



POSITION DESCRIPTION

Position Title:	Metallographer
Cluster / Business Unit / Division	Nuclear Science and Technology
Section or Unit:	Nuclear Materials Development and Characterisation
Classification:	Band 5 / Band 6
Job Family:	Research
Position Description Number:	PD-0491
Work Contract Type:	Technical
STEMM/NON-STEMM:	STEMM
STEMM CATEGORY:	Technical

POSITION PURPOSE

The primary role of the Metallographer is to provide specialist technical expertise in the preparation and examination of materials that will be characterised for research, development, and technical consultancy projects. This role involves precise hands-on work in both active and inactive Metallography facilities, in addition to the provision of technical advice to projects, researchers, and external clients. Additionally, the Metallographer shall undertake facility management of laboratories, improving capability development that leads to the development of innovative preparation and analysis procedures.

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.

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 Development & Characterisation (NMDC) team conducts materials synthesis, characterisation, modelling, testing, and development for ANSTO and industrial clients. The team are the custodians of some unique facilities at ANSTO that, coupled with expertise, provide an integrated multidisciplinary technical support to Australian SME's across various industry sectors. The NMDC is also Australia's primary source of know-how in the development, characterisation, modelling, and testing of radioactive materials. The NMDC team also collaborates with internal research groups and Australian and international universities.

ACCOUNTABILITIES & RESPONSIBILITIES

Key Accountabilities- Band 5

- Under direction, prepare metallographic samples of solid and powdered materials in consultation with clients to meet the needs of materials processing, testing or characterisation.
- Utilise documented methodologies of sample preparation to meet routine requirements of clients.
- Contribute to the development and documentation of new sample preparation methods in consultation with experienced laboratory users and client input.

- Ensure that all laboratory activities are conducted in a safe manner and in accordance with the Laboratory Management and Quality Assurance Systems, including but not limited to ensuring staff and visiting technicians are aware of these requirements.
- Work in a highly collaborative way to build and maintain ongoing productive working relationships with internal and external stakeholders.
- Under guidance, prioritise tasks and workflow to deliver tasks to an agreed timeline.
- Maintain operation of facilities and equipment under direction through an asset management framework and improvement program ensure operational safety, security, sustainability and compliance with applicable standards, legislative and regulatory requirements.
- Provide supervision and training to users and other visitors in the laboratory
- Keep up to date with best practice by reading relevant literature and establish and foster professional networks to access and share information.
- Undertake additional duties as required and during period of leave of other staff.

Key Accountabilities Band 6

- Responsible for precise metallographic sample preparations of solid and powdered materials to a high-standard in both active and inactive labs in consultation with clients to meet the needs of materials processing, testing or characterisation techniques.
- Utilise specialised expertise to assess the viability of proposed approaches to sample preparation by advancing method development, and exercise sound judgement to select and provide advice on the most effective techniques and methods.
- Lead the development of new methods and integrate continuous improvement methodologies by considering alternate techniques and the applications of lessons learned and strive to deliver improvements.
- Lead the advancement and improvements to the Laboratory Management and Quality Assurance Systems to ensure operational safety, security, sustainability and compliance with applicable standards, legislative and regulatory requirements.
- Lead client defined tasks, utilising specialist skills, and working collaboratively to support small to medium activities whilst working as a project team member with the aim of completing project activities within time, scope and budget.
- Utilise demonstrated specialist knowledge and judgement to independently assess priorities of project tasks and workflow to deliver tasks/ projects to an agreed timeline.
- Management and oversight of facilities and equipment to ensure reliability of assets, productivity and availability of facility and ensure operational safety, security, sustainability and compliance with applicable standards, legislative and regulatory requirements.
- Mentor and train those with a professional need for their specialised knowledge in order to broaden the skill base of the business unit.
- Responsible for providing a high level of technical expertise in development of new and existing sample preparation methodologies and Standard Operating Procedures.

Decision Making

- 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 operational plans and objectives of the facilities and must ensure compliance to relevant regulations at all times.
- The ANSTO values, organisational corporate plan, business plan, operational excellence program, the NST strategy and NMDC objectives provide the context for the position.
- The position is fully accountable for the accuracy, integrity and quality of the content of advice provided and is required to ensure that prescribed facilities and activities are compliant with regulations.

- Determine key work priorities within the context of agreed work plans and will consult with line manager on complex, sensitive and major issues that have a significant impact on the NMDC.
- 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

- Developing new and evolving existing sample preparation methodologies to meet the needs of new materials characterisation capabilities requested by clients.
- Providing specialist advice and expertise to transfer sample preparation methodologies to active facilities requiring sample preparation in glove box and hot cell facilities.
- 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.

KEY RELATIONSHIPS

Who	Purpose
Internal	
Manager/Executive	<ul style="list-style-type: none"> • 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	<ul style="list-style-type: none"> • Band 5 - support team members and work collaboratively to contribute to achieving work outcomes • Band 6 - lead the delivery of specific work package as defined by the project and manage facility • 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	<ul style="list-style-type: none"> • Facilitate, plan and manage experiments, advise on data processing, analysis and interpretation where required. • Provide expert advice and analysis • Ensure safety and regulatory compliance • Provide training and supervision while using facility

POSITION DIMENSIONS

Staff Data	
Reporting Line	Reports to the Leader of the NMDC platform or their delegate
Direct Reports	Band 6 - 1 x Metallography Technical Officer, Band 5: 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

Band 5	Band 6
1. Degree in Science (Metallurgy, Physics, Chemistry, Materials Science), or an equivalent discipline	Same as Band 5
2. Demonstrated experience in specimen preparation for microscopy techniques.	Extensive demonstrated experience delivering high quality samples. Expertise in specimen preparation for electron microscopy, optical microscopy, microanalysis techniques and pre-characterisation screening of samples.
3. Experience in contributing to the facilities management and to safety and quality best practice	Experience in leading facilities management demonstrating best practice in safety and quality practice
4. Strong client focus	Same as Band 5
5. Pro-active in encouraging the sharing of knowledge and experiences within the team.	Demonstrated ability to foster sharing of knowledge and practice
6. Highly developed communication skills including drafting technical documents and demonstrated high-level interpersonal skills.	Same as Band 5 and ability to document and report; establish and maintain productive working relationships.
7. Deadline driven, reliable in following through with actions, and pro-active when attending to ANSTO and customer interests.	Same as Band 5
8. Ability to apply routine and new techniques in sample preparation	Problem solving and the ability to think laterally modify sample designs and apply new techniques.
9. Ability to prioritise tasks and activities to ensure client deadlines are met.	Demonstrated ability to lead and independently prioritise and manage projects and tasks and deliver to agreed timelines
10. Ability to adapt work style to accommodate working within a team or an individual worker situation.	Same as Band 5

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: Gerry Triani	Name: Suzanne Hollins
Title: Interim Leader, NMDC	Title: Head of Research NST
Signature:	Signature:
Date:	Date:

Appendix 1

ANSTO Job Families
Accounting & Finance
Administration
Communications & Marketing
Compliance & Regulation
Engineering and Technical
Human Resources
ICT & Digital Solutions
Information & Knowledge Management
Legal
Manufacturing
Monitoring & Audit
Operations
Organisational Leadership
Project & Program
Research
Science
Security & Intelligence
Senior Executive
Service Delivery
Strategic Policy
Trades & Labour



Metallographer (PD-0491) Position transition requirements

Name:	
Commencement Date:	
Assessment Date:	

Note: Full written submission demonstrating and justifying how the employee meets the requirements must also be attached.

Requirements for transition	Met Criteria
a) Minimum 4 years working as Metallographer (Band 5) OR b) Minimum 4 years equivalent experience	<input type="checkbox"/> Yes <input type="checkbox"/> No OR <input type="checkbox"/> Yes <input type="checkbox"/> No
Demonstrated capability to independently manage engineering tasks within projects to successful completion	<input type="checkbox"/> Yes <input type="checkbox"/> No

Demonstrated ability to independently and responsibly perform Band 5 accountabilities and apply required knowledge, skills and experience for the Band 6 position including:	
Undertake Band 5 accountabilities independently with little or no direct supervision	<input type="checkbox"/> Yes <input type="checkbox"/> No
Independently manage research tasks and projects	<input type="checkbox"/> Yes <input type="checkbox"/> No
Utilise judgement to independently assess priorities of projects and tasks to optimise the workflow	<input type="checkbox"/> Yes <input type="checkbox"/> No
Training and transfer of knowledge to other technical staff and users	<input type="checkbox"/> Yes <input type="checkbox"/> No
Providing feedback and contributing to the process of continual improvement in safety, reliability and efficiency sharing individual knowledge and know-how	<input type="checkbox"/> Yes <input type="checkbox"/> No
Lead and coordinate project tasks as part of a larger program to achieve outcomes	<input type="checkbox"/> Yes <input type="checkbox"/> No

Manager Recommendation:

I have reviewed the employee’s competence in accordance with Linked Role PD-0491 and certify that the employee meets all requirements for transition and recommend transition from Band 5 to Band 6 be endorsed.

Manager Name:	
Signature:	
Date:	

General Manager Assessment

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

General Manager Name:	
Signature:	
Date:	