



Inspection report

Licence Holder: ASC Pty Ltd and ASC AWD Shipbuilder Pty Ltd (ASC)	Licence Number: S0190
Location inspected: Osborne, SA	Date/s of inspection: 25 May 2017
	Report No: R17/07105
<p>An inspection was conducted as part of ARPANSA's baseline inspection program to assess compliance with the <i>Australian Radiation Protection and Nuclear Safety Act 1998</i> (the Act), the Australian Radiation Protection and Nuclear Safety Regulations 1999 (the Regulations), and conditions of Source Licence S0190.</p> <p>The scope of the inspection included an assessment of ASC's performance against the Source Performance Objectives and Criteria (PO&Cs) and arrangements for sealed source security. The inspection consisted of a review of records, interviews, and physical inspection of sources.</p> <p>Background</p> <p>ASC provides non-destructive testing (NDT) and inspection services to the Department of Defence in the building and maintenance of naval vessels.</p> <p>ASC is licensed to deal with industrial radiography sources and X-ray equipment, magnetic field NDT devices, and partially enclosed x-ray analysis units.</p> <p>ASC holds certification to ISO 9001, ISO 14001, ISO 4801, and NATA accreditation for its NDT work.</p> <p>Observations</p> <p>Performance Report & Verification</p> <p>ASC's quarterly reports were submitted to ARPANSA in a timely manner over the past two years, and contained relevant information, including details of compliance with the Act and the Regulations.</p> <p>Under section 3.5.9 of ASC's <i>Radiation Safety Manual (RSM)</i>, a source inventory log is kept at the security gate to account for sealed sources entering and leaving the ASC site. Security personnel check the log and ASC's Radiation Protection Officer (RPO) reviews it every 3 months to inform ASC's compliance with its quarterly reporting obligations to ARPANSA</p> <p>Training</p> <p>There had been no change in NDT personnel since the previous inspection conducted in August 2016. All radiation workers that use controlled material or controlled apparatus had undertaken appropriate radiation safety training.</p>	

Security

Section 3.5.6 of the RSM specifies that the RPO shall provide an annual security awareness briefing to all radiation workers, including on the matters covered by ASC's sealed source security plan. While it was observed that the physical protection and security arrangements implemented at ASC were consistent with the requirements of Radiation Protection Series No.11 *Code of Practice – Security of Radioactive Sources (2007)* (RPS11), the documented security plan required further amendments to better align with RPS11. The plan is currently under review with the aim of gaining ARPANSA's approval in accordance with RPS11.

Radiation Protection

ASC issues its radiation workers with personal radiation dosimeters. Dose report records provided during the inspection showed that doses attributed to wearers were below the minimum reportable dose level of the dosimetry service in use.

The annual calibration of ASC's survey monitoring instruments is managed centrally by ASC along with all other calibrated equipment, and is subject to the certifying requirements of ISO 9001.

In accordance with section 3.3.4 of the RSM, the main access door to the NDT Laboratory and the door to the equipment storeroom are key card operated. The inspection team was informed that access for authorised persons is arranged and activated through the Security Group; the RPO provides a list of authorised persons to be issued with access cards, and the list is checked annually.

Section 3.4.4 of the RSM specifies that any minor cleaning and servicing of industrial radiography equipment may be performed by radiation workers who have been trained on the operation of the equipment and refers to the equipment manufacturer's *Source Projector Operations and Maintenance Manual*.

In accordance with section 3.5.11 of the RSM, ASC contracts an authorised dangerous goods transporter for all off-site transport of its industrial radiography sources.

ASC's NDT technicians utilise a trolley-cart to move industrial radiography equipment between the NDT Laboratory and where site radiography is to occur. The cart was found to contain necessary equipment in accordance with Radiation Health Series No.31 *Code of Practice for the Safe Use of Industrial Radiography Equipment (1989)* (RHS31) including radiation warning signs, barrier ropes and warning flags for marking exclusion zones, a guide tube, a wind-out cable and a collimator.

Section 3.7.3 of the RSM specifies that the RPO approves all site radiography. The approval process involves a written *NDT Request for Radiography Form*, which includes the date and time of radiography.

The inspection team found the documents listed under section 1.3.1 of the RSM to be readily available in print within the NDT Laboratory.

In accordance with RHS31, a Type B(U) industrial radiography source container loaded with a suitable sealed source was found to be safely and securely stored within a steel cabinet. The cabinet was locked and appropriately labelled with a trefoil symbol and warning sign. The steel cabinet was installed in a secure room which requires swipe card access.

The Type B(U) source container was found to be correctly labelled with a Category II transport label as per the requirements of Radiation Protection Series C-2 *Code for the Transport of Radioactive Material (2014)*.

A *Source Movement Log* (a requirement of RHS31) and a current sealed source certificate were found to be kept nearby the steel storage container. The source and serial number details of the source were cross-checked and confirmed with the metal source identification tag attached to the source container.

A magnetic field NDT device in use in the NDT Laboratory was found to be fitted with appropriate warning signs and a standard operating procedure was readily available for the unit.

Emergency Preparedness & Response

Section 3.5.5 of the RSM outlines the actions to be taken if an X-ray unit or sealed source were to be lost or stolen. ASC had in place *Radioactive Isotope Emergency Response Procedures* and emergency source recovery equipment located at the entrance to the NDT Laboratory exposure room - therefore readily available to deal with any source recovery incident or associated emergency situation.

Other matters

The previous inspection of ASC (conducted August 2016 – report R16/10444) revealed six areas for improvement (AFI). ASC had reported that all the AFI were actioned within three months of the inspection. The inspection team confirmed the status of the AFI.

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 **area for improvement**:

1. The documented security plan was not fully consistent with RPS11.

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