

POSITION DESCRIPTION

Position Title:	Metallurgist
Cluster / Business Unit / Division	Nuclear Science and Technology
Section or Unit:	Nuclear Materials Research and Technology Group
Classification:	Band 6
Job Family:	Research
Position Description Number:	PD-2597
Work Contract Type:	Scientific/Technical
STEMM/NON-STEMM:	STEMM
STEMM CATEGORY:	Research & Sciences

POSITION PURPOSE

The primary objective of the Metallurgist is to provide technical support to ANSTO's nuclear infrastructure, commercial operations and research and development programs through specialised physical metallurgical advice. The role draws on knowledge and understanding of structure -function properties of materials, testing and analysis, integrity and failure analysis of materials and structures. This role shall also contribute to ANSTO's research in areas such as failure analysis, materials compatibility, and materials testing.

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 and 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 lifecycle. 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 waste-forms. To this end, the NM-RTG Facilities and Capabilities Group provide an integrated multidisciplinary scientific and 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.

ACCOUNTABILITIES & RESPONSIBILITIES

Key Accountabilities

- Deliver technical advice and recommendations in a timely manner in the form of technical reports as a subject matter expert in Physical Metallurgy in support of ANSTO operations.
- Lead mechanical and material property tests maintaining safety, working under a quality system, collating results, analysing, discerning and reporting to clients.
- Contribute to the technical delivery of major projects or lead tasks within projects, from conception to development of project ideas, maintain visibility of project progress with internal and external stakeholders.
- Design and undertake mechanical testing, failure investigations and inspection tasks of site critical infrastructure to assess remaining life of components, processing data, reporting and making recommendations for review by management.
- Contribute to the design of experiments, participate in the development of new and existing sample preparation methodologies and Standard Operating Procedures.
- Contribute to research and development projects as an involved team member, working collaboratively to produce research outcomes that are publishable in scientific literature.
- Contribute to client defined projects or tasks, utilising specialist skills, and working collaboratively to support commercial projects whilst working as a project team member with the aim of completing project activities within time, scope and budget.
- Working in a highly collaborative way, maintain ongoing productive working relationships with internal and external stakeholders.
- Maintain knowledge of industry best practice and technological developments, through investigate and assess the relevance of developments and their benefit to the research group and ANSTO.
- Apply a range of communication techniques when connecting with a diverse range of stakeholders at various levels of scientific or technical understanding, to effectively address audience needs.
- Take responsibility for laboratory work areas as appropriate, maintaining equipment and proactively making recommendations for improvements.
- Undertake additional duties as required and during period of leave of other staff.

Decision Making

- The position works within a highly regulated complex 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 laboratories and facilities. The position has some independence in determining the tasks and activities required to achieve day-to-day operational outcomes.
- The position operates within the context of the following documents:
 - ANSTO values
 - Organisational corporate plan
 - Strategic plan
 - Operational excellence program
 - NST business plan
 - Nuclear Materials Research and Technology Group's operational workplan
- The position is responsible for the accuracy, integrity and quality of technical support and advice required to ensure that decisions are based on sound evidence, but at times may be required to make effective judgements under pressure or in the absence of complete information or expert advice.

- Determine key work priorities within the context of complex operational plans and will consult with the Director on sensitive and major issues that have a significant impact on the Nuclear Materials Research and Technology Group.
- 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

- Keeping abreast of recent developments in the field, ensuring continual improvement and implementation of best practise.
- Work with stakeholders to achieve outcomes and improve response times and delivery efficiencies.
- Working with multi-disciplinary teams with personnel who are not direct reports using a collaborative, consultative, influencing, and team-working approach to achieve objectives.
- Communicating, negotiating, and influencing a range of internal and external stakeholders to achieve the required success of ANSTOs engagement activities in a complex environment where resources are highly constrained.
- Time management skills to respond to the diverse requirements of organisational operations and projects
- Implement organisational / business unit change management systems

KEY RELATIONSHIPS

Who	Purpose
Internal	
Manager/Executive	• Receive guidance and direction • Provide expert, authoritative and evidence- based advice and recommendations • Report on compliance of facility • Provide regular updates on key tasks, issues & priorities • Collaborate on plans and activities for the instrument/s and related matters • Recommend and gain approval for instrument modifications, enhancements and improvements and process/procedure changes or improvements • Escalate issues and propose solutions
Work area team members	• Support team members and work collaboratively to contribute to achieving work outcomes • Provide supervision while using facility • Demonstrate facility/laboratory best practice • Contribute to group decision making processes, planning and goals • Collaborate and share information • Identify, negotiate and resolve technical conflicts
NST Researchers and Scientists and other ANSTO staff utilising facilities	• Facilitate, plan and manage experiments, advise on data processing, analysis and interpretation where required. • Provide expert advice and analysis • Ensure safety and regulatory compliance

POSITION DIMENSIONS

Staff Data

Reporting Line	Reports to the Senior Materials Engineer
Direct Reports	Nil
Indirect Reports	Nil

Financial Data (2023/2024)

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
Physical:	Office based physical requirements (sitting, standing, minimal manual handling, movement around office and site, extended hours working at computer) Public speaking Industrial facility physical requirements (lifting, standing for long periods, operating machinery, equipment and manipulators) Wearing personal protective equipment for the handling of hazardous and/or radioactive materials
Radiation areas:	May 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
Clearance requirements:	Satisfy ANSTO Security and Medical clearance requirements

Workplace Health & Safety

Specific role/s as specified in AG-2362 of the ANSTO WHS Management System	All Workers Officer (definitions found in appendix 1 of AG-2362) 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

1. Degree or higher qualifications in Metallurgy, Materials Science or Materials Engineering, or related discipline
2. Experience in the field of metallurgy along with physical testing, failure analysis of materials and structures
3. Ability to contribute to technical delivery of client projects.
4. Experience in the application of routine and new techniques in assessing the performance of materials
5. Experience in component assessment in a regulated industry
6. Ability to follow policy, standards, procedures and guidelines,
7. Ability to plan, prioritise tasks, implement and update plans that include recommendations to improve safety, equipment reliability and availability.
8. Work effectively as part of a multidisciplinary project team to deliver the requirements of the project.
9. Personal qualities that add value to a team working to meet client expectations on technical delivery and quality of research outcomes.
10. Highly developed interpersonal and communication skills, both written and verbal.

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:	David Carr	Name:	Michael Moody
Title:	Senior Materials Engineer	Title:	Director of Nuclear Materials Research and Technology Group
Signature:		Signature:	
Date:		Date:	