Australian Government

ANSTO
Science. Ingenuity. Sustainability.

POSITION DESCRIPTION

Position Title:	Environmental Monitoring Scientist
Cluster / Business Unit / Division	Nuclear Safety Security and Stewardship
Section or Unit:	Nuclear Stewardship, Environmental Monitoring
Classification:	Band 5
Job Family:	Science
Position Description Number:	PD-2255
Work Contract Type:	Technical
STEMM/NON-STEMM:	STEMM
STEMM CATEGORY:	Science

POSITION PURPOSE

The primary objective of the Environmental Monitoring Scientist is to characterise ANSTO's radiological impact on the environment through conducting the Environmental Monitoring Program. The position supports the Senior Scientist to complete the scheduled program of sampling, radioanalytical measurements, instrumentation calibration and maintenance, and compliance reporting and advice to stakeholders and regulators.

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 (NSSS) 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.

Nuclear Stewardship is the custodian of ANSTO's mandated and site-essential capabilities housed within NSSS that respond to the needs of the Australian Government, industry and the community relevant to nuclear detection, 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 reliable and trusted scientific and technical advice and specialised services.

The Environmental Monitoring (EM) group within Nuclear Stewardship develops and maintains specialist environmental monitoring facilities, including stack emission monitoring and meteorology systems and applications that support ANSTO's core activities and stakeholders. The EM capability applies nuclear techniques and associated expertise to monitor and model releases of radionuclides into the environment, conduct dose and environmental assessments, and the quantification of radionuclides at or above typical environmental levels.

ACCOUNTABILITIES & RESPONSIBILITIES

Key Accountabilities

- Conduct ANSTO's annual Environmental and Stack Monitoring Programs; including sampling, completing analyses within the specified timeframe, and interpreting and reporting results against applicable standards, regulatory and quality requirements.
- Provide Environmental Monitoring services and advice to a range of internal and external stakeholders relating to ANSTO's radiological emissions, regulatory compliance, and any associated environmental impacts.
- Provide Stack Monitoring services and advice that supports ANSTO's licenced radiation facilities. Assess trends and performance against ARPANSA notification levels, and report weekly to facility nominees, licence holders and operators.
- Respond to environmental incidents, including sampling, analysis, and provision of reports to support ANSTO's emergency response arrangements, continued site operations and ISO14001 Environmental Management System certification requirements.
- Maintain knowledge of industry best practice and technological developments to inform reviews of the Environmental Monitoring Program and its supporting systems; contribute to improvements and upgrades, ensuring they meet ANSTO's requirements and the expectations of ARPANSA and the local community.
- Apply scientific knowledge and technical experience to maintain Environmental Monitoring assets and infrastructure including bespoke software applications and state of the art radioactivity detection systems.
- Support internal, external and commercial clients through consultation and preparation/contribution to technical reports.
- Deliver training and demonstrations of environmental monitoring and environmental radioactivity detection techniques to students, IAEA fellows, collaborators, and visitors.
- Develop risk assessments, work instructions and standard operating procedures for field and laboratory work.
- Undertake additional duties as required and during period of leave of other staff.

Decision Making

- The ANSTO values, organisational corporate plan, integrated business planning process, the Nuclear Stewardship strategic objectives and business plan provide the context for the position.
- The position holder works within a framework of legislation, policies, professional standards and resource parameters. Within this framework the position will be provided with the parameters in which to operate the EM laboratories and facilities.
- The position is fully accountable for the accuracy, integrity and quality of the content of advice provided to stakeholders and is required to ensure that decisions are based on sound evidence.
- Daily work priorities are determined within the context of the Environmental Monitoring schedules and agreed work plans. The position holder has independence in determining the tasks and activities required to achieve day-to-day operational outcomes and will consult with line management on complex, sensitive or major issues that may impact on Environmental Monitoring operations.

- 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).

Key Challenges

- Maintaining & developing scientific knowledge across a broad range of disciplines; and contemporary knowledge of organisational policy, regulatory guidelines and international standards.
- Independently manage multiple tasks, prioritise work and effectively plan activities to meet Environmental Monitoring program objectives and project deadlines.
- Improving instrumentation and laboratory processes through maintenance, troubleshooting and continual improvement.
- Maintaining productive relationships with a broad range of internal and external stakeholders (refer to key relationships table) to maintain reputational confidence in ANSTO's Environmental Monitoring capability.

KEY RELATIONSHIPS

Who	Purpose
Internal	
Manager/Executive	• Receive guidance and direction • Provide expert, authoritative and evidence based advice • Recommend and gain endorsement for plans, projects and other initiatives
Work area team members	• Contribute to group decision making processes, planning and goals • Share resources, negotiate and resolve conflicts • Provide advice and analysis on a range of systems, radioanalytical techniques, instruments and laboratory matters • Collaborate effectively across Nuclear Stewardship capability areas
ANSTO's Licenced Facilities; ANSTO Regulatory Manager; Radiation Protection Services; ANSTO Staff	• Provide evidence-based advice on ANSTO's radiological emissions, regulatory compliance and local environmental radioactivity levels • Advise on requirements for new monitoring installations or modifications to existing systems
External	
Regulatory bodies (ARPANSA, Sydney Water, EPA)	• Support inspections, audits and verification programmes • Assist with the preparation of external reports and quarterly / annual reports to regulatory bodies
Commercial clients (State Authorities, Councils, Industry)	• Maintain constructive relationships • Consultation to establish scope of work, provide quotations & analytical services, prepare reports/certificates of analysis, complete invoicing processes
Suppliers; Instrument manufacturers and providers of calibration and maintenance services	• Establish constructive relationships • Specify & procure scientific instruments, equipment, laboratory consumables and chemicals • Trouble-shoot instrument faults and arrange repairs/calibration • Clearly communicate needs, deliverables and expected outcomes
IAEA fellows/ interns /trainees; Visiting scientists; schools or community interest groups	• Provide advice and training • Provide EM demonstrations to support ANSTO's outreach activities • Host tours

National & International networks (eg Australian Radiation Laboratory Network, SPERA)	• Establish constructive working relationships, keep abreast of recent developments and share information with the EM team • Participate in workshops and/or analytical benchmarking exercises

POSITION DIMENSIONS

Staff Data	
Reporting Line	Reports to the Senior Scientist, Environmental Monitoring
Direct Reports	Nil
Indirect Reports	Nil

Financial Data (2024/2025)	
Revenue / Grants	N/A
Operating Budget	N/A
Staffing Budget	N/A
Capital Budget	N/A
Assets	N/A

Special / Physical Requirements	
Location:	• Lucas Heights • Working in different areas of designated site/campus/buffer zone as needed
Travel:	• A current driving licence is essential, with the capability to drive (or learn to drive) a manual or automatic 4WD vehicle • Infrequent travel both internationally and nationally • May be required to undertake field work in remote locations from time to time
Physical:	• Office based physical requirements include sitting, standing, minimal manual handling, movement around office and site, extended hours working at computers • Laboratory and field work physical requirements include lifting, sitting, standing, operating equipment, manual handling up to 20 kg • Ability to work outside for extended periods, work at heights including scale fixed ladders, occasionally climb 50 m meteorology tower and work on elevated platforms • Wearing personal protective equipment when handling hazardous and/or radioactive materials • Public speaking at tours, meetings, conferences or events
Radiation areas:	• May occasionally be required to perform duties in an area where radioactive materials are handled, or to work in radiation areas under tightly controlled safety conditions
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, with periodic re-assessment for fitness to work at heights. • Obtain and maintain appropriate federal government clearance

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

ORGANISATIONAL CHART

Refer to published Organisational Chart

KNOWLEDGE, SKILLS AND EXPERIENCE

1. Degree with experience of not less than three years in a relevant field of science (Environmental, Chemistry, Biology) or related discipline (essential).
2. Experience conducting field sampling campaigns with a working knowledge of environmental field sampling equipment and techniques (essential).
3. Demonstrated experience working in a laboratory including the operation, calibration and maintenance of scientific instrumentation and managing safety requirements (essential).
4. Knowledge of chemical and radiological analysis techniques, with particular emphasis on airborne and liquid effluents and/or environmental samples (desirable).
5. Experience with scientific software for data acquisition, data processing and storage with a sound knowledge of statistical analysis techniques (desirable).
6. Ability to work autonomously under limited supervision, prioritise work and respond to changing priorities and deadlines (desirable).
7. Demonstrated experience in providing safety inductions, operational training and instruction to laboratory/facility users of varying skills and abilities (desirable).
8. Experience in trouble-shooting technical issues with equipment and mechanical aptitude (desirable).
9. Strong interpersonal and communication skills with the ability to effectively interact and negotiate with a varied and multidisciplinary audience, including clients (essential).

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:	Alicea Gedz	Name:	Jennifer Harrison
Title:	Senior Scientist, Environmental Monitoring	Title:	Leader, Nuclear Stewardship
Signature:		Signature:	
Date:		Date:	