



Australian Government

Australian Radiation Protection and Nuclear Safety Agency

INSPECTION REPORT

Licence Holder: ANSTO Ore Processing & Operations Facility (OPOF) and sources held by Nuclear Business	Licence Number: F0245 and S0045
Location inspected: Lucas Heights, NSW	Date of inspection: 11 – 13 October 2016
	Report No: R16/12454
<p>This is the record of an inspection conducted under Part 7 of the <i>Australian Radiation Protection and Nuclear Safety Act 1998</i> (the Act) as part of ARPANSA's baseline inspection program. The purpose of the inspection was to assess compliance with the Act, the Australian Radiation Protection and Nuclear Safety Regulations 1999 (the Regulations), and conditions of licences F0245 and S0045.</p> <p>The scope of the inspection included an assessment of ANSTO's performance based on the Performance Objectives and Criteria. The inspection consisted of a review of records, interviews, and a physical inspection of the OPOF under F0245 and sources held by Nuclear Business under S0045. All findings are based on evidence obtained during the inspection.</p> <p>Background</p> <p>The OPOF consists of laboratories and pilot plants. The facility is used for research and development of processes involving the treatment of ores, concentrates and metallurgical intermediates containing uranium and thorium. The operation of the facility generates low level radioactive solid and liquid waste.</p> <p>The ANSTO Source Licence permits the use of various sources for scientific, research and routine activities.</p> <p>Observations</p> <p>Performance Reporting</p> <p>Quarterly reports have been submitted to ARPANSA in the appropriate format and in a timely manner.</p> <p>Configuration Management</p> <p>The operations of the OPOF are described in the Safety Analysis Report. Plans and Arrangements for OPOF were last issued in August 2016 and for sources in April 2014. Changes to OPOF are considered unlikely. Nuclear Business staff are aware of the process for assessing proposed change.</p> <p>Inspectors noted that some documentation relating to sources has not been kept current; for example, SAC 1725 expired in March 2016 and SAC 1476/06 although ongoing with no expiry date, is now more than 10 years old. The recent organisational change that transferred the management of Radiation Services to Nuclear Business on 10 October 2016 also needs to be reflected. Minor inconsistencies in room numbering were noted in some local arrangements forms in the Instrument Calibration Facility (ICF) when compared with entries in the ANSTO source register.</p> <p>Inspection, Testing and Maintenance</p> <p>General housekeeping in the OPOF is consistent with industry standards for this kind of facility. Inspectors noted that some drums in the OPOF Sample Store were not clearly labelled.</p> <p>Radiation Protection Services carry out routine radiation surveys and wipe tests for the OPOF. Facility Asset Management provides preventative maintenance for OPOF activities. Software known as SAP is</p>	

used for managing maintenance. A review of maintenance records relating to active ventilation and cranes showed that maintenance was well managed.

There are four x-ray analysis units associated with OPOF; maintenance records were produced for only two of them. Inspectors were informed that the other two units are not in service.

Checks of the ICF safety system and interlocks are software-controlled and must be completed before the calibration rig can be operated to gain access to sources. The safety check sequence and source raising procedure was demonstrated during the inspection. A hard copy log book was sighted. Records confirmed that the gamma and neutron area monitors in Room 16 of the ICF have been regularly calibrated.

Wipe testing of sealed sources is undertaken on a regular basis. However, records indicate some sources are wipe tested annually and others six monthly. Annual wipe testing of these types of sources aligns with ARPANSA's current regulatory guidance.

Training

Training requirements for ANSTO staff are defined in ANSTO *Work Health and Safety Training Needs Analysis AG2364*. The new Learning Management System (LMS) has been rolled out in ANSTO Minerals. A review of LMS training arrangements showed that OPOF workers undertake training on "ANSTO Minerals Core" curriculum, covering worker induction, risk assessment, good work practices and emergency response.

A sample of LMS training records was sighted for source users; for example, records for the ICF calibration rig setup practical training which must be completed before passwords are issued allowing operators access to the system.

Event Protection

ANSTO's event response process (as defined in AG2372) continues to be applied in Nuclear Business.

Security

The LHSTC site is controlled by ANSTO Site Security. Access to all buildings is controlled by swipe access. Further access restrictions apply to category 3 sources in the ICF.

Emergency Preparedness and Response

A site evacuation exercise was conducted in October 2015 and the post-exercise report completed.

Actions to be taken by ANSTO staff during an emergency are defined in the LHSTC Emergency Management Plan AG2466. Review of emergency documentation showed that an exercise involving OPOF personnel was undertaken in March 2015.

In case of emergency (or non-routine) entry, the interlock override procedure is described in ANSTO Instruction I 4781 Maintenance, Source Loading & Unloading in the ICF. Access to the override key must be approved by the Manager, Radiation Protection Services.

Radiation Protection

Radiation protection is in general well managed. However radiation surveys for some areas in OPOF could not be provided. A local arrangements form in B4 would be better located further away from the source storage area.

Regular health physics surveys of the ICF have been conducted; the two most recent surveys were completed on 17 November 2015 and 12 July 2016.

Findings

The licence holder was found to be in compliance with the Act, the Regulations, and licence conditions.

ANSTO Nuclear Business' performance may be improved by addressing the following issues:

Areas for improvement:

1. Radiation surveys in OPOF have not always been routinely performed
2. Documentation for sources has not always been kept current