



**Australian Government**

**Australian Radiation Protection and Nuclear Safety Agency**

## INSPECTION REPORT

<b>Licence Holder:</b> Attorney-General's Department	<b>Licence Number:</b> S0151
<b>Location inspected:</b> Canberra, ACT and Sydney, NSW.	<b>Date of inspection:</b> 16 April 2016
	<b>Report No:</b> R16/05337

An inspection was conducted under Part 7 of the *Australian Radiation Protection and Nuclear Safety Act 1998* (the Act). The purpose of the inspection was to assess compliance with the Act, applicable regulations, and licence conditions. The inspection was conducted as part of ARPANSA's baseline inspection program.

The scope of the inspection included an assessment of Attorney-General's Department (A-G) performance based on the source licence Performance Objectives and Criteria. The inspection consisted of a review of information, records and photographs supplied by the A-G.

### Background

A-G is the Australian government's central policy agency for maintaining Australia's law and justice framework, and coordinating the delivery of programs that strengthen national security and emergency management. A-G uses baggage inspection x-ray units (x-ray unit) for security screening purposes.

### Observations

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

A-G is required to fulfil its annual reporting obligations to ARPANSA by submission of a report in the approved format within 28 days of the end of the financial year. The annual reports submitted by the A-G for the financial years 2013/14 and 2014/15 were found to have been consistently submitted in a timely manner and indicated no changes or incidents of regulatory concern had occurred over the reporting periods.

It is a condition of licence that the A-G must maintain an up to date and accurate inventory of all controlled apparatus in a form acceptable to the CEO of ARPANSA. The serial number displayed on the inspection X-ray unit at the Sydney office was consistent with the corresponding entry in the A-G source inventory workbook. However the serial number displayed in the photo of the manufacturer's plate on the inspection X-ray unit at the Canberra office was inconsistent with the corresponding entry in the A-G source inventory workbook.

#### ***Training***

A-G must ensure that any person who deals with the controlled apparatus has received appropriate training with respect to the operation of the controlled apparatus authorised by the licence. Training certificates supplied during the inspection verified that all four personnel identified to operate the Canberra office inspection X-ray unit; and the operator of the Sydney office inspection X-ray unit have successfully completed the Operator training course conducted by a qualified training provider.

### **Radiation Protection**

The licence holder must ensure that appropriate work procedures in relation to the controlled apparatus are documented, maintained, and approved. However the Standard Operating Procedures (SOP) for the Sydney office X-ray unit Version: 1.1 implemented 2014 and revised October 2015 displayed a 'DRAFT' watermark on each page of the SOP.

The ARPANSA inspection Information Requirements document requested copies of any workplace instructions in place for the safe operation of each x-ray unit. A Smiths Safety Instructions document produced by the manufacturer was provided with the submission for the Canberra Office X-ray unit; however no approved A-G SOP accompanied the Canberra Office submission.

The Smiths Heimann Manual for Model 6064si Canberra office X-ray unit gives a safety warning to '*ensure that no person puts a hand into the inspection tunnel while the x-ray unit is activated!*' RHS 21 section 5.2 requires entry ports to be constructed such that the insertion of any part of the human body into the primary beam is not possible: or in the case of a conveyor system used to convey the items to be examined into the primary beam, insertion of any part of the human body into the primary beam shall not be readily achievable. Photographs of both the Canberra; and Sydney X-ray units show that it would be possible for a person to insert a part of the body into the primary beam due to an absence of a 'constructed' physical access prevention measure such as the installation of additional Perspex screens to eliminate this risk.

Where the control of this ionizing radiation exposure risk is to be achieved through a combination of engineering (including shields and interlocks) and administrative controls that procedurally alter the way work is done (including policies, and work practices such as standards and operating procedures) the effectiveness of this approach is dependent on approved SOPs and training; and maintenance.

RHS 21 section 6 addresses controls that initiate and terminate the generation of X-rays other than by functioning of a safety interlock or mains power control. RHS21 requires that there shall be a key operated control so connected that X-rays cannot be produced when the key is removed. In addition there shall be a separate switch for the control of the X-ray beam.

Photographs of the Canberra office X-ray unit show the control panel as being key-operated; and that a separate switch was fitted for the control of the X-ray unit. The SOP for operation of the inspection X-ray unit in the Sydney office advises the X-ray machine is not to be turned off by the key, only logged off after use. A key is only used to open the 'Keyboard panel'. The instructions advise "NEVER TURN MACHINE OFF WITH THE KEY". The keyboard panel touch screen is used to enter a password to ensure the X-ray is on and ready for use.

### **Findings**

At the time of inspection, it appeared that the licence holder complied with the Act, and applicable regulations; however performance deficiencies were identified with regard to the conditions of licence.

A-G's performance may be improved by addressing the following performance deficiencies in the areas of Performance Reporting Verification, Training, and Radiation Protection.

### **Performance Deficiencies:**

1. The serial number displayed in the photo of the manufacturer's plate on the inspection X-ray unit at the Canberra office was inconsistent with the corresponding entry in the A-G source inventory workbook (SIW).
2. Photographs of both inspection x-ray units show that it would be possible for a person to insert a

part of the body into the primary beam.

3. The Standard Operating Procedures (SOP) for X-ray unit Version: 1.1 implemented 2014 and revised October 2015 provided by the A-G Sydney office where still marked as 'DRAFT'. A-G's Canberra office did not provide an approved SOP for the operation of the Canberra X-ray unit.
4. Section 12, RHS21 requires that periodic radiation monitoring and a check of the correct operation of interlocks must be carried out on X-ray units at intervals not exceeding two years. The absence of maintenance/service reports for the Sydney Office X-ray unit meant the inspection was unable to verify whether any radiation monitoring or checks of safety interlocks were performed following the installation of the x-ray unit in September 2013.