



# Inspection report

<b>Licence holder:</b> Department of Home Affairs	<b>Licence number:</b> F0125
<b>Location inspected:</b> Sydney Container Examination Facility	<b>Date/s of inspection:</b> 4 March 2020
	<b>Report no:</b> R20/02427

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 facility licence F0125.

The scope of the inspection included an assessment of the Department of Home Affairs' performance at the Sydney Container Examination Facility (CEF) against the Performance Objectives and Criteria (POCs). The inspection consisted of a review of records, interviews, and physical inspection of the facility.

## Background

The Australian Border Force (ABF), under the banner of the Department of Home Affairs (the Department), is authorised under section 31 of the Act for operation of a particle accelerator under multiple facility licences at different ports across the country. The purpose of these facilities is to aid in the prevention of illegal and harmful goods entering the country. Facility Licence F0125 authorises operations of a 6/9MeV linear accelerator at the Sydney CEF to assist in examination of containerised sea cargo.

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

- Health Physics Society (HPS) Installations using non-medical x-ray and sealed gamma-ray sources energies up to 10MeV (ANSI/HPS N43.3-2008)
- Australian Standard Safety in Laboratories – Ionizing Radiations (2018) (AS 2243.4-2018)

## Observations

### *Performance reporting verification*

The licence holder continues to meet its regulatory obligations in terms of fulfilling the requirements of licence condition 1 (i.e. quarterly reporting of safety and security related issues).

ABF staff have multiple avenues of reporting through to the departmental teams located in Canberra, as well as locally. Radiological issues are reported in both streams (i.e. departmental and local) to ensure events have been captured. The Department's Radiation Safety Management (RSM) team will populate reports with incidents as they occur and at the end of each quarter will approach the local ABF team at the CEF for verification purposes as well as inclusion of any occurrences which may not have been previously captured.

Members from the RSM are also part of regular meetings with the contracted entity (Nuotech), which maintains the linear accelerator, as well as the Department's radiation safety advisor (SGS Radiation Services). A monthly CEF managers' meeting is also held with radiation safety as a standing agenda item.

Since the last inspection in May 2018, no radiation safety incidents have occurred at the Sydney CEF.

### ***Configuration management***

The CEFs operation is controlled via keys. Following recent inspections at other locations, ARPANSA inspectors sought to clarify ambiguity about just how many keys are employed in the CEFs operation as well as their function. It became apparent to inspectors that the confusion stemmed from slight differences in terminology and practice at local levels compared with what has documented in procedures despite each location being virtually identical. When the CEF is not in operation (i.e. when scanning activities have concluded) the keys are secured and only staff who have been given approval are authorised to gain access.

AFIs from the previous inspection (change management, applicable codes and standards) were issues of uniformity throughout each of the Department's prescribed radiation facilities and have since been clarified. Another AFI (obstruction of emergency shutdown mechanisms) was remedied within 2 months following the previous inspection.

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

ABF staff who are employed to work at the CEF are able to perform 'troubleshooting' maintenance. During any of the calibrations performed, or if a fault were to occur whilst conducting a scan, ABF staff are able to see if parameters are as expected and if not, restart the scan. If the fault does not clear or scanning fails, the Department's contracted maintenance provider (Nuotech) for the CEF will perform in-depth maintenance. Nuotech has sole responsibility for maintenance of the linear accelerator at the CEF.

Nuotech has a maintenance plan which distinguishes the differences between individual forms of maintenance (preventative, remedial, etc.). It was recently identified at an identical facility under the control of the same licence holder (Brisbane CEF, R19/12402), that while preventative maintenance is being performed, it was unknown if the required schedule was being accurately met. This is also the case at the Sydney CEF. Responsibility for such an issue has a single point of accountability for all CEFs, which rests with a Department team based in Canberra. While it was suggested in the Brisbane inspection that this be investigated to determine what the CEFs require, the arrangements for preventative maintenance are still unclear.

### ***Training***

Previously, the Department had an arrangement with SGS, as its radiation safety advisor (RSA), to verify that the Nuotech engineers had appropriate qualifications to maintain the CEF. Following a recent inspection at another site, the RSM informed inspectors that this arrangement is to continue. One of the two engineers at the CEF, who is a recent employee, has not undergone assessment or verification in-line with this internal requirement. The Nuotech qualification also has an expiration date as it is only valid for a period of five years. No strategy could be provided to explain how the currency of the Nuotech qualification will be maintained.

This is considered an area for improvement.

### ***Event protection***

Given the nature of the site and the facility, there are no situations which would give rise to an event with radiological consequences. Fire detection systems are checked independently by two separate entities (once on behalf of the building owner and again on behalf of the Department).

### ***Security***

Inspectors were provided with the same security document as was supplied in the previous inspection in 2018 (R18/07442). This document has not been reviewed or updated since 2014 and does not align with ARPANSA's regulatory guidance (Plans and Arrangements for Managing Safety). This is considered an area for improvement.

The security arrangements in place are deemed to be appropriate for the facility.

### ***Radiation protection***

Over recent years, risk/safety assessment and understanding of risk has become of interest following events occurring at other licence holder facilities. Inspectors questioned the RSM and the local staff as to whether they had knowledge of the risk assessment for their facility, the information within and what it means for them. Such a document would have been assessed as part of the original licence application. While both parties believed that such an assessment which delved into radiation hazards and their control had been completed, no assessment could be provided. Both the RSM and the staff at the local level should have an understanding of risks associated with the facility in which they work.

This is considered an area for improvement.

### ***Emergency preparedness & response***

The emergency preparedness and response (EPR) arrangements at the Sydney site have been contracted to an external provider (PRENSA). In December 2019, the contracted entity conducted an assessment of the site which included an inspection of fire detection, emergency warning and life support systems, manual firefighting equipment, evacuation diagrams, procedures, etc. and training. Due to bushfires at the time (leading to poor air quality) and the sensitivity of systems installed at the CEF, the site had undergone multiple evacuations with no issues reported and thus an additional exercise, being the annual requirement, was cancelled.

### ***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. Verification of training of contracted maintenance staff
2. Alignment of the security plan with ARPANSA's guidance material
3. Understanding of risk associated with the facility

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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