Inspection report

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| **Licence holder:** ANSTO  | **Licence number:** F0157 |
| Location inspected: OPAL Reactor | **Dates of inspection:** 18/09-19/09/18, 26/09/18 |
| **Report no:** R18/11532  |
| 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, the Radiation Protection and Nuclear Safety Regulations 1999 (the Regulations), and conditions of Facility Licence F0157.The scope of this inspection included assessment of ANSTO’s performance at the OPAL Reactor against the ARPANSA Performance Objective Criteria (PO&C) areas of Training and Security. The inspection consisted of a review of records and interviews with staff. Aspects of the ANSTO People, Culture, Safety and Security (PCSS) group services were also reviewed as part of this inspection in relation to the services provided to the OPAL Reactor in relation to security and staff training. BackgroundThe OPAL Reactor facility is a low power, multipurpose research reactor that provides a variety of benefits to the community including nuclear medicine, research, and the production of isotopes. ObservationsThe licence holder was found to be in compliance with the Act, the Regulations, and licence conditions with respect to the areas inspected. Inspectors also concluded that the OPAL Reactor continues to reflect the principles of the inspected PO&C in its controls, behaviours and management system. One area for improvement was identified in relation to security. Security inspection main observationsThe area for improvement (AFI) identified at the last inspection for security conducted in June 2016 has not been progressed to date. However, the documentation of established procedures that fully capture operational functions is planned as a key objective of a position which is planned to be recruited before the end of 2018. The action will continue to be monitored by ARPANSA to completion. The compliance issue identified at the last inspection has been rectified.In July 2017, parts of ANSTO underwent a restructure and the Security and Safeguards group were moved to be part of the newly created People, Culture, Safety and Security (PCSS) group. The restructure resulted in changes to some security roles and reporting lines. ARPANSA were informed of these changes at the time. From the evidence reviewed at the time of the inspection, the changes have not impacted the ability of PCSS to provide security support and services to the OPAL Facility as required under the ARPANSA Act and Regulations. The current documented security arrangements were reviewed to ascertain whether they continue to be based on a developed strategy that is consistent with the IAEA Nuclear Security Series and the Commonwealth Protective Security Policy Framework. Whilst this was the case, it was noted that a number of the documents were outside the revision period required by the ANSTO Security Manual. These included the ANSTO Security Plan itself and the OPAL IT Security Manual. The risk assessments presented in these documents were reviewed and discussed with security management. It was determined that the risk and control information covered by these assessments remains valid. It was noted that the Contingency Plan referenced in the ANSTO Security Plan from 2017 remains in development.The OPAL Security Plan which makes up part of the Plans and Arrangements under the Regulations was within the required review period. The requirement in the ANSTO Security Plan to conduct a bi-annual security culture survey had not been met with the last one conducted in 2015. The results from this survey were reviewed and actions were taken as a result and no issues were raised by the ARPANSA inspectors. It is noted the next survey is currently being planned.The inspectors reviewed the ongoing ability of ANSTO OPAL Reactor to respond effectively to security threats and incidents. The ANSTO Security Exercise Program 2016-2018 was reviewed and the draft revision. No significant issues were raised. Security exercises are now integrated within the renewed Business Resilience and Crisis Management exercise framework which enables improved central management and further integrates safety and security. There have been six security emergency exercises and drills conducted since the previous ARPANSA Security inspection in 2015. There were also nine OPAL Reactor specific emergency preparedness and response exercises which were planned to integrate aspects of security. The frequency and content of the exercises/drills was reviewed and were in line with the requirements of the ANSTO Security plans and arrangements. The exercises/drills included a range of simulated internal and external events, and drills of response plans as well as testing of recovery systems using the Australian Federal Police and other external responders.It was noted that whilst the OPAL Reactor specific emergency exercises had actions captured and tracked to completion in the central ANSTO Governance Risk and Compliance (GRC) system, some of the older actions from exercises managed by Security and Safeguards (now part of PCSS) had not been transferred across to this system to date and some remained outstanding. Security staff noted at the time of the inspection that there were plans to capture all these actions in the GRC in the near future and manage to completion.As some internal requirements were not met, such as revision of documents, not meeting the required culture survey timeline, not transferring some actions from exercises to be tracked and progression of the development of the contingency plan, an area for improvement has been issued. Communication and collaboration between OPAL Reactor and Security was noted to be effective. Evidence of the monthly meetings held between OPAL Reactor management and Security staff was viewed. OPAL Reactor related configuration and control projects involving security conducted since July 2016 were reviewed including E0302, E0308, E0310, E0329 and it was noted that Security either led these projects or were involved as advisors and therefore safety and security management continues to be integrated. No issues were raised with the management, content or assessment of these changes. The last security audits were reviewed which related to the OPAL Reactor covering an EACS Access Group Audit (2017). The results of this audit were that new Access Groups will be implemented in 2018/19. In addition an OPAL CAES Card Holder Audit was conducted where card holders were audited to validate users and access privileges. In addition the status of the actions from the 2012 OPAL Physical and Protection Security Review were viewed and noted as mainly completed. No issues were raised by the inspectors.Maintenance of the OPAL Reactor and related ANSTO security protective systems was reviewed to assess whether they continue to address concerns. The Long Term Maintenance Agreement Protective Security Network Statement of Requirements and the Supply Contract were assessed. No issues were raised at the time of the inspection. In addition the OPALNet Systems Maintenance Strategy was reviewed. No issues were raised although the ongoing development of the continuity plan will be monitored at future inspections. The security events reported raised since the last inspection in relation to OPAL Reactor were reviewed to ensure that learning continues to be achieved from the evaluation of internal and external incidents and operations. No issues were raised. The security training was noted to have expanded since the last inspection to further cover National Security Clearance Holder Responsibilities and Trusted Insider Threats. No issues were raised with the training delivery. Over 15 random staff records were checked and the mandatory annual security training was up to date. Training inspection main observationsThe six AFIs identified at inspection for training conducted on the 7 December 2015 have been completed and the actions taken verified by the ARPANSA inspectors. Actions from the AFIs included: improvement to access to refresher and ongoing training for maintenance staff and it was noted that more staff in these areas are now attending these courses. In addition pass/fail criteria have been incorporated into assessments as appropriate and the requirement to conduct a management review on staff accreditation/authorisations if they have been absent from duties for over a specified period.The simulator upgrade project planning continues to progress although implementation has been delayed due to more important priorities such as the upgrade of the Reactor Control and Monitoring System. A back up plan remains in place which will ensure OPAL Reactor training continues to meet training requirements if the simulator was to become unavailable prior to the upgrade implementation. The training requirements for the OPAL Reactor continue to be identified and defined for all roles important for safety and security. The full records for over 15 staff across shift management, reactor operator, utilisation, DNAA users, target and canning users, I&C maintenance staff and OPAL engineers were audited against the requirements of the Accreditation and Authorisation of Operations Shift Personnel instruction and curriculum and no issues were identified. In addition the records for the current OPAL Radiation Protection Advisor and Health Physics Surveyors were reviewed and no issues identified. It is noted that an ARPANSA inspector has been present at almost all of the reactor operator and shift manager accreditation and reaccreditation panel interviews as a witness since the last training inspection. No issues have been raised by ARPANSA at the content or management of these interviewsEffective systems remain in place for identifying training needs and analysing ongoing requirements. At the inspection five development needs identification were reviewed including training developed for major project work such as repair of the Cold Neutron Source Protective Cover and the improvements for the Fuel Assembly Clamp process. It was noted that the training from the latter two projects was not recorded in the Learning Management System (LMS) but was included in the Safe Work Method Statement (SWMES) for the work and the tool box talk paperwork. Events relating to training or the improvement of training at the OPAL Reactor since 2016 were reviewed along with their actions, as part of the inspection and no significant issues raised. The process of receiving feedback from OPAL Reactor courses was reviewed and the actions implemented as a result noted on the OPAL Training Feedback Register. It was noted that an event had been raised to capture and implemented lessons learned appropriately from an event that occurred in a different ANSTO facility.Training plans developed for major projects such as E0300 were reviewed and the completion verified. No issues were raised. The OPAL Reactor training has been reviewed and revised to incorporate the ARPANSA Holistic Safety Guidelines. New operators have received this training since February 2016 and it has also been included in the refresher training for existing Shift Managers and Reactor Operators. It will be included in the ongoing refresher training for utilisation, maintenance and engineering staff. In addition to this there are plans to investigate potential training modules based on Civil Aviation Service Agency (CASA) human factors to include Crew Resource Management Training which could improve further on the safety culture and human factor training already conducted at the OPAL Reactor. FindingsThe 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. Some internal ANSTO requirements such as the review of Security Business Management System documentation, roll out of the bi-annual security culture survey, effective management of actions from older security emergency exercises and progression of the development of the Contingency Plan have not been met.

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