Australian Government

ANSTO
Science. Ingenuity. Sustainability.

POSITION DESCRIPTION

Position Title:	Radioanalytical Chemist
Cluster / Business Unit / Division	Nuclear Science and Technology
Section or Unit:	Nuclear Materials Research and Technology Group / Synroc
Classification:	Band 6/7 (Linked)
Job Family:	Research
Position Description Number:	PD-2645
Work Contract Type:	Professional
STEMM/NON-STEMM:	STEMM
STEMM CATEGORY:	Research & Sciences

POSITION PURPOSE

The Radioanalytical Chemist provides critical chemical and radioanalytical characterisation expertise supporting ANSTO's research programs and nuclear operations, with a focus on the characterisation of radioactive wastes. The role delivers validated evidence-based data enabling waste acceptance, process verification, wasteform quality assurance, and regulatory compliance, and contributes to the development and implementation of characterisation methodologies for radioactive materials.

ORGANISATIONAL ENVIRONMENT

ANSTO is a leading global nuclear science and technology organisation delivering world class research and expertise to benefit Australia and support a more sustainable future. Using nuclear science, we improve health, support industries, provide expert advice to government on nuclear technologies and help develop Australia's nuclear workforce.

Nuclear Science & Technology (NST) incorporates ANSTO's research, innovation, landmark research infrastructure and associated platforms and capabilities. NST conducts research and development in relation to nuclear science and technology and connects people, transfers knowledge, and provides nuclear-based products and services for the benefit of Australia.

The Nuclear Materials Research and Technology Group (NM-RTG) is a leading centre for nuclear materials expertise in Australia. It incorporates a multidisciplinary team of scientists, technical specialists and engineers, supporting the design, development and performance of materials and technologies that span the nuclear fission energy life-cycle. The NM-RTG Facilities and Capabilities Group are the custodians of a unique combination of research infrastructure, underpinned by relevant expertise, to enable synthesis, manufacture, handling, characterisation and modelling of nuclear fuels, structural materials and wasteforms. To this end, the NM-RTG Facilities and Capabilities Group provide an integrated multidisciplinary technical support to ANSTO operations, academia and industry across a variety of research and engineering sectors, both within Australia and in collaboration with international stakeholders.

ANSTO Synroc is in the Nuclear Materials Research and Technology Group and has been given the challenge of developing markets for ANSTO's wasteform science and processing technology and to develop tailored solutions for nuclear waste streams including the advancement of process technology and materials performance requirements that support engineering designs for waste processing plants and equipment within ANSTO and for external clients.

ACCOUNTABILITIES & RESPONSIBILITIES

Key Accountabilities – Band 6

- Contribute to the delivery of chemical, physical, and radiological characterisation of radioactive wastes and nuclear materials to support ANSTO operations, with a focus on Waste Treatment.
- Contribute to the development, validation and implementation of robust chemical and radiological characterisation methodologies.
- Generate validated analytical data to support waste acceptance, process verification, wasteform quality assurance, and regulatory compliance.
- Apply appropriate statistical methods to analytical data to quantify uncertainty and ensure the generation of defensible results.
- Ensure experimental, analytical, and measurement protocols are accurately recorded and documented in accordance with ANSTO quality management requirements.
- Prepare high quality technical documentation, including reports, datasheets, and specifications, to support operational, quality, and regulatory requirements.
- Drive continuous improvement in facilities, methods, and operational processes, identifying alternatives, applying lessons learned, and implementing changes that enhance safety, quality, reliability, and efficiency.
- Work collaboratively within multidisciplinary teams to deliver agreed work plans and schedules that meet client, project, and operational needs.
- Interface with stakeholders to provide technical input, feedback, and guidance on characterisation activities and work packages.
- Undertake additional duties as required to support team capability, workload demands, and continuity during periods of staff absence.

Key Accountabilities – Band 7

- Lead defined research and characterisation tasks aligned with customer and stakeholder requirements, applying project management from conception through delivery while maintaining visibility of progress, risks, and dependencies.
- Responsible for the development, verification, and validation of analytical and radioanalytical techniques for the characterisation of non-radioactive and radioactive materials.
- Ensure delivery of accurate, precise, and fit-for-purpose analytical outputs within the Quality Management System, compliant with regulatory requirements.
- Lead the characterisation of input materials, process intermediates, and plant products, including uncertainty quantification to support acceptance/release decisions.
- Define technical specifications, datasheets, and acceptance criteria for procurement and qualification of analytical equipment; oversee commissioning and capability acceptance.
- Responsible for concise reporting, designing and delivering quality test plans for chemical and radiochemical analysis (method performance checks, intercomparisons, verification/validation) and providing technical guidance and feedback to engineering and operations.
- Responsible for establishing and maintaining standard operating procedures, work instructions, and data-integrity controls for analytical techniques as part of the quality management system.
- Educate and train stakeholders and laboratory personnel in developed methods, data interpretation, and quality requirements to build sustainable capability.
- Exercise expert judgement to prioritise tasks, resources, and workflows across concurrent projects, ensuring delivery to agreed milestones and timelines.
- Engage with national and international stakeholders to support collaboration, knowledge exchange, and the ongoing development of NMRTG's characterisation capability.

Decision Making

- The ANSTO values, organisational corporate plan, business plan, operational excellence program, the NST strategy and Synroc Technologies defined strategy and plans provide the context for the position.
- The position works within a framework of legislation, policies, professional standards and resource parameters. Within this framework the position has limited independence in determining how to achieve objectives of the unit.
- 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 own work priorities, methods and approaches within the context of agreed work plans and will consult with the line manager on issues that have an impact on the project or research theme.
- 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

- Carry out work in accordance with project delivery schedule while working across numerous projects with varying deadlines
- Undertaking activities in a heavily regulated environment and comply at all times with regulatory & safety requirements, codes, standards and specifications.
- Integrate continuous improvement methodologies by considering alternative design concepts, constructability and operability factors and the application of lessons learnt and strive to deliver improvements;
- Ensuring that QA systems are maintained that are compatible with clients systems such as ISO9001 and ISO14001;
- Working within short timeframes for delivery of working systems;
- Managing conflicting priorities between projects.

KEY RELATIONSHIPS

Who	Purpose
Internal	
Manager/Executive	• Receive guidance and direction • Provide evidence-based advice and recommendations (Band 6) • Provide expert, authoritative and evidence-based advice and recommendations (Band 7) • Provide regular updates on key tasks, issues & priorities • Negotiate and report on progress of project outcomes consistent with project plans and goals • Recommend and gain endorsement for project activities and other initiatives • Escalate issues and propose solutions
Work area team members	• Provide advice and analysis on a full range of nuclear materials • Contribute to group decision making processes, planning and goals • Collaborate and share accountability Band 7 (in addition to Band 6): • Lead the delivery of specific work package as defined by the project. • Provide expert advice and analysis on a full range of materials • Identify, negotiate and resolve technical conflicts
ANSTO Staff	• Report on technical development and outcomes • Consult regarding results and stakeholder requirements

	• Provide advice and recommendations
External	
National and international research organisations, industry or business	• Provide expert, authoritative and evidence-based advice • Report on work outcomes, outputs, results, project contribution and status. • Build relationships, ensuring effective communication of commercial and research results and to allow collection of data and continued business.

POSITION DIMENSIONS

Staff Data	
Reporting Line	Reports to the Manager, Wasteform Engineering
Direct Reports	Nil
Indirect Reports	Nil

Financial Data (2025/2026)	
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 as needed
Travel:	May be required travel to ANSTO sites from time to time Infrequent travel to meet clients within Australia Occasional travel both internationally and nationally
Physical:	Office based physical requirements (sitting, standing, minimal manual handling, movement around office and site, extended hours working at computer) Standing for long periods Public speaking Wearing personal protective equipment for the handling of hazardous and/or radioactive materials Working in confined space environment including wearing respiratory equipment
Radiation areas:	Will be required to work in radiation areas under tightly regulated conditions 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 radioactive materials are handled 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

Linked Role:	The Transition from Band 6 to Band 7 is not automatic and requires a full written submission, in addition to the attached checklist, to demonstrate how the employee meets the requirements. Transition will only occur following approvals from the Manager Wasteform Engineering and Director, Nuclear Materials Research and Technology Group.

Workplace Health & Safety	
Specific role/s as specified in AP-2362 of the ANSTO WHS Management System	All Workers Officer (definitions found in appendix 1 of AP-2362) Other specialised roles identified within the guideline a position holder may be allocated to in the course of their duties

KNOWLEDGE, SKILLS AND EXPERIENCE

Band 6	**Band 7**
A degree (or higher qualification) in Chemistry, Analytical Chemistry, Radiochemistry, or an equivalent discipline	Same as Band 6
Extensive knowledge of analytical techniques for chemical and/or radiological characterisation	Same as Band 6
Demonstrated experience in undertaking high quality quantitative chemical and/or radiological analyses	Same as Band 6 with extensive experience
Demonstrated experience in the development, verification, and validation of analytical and measurement protocols within a quality-controlled environment	Has independently developed verified and validated analytical techniques for the characterisation of materials in a highly regulated environment
Proven capability in the design of experiments and application of appropriate statistical methods for data analysis and uncertainty quantification	Same as Band 6 with extensive capability
Demonstrated ability to prepare clear, accurate, and detailed technical documentation, including data reports, calculation reports, and descriptive technical reports	Same as Band 6
Strong verbal and written communication skills	Same as Band 6
Demonstrated ability to work independently with appropriate guidance, manage allocated tasks, meet agreed deadlines, and reliably follow through on assigned actions	Demonstrated initiative and judgement to work independently with minimal supervision, prioritise competing tasks across multiple work streams, manage delivery to challenging deadlines, and take accountability for seeing complex activities through to successful completion
Strong ability to develop and maintain productive working relationships with internal and external stakeholders across multidisciplinary teams	Ability to build networks and to develop linkages with the nuclear industry
Personal attributes that contribute positively to a team operating within a client-focused, safety-critical, and quality-driven operational environment	Demonstrated professional judgement and leadership behaviours that positively influence team culture and consistently uphold client, safety, and quality expectations in a regulated operational environment.

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.

VERIFICATION

Line Manager		**Delegated Authority**	
Name:	Dan Gregg	Name:	Michael Moody
Title:	Manager Wasteform Engineering	Title:	Director, Nuclear Materials Research and Technology Group
Signature:		Signature:	
Date:		Date:	

Radioanalytical Chemist (PD-2645) Band 6 to Band 7 Transition Checklist	
Name:	
Commencement Date:	
Assessment Date:	

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

Requirements for transition	Met Criteria
Demonstrated extensive experience working as a Radioanalytical Chemist (or equivalent) in a regulated environment.	Yes No
Demonstrated capability to independently manage technical or analytical projects from planning to successful completion, including delivery to scope, quality & timelines.	Yes No
Demonstrated readiness to transition to Band 7 through sustained performance at Band 7 level, as evidenced by delivery of Band 7 accountabilities with minimal supervision.	Yes No

Demonstrated ability to independently, competently and responsibly perform Band 7 accountabilities and apply required knowledge, skills and experience for the Band 7 position including:	
Independently leads defined radioanalytical and/or characterisation activities, maintaining accountability for technical quality, safety, and regulatory requirements.	Yes No
Independently develops, verifies, and validates chemical and radioanalytical methods for radioactive and non-radioactive materials within a highly regulated environment.	Yes No
Applies expert technical judgement to troubleshoot, investigate, and resolve complex analytical problems without direct supervision.	Yes No
Independently prioritises competing tasks and projects, optimising allocation of time and resources to meet operational and project milestones.	Yes No
Produces high-quality technical documentation (reports, datasheets, specifications and work instructions) that meets ANSTO quality, safety and regulatory requirements.	Yes No

Attach a 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-2645 and certify that the employee meets all requirements for transition and recommend transition from Band 6 to Band 7 be endorsed as demonstrated in the attached written submission detailing how the employee meets each of the requirements.

Name & Title:			
Signature:		Date:	

General Manager/Head I have reviewed all information and approve transition from Band 6 to Band 7.

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