



# Inspection report

<b>Licence holder:</b> National Gallery of Australia (NGA)	<b>Licence number:</b> S0024
<b>Location inspected:</b> Parkes Place, Parkes ACT	<b>Date/s of inspection:</b> 6 March 2020
	<b>Report no:</b> R20/02693

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 2018 (the Regulations), and conditions of source licence S0024.

The scope of the inspection included an assessment of NGA's performance at its Parkes Lane, Parkes ACT premises against the Source Performance Objectives and Criteria (POCs). The inspection consisted of a review of records, interviews, and physical inspection of sources.

## Background

The NGA is the Commonwealth of Australia's national cultural institution for the visual arts and is part of the Department of Infrastructure, Transport, Regional Development and Communications portfolio. The licence holder is authorised under section 33 of the Act to deal with UV sources, industrial radiography X-ray unit and X-ray analysis equipment for the examination and conservation of artworks.

The main codes and standards applicable to these sources are those that appear in section 59 of the Regulations plus:

- 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)
- Radiation Protection Series C-4 *Code of Radiation Protection Requirements for Industrial Radiography (2018)* (RPS C-4)

## Observations

In general, the management of radiation safety at NGA in relation to controlled apparatus was found to be sound. The licence holder's latest Radiation Protection Plans (RPP) and Safe Work Procedures (SWP) for the XRF device reviewed in February 2020 was examined. The inspection highlighted that both RPP and SWP need to be revised for general terminology, dose limits and updated references to relevant codes and standards.

There appeared to be room for improvement with respect to record keeping for testing the operation of the XRF device, checks of the XRF logbook and the need to meet the requirements of RPS C-4 for industrial radiography devices within a fully enclosed site.

During discussions related to the SIW it was noted that NGA's current SIW had optical sources consisting of UVA lamps operating in the region 350–400nm. Under the Regulations section 44 exempt dealings, item 7(k) these sources are no longer controlled apparatus. NGA advised that they will update their SIW accordingly.

### ***Performance reporting verification***

NGA's quarterly reports are submitted to ARPANSA in a timely manner and contain relevant information including details of compliance with the Act and Regulations. Information for quarterly reports is coordinated by the Radiation Safety Officer (RSO) and reported to the Head of Conservation.

Other documentation required by ARPANSA such as submissions for approval under sections 63 and 65 of the Regulations would also be coordinated through the RSO as needed.

### ***Configuration management***

The controlled apparatus sighted during the inspection matched the internal designations assigned to the apparatus and listed in the SIW. Further, the apparatus inspected were present and accounted for consistent with the SIW.

### ***Training***

The NGA requires that all personnel who use the XRF device undertake induction and training. Training to use the XRF device was provided by the supplier and training records are maintained electronically.

The sole operator of the fixed X-ray unit had received training in the use of industrial radiography equipment. Access to the X-ray room is restricted to the RSO.

ARPANSA inspectors observed the training records for authorised personnel.

### ***Event protection and emergency preparedness & response***

Event protection and emergency preparedness and response are handled under the broader NGA Work Health and Safety policy and were not assessed during this inspection.

### ***Inspection, testing and maintenance***

NGA requires that the XRF device be tested for correct operation of the On/Off mechanism every six months and records kept of the results. There was no evidence that NGA was doing this. It was noted that this statement in the Plans and Arrangements could be reworded to require the On/Off mechanism be tested each time the device is used.

### ***Security***

Access to all NGA buildings beyond the public areas is protected by security and an electronic access control system.

The NGA does not deal with radioactive sources and the Security Code of Practice is therefore not invoked. Existing security measures were therefore considered appropriate.

### ***Radiation protection***

The fully enclosed X-ray exposure room is located in the conservation laboratory and is used for the radiography of artwork. The X-ray room is fitted with an interlock on the door that prevents exposure unless the door is closed. Appropriate warning signs and warning light are in place at the entrance to the X-ray room and include constraints in terms of the maximum kV and tube current to be used. It was

found, however, that the NGA were not meeting the requirements of RPS C-4 for fully enclosed radiography sites in that there was no visible and audible warning device inside the X-ray room that are activated during exposure.

NGA staff periodically carry out radiation monitoring during use of the X-ray equipment. The NGA survey meter had been sent for calibration however the fixed X-ray unit had not been used for several months and no use was envisaged in the short term.

NGA requires that usage of the XRF device be recorded in a log book and that the log book be checked every three months as part of the work place inspection program. While the logbook was seen to contain usage details, there was no evidence that the three monthly checks of the XRF logbook is being carried out.

### **Safety culture**

NGA management has demonstrated a commitment to radiation protection by establishing a policy to facilitate the safe and effective use of radiation. This is supported by a comprehensive Radiation Protection Plan and Safe Work Procedure to achieve and maintain best practice and compliance with radiation legislation and ARPANSA licence conditions.

The NGA's sound approach to safety culture was evident in the extensively documented workplace Health and Safety and Risk Management policies.

### **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 RPP and SWPs for the XRF device need to be updated for relevant standards and codes, general terminology and dose limits
- 2) Meet all of the requirements of RPS C-4 for fully enclosed radiography sites
- 3) Ensure all aspects of the RPP are being carried out as prescribed such as:
  - a) XRF records to be checked every three months
  - b) Keeping records of results for operation of the On/Off mechanism for the XRF device.

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

*No written response to this report is required*

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