



**Australian Government**

**Australian Radiation Protection and Nuclear Safety Agency**

## INSPECTION REPORT

<b>Licence Holder:</b> Department of Defence and Australian Defence Force (Defence)	<b>Licence Number:</b> S0042
<b>Location inspected:</b> Multiple sites	<b>Date/s of inspection:</b> 7 October – 24 November 2016
	<b>Report No:</b> R16/12955

An inspection was conducted as part of ARPANSA's baseline inspection program. For the purposes of this inspection, the inspector did not enter the licence holder's premises; instead the inspection was conducted using documentation sent by the licence holder, and further clarification via phone or email as necessary.

The purpose of the inspection was 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 S0042.

The scope of the inspection included an assessment of Defence's performance against the Source Performance Objectives and Criteria.

### Background

Defence is licensed under section 33 of the Act to deal with sealed sources for calibration purposes of activity of 40 MBq or less. These sources are used to check the performance of radiation monitoring equipment.

### Observations

Defence provides an inventory of controlled sources to ARPANSA on a quarterly basis. This inventory lists many thousands of sources under various categories. Defence has been differentiating between 'sealed sources for calibration purposes of activity of 40 MBq or less' and 'RADIAC sets'. However, there was no real justification for this distinction, as a RADIAC set is a radiation monitor with a source for calibration purposes.

The Defence inventory of radiation sources is based on a larger database used for logistics purposes. Defence have historically filtered items containing Th-232 from the database and reported them to ARPANSA as radiation sources. This filter was established at 1000 Bq of radioactivity. Therefore, any item containing greater than 1000 Bq of Th-232 has been reported as a radiation source. However, as a consequence of this inspection, Defence have identified that this filtering had been incorrectly set-up. This is because the exemption limit for Th-232 is 10,000 Bq. Hence, Defence has previously been reporting on sources that were actually exempt from regulation.

In this instance, the sources have an activity of 1,110 Bq. This information was verified through the equipment manual. Therefore, the sources are exempt from regulation.

### 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 licence holder's methods of reviewing the contents of the logistics database, and confirming the accuracy of the information that it holds, has missed some sources.

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