Australian Government

ANSTO
Science. Ingenuity. Sustainability.

POSITION DESCRIPTION

Position Title:	Radionuclide Metrology Scientist
Cluster / Business Unit / Division	Nuclear Safety, Security and Stewardship (NSSS)/ Nuclear Stewardship (NS)
Section or Unit:	Nuclear Stewardship - Radionuclide Metrology
Classification:	Band 5/6 (Linked)
Position Description Number:	PD-2155
Work Contract Type:	Professional
STEMM/NON-STEMM:	STEMM

POSITION PURPOSE

The Radionuclide Metrology Scientist will contribute to laboratory operations through the development and maintenance of national radionuclide activity standards, associated equipment and documentation; and contribute to radionuclide metrology client services.

ORGANISATIONAL ENVIRONMENT

ANSTO leverages great science to deliver big outcomes. We partner with scientists and engineers and apply new technologies to provide real-world benefits. Our work improves human health, saves lives, builds our industries and protects the environment. ANSTO is the home of Australia's most significant landmark and national infrastructure for research. Thousands of scientists from industry and academia benefit from gaining access to state-of-the-art instruments every year.

The Nuclear Safety, Security and Stewardship incorporates High Reliability (Safety), Nuclear Security and Safeguards and the Nuclear Stewardship science and technology platform. The Group provides critical enabling functions for ANSTO ensuring operational compliance for a range of regulators as well providing a range of mandated services to federal and state government departments and agencies.

Within NSSS, Nuclear Stewardship is the custodian of ANSTO's mandated and site-essential science capabilities that respond to the needs of the Australian Government, industry and the community relevant to nuclear measurement, nuclear forensics, radionuclide metrology, radioanalytical chemistry and environmental monitoring. These capabilities underpin ANSTO's ability to be responsive to and prepared for a range of nuclear stewardship related functions and responsibilities through the provision of trusted scientific advice and specialised services.

Under authorisation from the Chief Metrologist of the National Measurement Institute (NMI), constituted by the National Measurement Act 1960, ANSTO holds responsibility for the development, maintenance and dissemination of the Australian primary and secondary standard for activity of radionuclides. This function is performed by the Radionuclide Metrology capability area within the Nuclear Stewardship division.

Radionuclide Metrology develops specialised methods for performing precise measurements of the activity of various radionuclides as part of its national standard setting role for the Becquerel, the unit of measure for radioactivity. Through membership and participation on behalf of Australia in international and regional metrology organisations, Radionuclide Metrology also contributes to the international equivalence of radioactivity measurements and facilitates Australia's capacity to trade radioisotope products. Radionuclide Metrology also provides specialised advice and services to internal and external clients, such as the nuclear medicine community, to ensure legal traceability for the measurement radionuclides to the national standards and contributing to the correct administration of nuclear medicine to patients across Australia.

ACCOUNTABILITIES & RESPONSIBILITIES

Key Accountabilities – Band 5

- Perform ongoing maintenance and calibration of equipment and instrumentation to maintain the radionuclide metrology capability in good working order.
- Assist with the delivery of radionuclide metrology client services. Gain competency with preparing and measuring radioactive sources; analysing measurement data, calculating uncertainties according to the ISO GUM; and preparing certificates and reports.
- Develop specialist knowledge and experience in radionuclide metrology by contributing to the development and maintenance of radionuclide activity standards.
- Contribute to the documentation and optimisation of laboratory processes, with integration of quality, safety and regulatory aspects.
- Develop and apply knowledge and expertise in radiochemistry to contribute to the preparation of radioactive sources and the development of new and improved source preparation techniques;

  AND/OR

  Develop and apply knowledge and expertise in physics to contribute to the development of equipment and/or methods required for radionuclide metrology applications;

  AND/OR

  Develop and apply knowledge and expertise in quality systems to contribute to the development and maintenance of an ISO/IEC 17025 quality management system to enable radionuclide metrology client services to satisfy the requirements of the CIPM Mutual Recognition Arrangement.
- Undertake additional duties as required during periods of leave of other staff.

In addition to performing all Band 5 accountabilities, the Band 6 role includes these additional accountabilities

- Independently contribute to the delivery of radionuclide metrology client services by preparing and measuring radioactive sources; analysing measurement data, calculating uncertainties according to the ISO GUM; and preparing certificates and reports.
- Independently apply specialist knowledge and experience in radionuclide metrology by contributing to the development and maintenance of radionuclide activity standards
- Independently apply specialist knowledge and expertise in radiochemistry to contribute to the preparation of radioactive sources and the development of new and improved source preparation techniques;

  AND/OR

  Independently apply specialist knowledge and expertise in physics to contribute to the development of equipment and/or methods required for radionuclide metrology applications;

  AND/OR

  Independently apply specialist knowledge and expertise in quality systems to contribute to the development and maintenance of an ISO/IEC 17025 quality management system to enable radionuclide metrology client services to satisfy the requirements of the CIPM Mutual Recognition Arrangement.
- Represent ANSTO in a range of domestic and international forums including meetings, technical working groups and conferences.

Decision Making

- The ANSTO values, organisational corporate plan, business plan, integrated business planning program, the Nuclear Stewardship strategy and Radionuclide Metrology objectives provide the context for the position.

- The position works within the framework of the National Measurement Act (1960) and Regulations to ensure ANSTO's radionuclide metrology standards and services meet the requirements of legal metrology.
- The position works within a framework of legislation, policies, professional standards and resource parameters. Within this framework the position has some independence in determining how to achieve assigned objectives, however this will be constrained by operational requirements and time frames.
- The position is responsible for completing assigned work objectives given to them by their line management or senior team members.
- The position is accountable for providing support to senior team members in the development of standards and the delivery of client services.
- The levels of authority delegated to this position are those approved and issued by the Chief Executive Officer. All delegations will be in line with the ANSTO Delegation Manual AS-1682 (as amended or replaced).

  In addition to all Band 5 decision making, the Band 6 role includes these additional decision making requirements
- The position is fully accountable for the accuracy, integrity and quality of the content of advice provided and is required to ensure that decisions are based on sound evidence.
- Determine key work priorities within the context of agreed work plans and project plans and consult with the line manager on complex, sensitive and major issues that have a significant impact on the project.

Key Challenges

- Rapidly establishing knowledge and experience in the field of radionuclide metrology and using core skills to support laboratory operations, development and client work.
- Managing resources in order to keep on top of multiple projects to ensure the timely delivery of outcomes.

KEY RELATIONSHIPS

Who	Purpose
Internal	
Manager	• Receive guidance and direction • Provide advice and recommendations • Provide regular updates on key tasks, issues & priorities • Recommend and gain endorsement for plans, goals and other initiatives • Escalate issues and propose solutions
Work area team members	• Provide and receive supervision, instruction, direction, support, training and technical leadership • Support team members and work collaboratively to contribute to achieving outcomes • Contribute to group decision making processes, planning and goals • Collaborate and share accountability • Negotiate and resolve conflicts
Other groups at ANSTO	• Build constructive and productive relationships to support internal cooperation and the delivery of radionuclide metrology services
External	
Nuclear Medicine users, other clients	• Build constructive and productive relationships to support the delivery of radionuclide metrology services

POSITION DIMENSIONS

Staff Data	
Reporting Line	Specialist Radionuclide Metrology Scientist
Direct Reports	Nil
Indirect Reports	Nil

Special / Physical Requirements	
Location:	Lucas Heights Working in different areas of designated site/campus as needed
Travel:	Frequent travel both internationally and nationally Field work in remote locations
Physical:	Office based physical requirements (sitting, standing, minimal manual handling, movement around office and site, extended hours working at computer) Laboratory work may require standing for long periods and operating equipment Laboratory facility physical requirements (lifting, sitting, standing, operating equipment, manual handling) Wearing personal protective equipment for the handling of hazardous and/or radioactive materials
Radiation areas:	Perform duties in an area where radioactive materials are handled under tightly controlled safety conditions Perform duties with and in an area where hazardous chemicals or materials are handled under tightly controlled safety conditions Transport radioactive material in compliance with all relevant legislation
Hours:	Willingness to work extended and varied hours based on operational requirements After hours work may be required for short and infrequent periods
Clearance requirements:	Satisfy ANSTO Security and Medical clearance requirements

Workplace Health & Safety	
Specific role/s as specified in AP-2362 of the ANSTO WHS Management System	All Workers
	Other specialised roles identified within the guideline a position holder may be allocated to in the course of their duties

ORGANISATIONAL CHART

Refer to published Organisational Chart

KNOWLEDGE, SKILLS AND EXPERIENCE

	Band 5	Band 6
1	Degree in Physics, Radiochemistry or other related discipline	Degree in Physics, Radiochemistry or other related discipline and at least 3 years relevant experience in measurement of radioactivity
2	Knowledge of ionising radiation measurement techniques	Substantial knowledge and experience in ionising radiation measurement
3(a)	Knowledge of radiation safety and radioactive source handling	Well-developed knowledge and experience of safe and precise radioactive source handling
3(b)	Computer skills associated with scientific instrumentation and data management	Well-developed computer skills associated with scientific instrumentation and data management

3 (c)	Knowledge of quality management systems (ISO/IEC 17025 preferred)	Well-developed knowledge and experience of implementation of an ISO/IEC 17025 quality management system
4	Demonstrated ability to document and record scientific processes with a high degree of precision and reliability	Demonstrated experience in documentation and recording of scientific processes with a high degree of precision and reliability
5	Demonstrated ability to analyse, interpret and report scientific findings	Experienced in the analysis, interpretation and reporting of scientific findings
6	Demonstrated ability to plan, set up and complete experiments	Demonstrated experience to plan, set up and complete experiments
7	Demonstrated experience in resource utilisation, task and priority management and organisational skills	Demonstrated experience in resource utilisation, task and priority management and organisational skills
8	Ability to develop and maintain productive working relationships internal to ANSTO	Demonstrated ability to develop and maintain productive working relationships internal and external to ANSTO

Linked Role Transition

- Minimum 3 years working as Radionuclide Metrology Scientist (Band 5) or equivalent experience
- Demonstrated capability to independently manage substantial project tasks to successful completion
- Demonstrated ability to independently and responsibly perform Band 6 accountabilities and apply required knowledge, skills and experience for the Band 6 position including:
    - Undertake Band 5 accountabilities independently with no direct supervision
    - Apply well-developed knowledge and experience to troubleshoot, investigate and resolve complex systems and problems (relevant to discipline) with no supervision or guidance
    - Independently analyse, interpret and report on scientific findings, to a high standard
    - Utilise judgement to independently assess priorities of projects and tasks to optimise the allocation of resources
    - Providing feedback and contributing to the process of continual improvement in safety, reliability and efficiency and individual knowledge and competency

Transition from Band 5 to Band 6 will occur following a recommendation from the relevant line manager, assessment by management and approval from Senior management or Executive.

Transition to the higher band within the linked role is not automatic and ability to perform Band 6 accountabilities will need to be demonstrated and assessed. This can be done by completing the attached form and completing a full written submission demonstrating and justifying how the employee meets the transition requirements noted above.

VERIFICATION

This section verifies that the line manager and appropriate senior manager/executive confirm that this is a true and accurate reflection of the position.

Line Manager		**Delegated Authority**	
Name:	Freda Van Wyngaardt	Name:	Jennifer Harrison
Title:	Specialist Radionuclide Metrology Scientist	Title:	Leader, Nuclear Stewardship
Signature:	Freda Van Wyngaardt	Signature:	Jennifer Harrison
Date:	26/11/2021	Date:	26/11/2021

Radionuclide Metrology Scientist **(PD-XXXX)** **Band 5 to Band 6 Transition Checklist**	
Name:	
Commencement Date:	
Assessment Date:	

Written submission demonstrating and justifying how the employee meets requirements must also be attached.

Requirements for transition	**Met Criteria**
a) Minimum 3 years working as Radionuclide Metrology Scientist (Band 5) OR b) Minimum 3 years equivalent experience	☐ Yes ☐ No OR ☐ Yes ☐ No
Demonstrated capability to independently manage projects to successful completion	☐ Yes ☐ No

Demonstrated ability to independently and responsibly perform Band 6 accountabilities and apply required knowledge, skills and experience for the Band 6 position including:	
Undertake Band 5 accountabilities independently with no direct supervision	☐ Yes ☐ No
Apply well-developed knowledge and experience to troubleshoot, investigate and resolve complex systems and problems (relevant to discipline) with no supervision or guidance	☐ Yes ☐ No
Demonstrated ability to independently analyse, interpret and report, (written and orally), on scientific findings, to a high standard	☐ Yes ☐ No
Utilise judgement to independently assess priorities of projects and tasks to optimise the allocation of resources	☐ Yes ☐ No
Providing feedback and contributing to the process of continual improvement in safety, reliability and efficiency and individual knowledge and competency	☐ Yes ☐ No

Attach written submission demonstrating and justifying how the employee meets <u>each</u> of the above requirements.

Manager Recommendation

I have reviewed the employee's competence in accordance with Linked Role PD-XXXX and certify that the employee meets all requirements for transition and recommend transition from Band 5 to Band 6 be endorsed as demonstrated in the attached written submission detailing how the employee meets each of the requirements.

Name & Title:			
Signature:		Date:	

Leader, Nuclear Stewardship Platform

I have assessed the submission and confirm that the employee meets all requirements for transition from Band 5 to Band 6.

Name & Title:			
Signature:		Date:	

Leader, NST Research Infrastructure

I have reviewed all information and approve transition from Band 5 to Band 6.

Name & Title:			
Signature:		Date:	
Effective date of transition:			