australian Standard AS2243.5:2004 *Safety in laboratories Part 5: Non-ionizing radiations-Electromagnetic, sound and ultrasound*. However, another CSIRO Business Unit has been recently issued with a non-compliance notification relating to risk assessments for UVR apparatus not being completed. Completion of a risk assessment is required by clause 3.1.2(b) of the *Radiation Protection Standard for Occupational Exposure to Ultraviolet Radiation (2006)*. ARPANSA has been advised that there is an organisational plan to comply with this clause and a risk assessment for all Business Units was expected to be performed in the short term.

Two UV sterilisation laminar flow cabinets were found to have faulty sliding screens. A screen fitted to unit ID1612 was cracked, and unit ID1614 had sliding screens which did not meet or sufficiently overlap. Both of these faults could give rise to UV exposure to the operator.

Workplace monitoring arrangements applying to A&F sites are detailed in the RPP. Task related area monitoring is conducted on a case-by-case basis. The calibration status of contamination monitoring instruments was found to be up to date. The instruments are calibrated on a 5 year frequency, as per ARPANSA's regulatory guidance.

A&F issues its personnel with personal dosimeters. Dose report records, provided during the inspection, show that doses attributed to wearers are low, with the majority being below the minimum reportable dose of the personal monitoring service.

**Safety Culture**

Staff and contractors are encouraged to report any suspected incident, including 'near misses', on-line in accordance with the CSIRO Incident and Hazard Management Procedure. Any incident so reported is automatically forwarded to the immediate supervisor. If not actioned within seven days, the report is sent to the next person up the line. Unless actioned, this procedure continues until it reaches the CEO of CSIRO.

***Emergency Preparedness and Response***

CSIRO staff follow the site-wide emergency management requirements relating to evacuation exercises, emergency preparedness etc. A copy of the latest Site Emergency Management Plan was provided during the inspection.

**Findings**

The 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. The review of hazards in relation to controlled apparatus and the use of SWIs.
2. The condition and effectiveness of engineered controls in place to mitigate UV exposure to operators.

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